

# GE ALUMNI NEWS

Department of General Engineering

University of Illinois at Urbana -Champaign

## NEWS FLASH!!!

LATE  
BREAKING  
NEWS!!

**Prof. Mark Spong  
has been named  
by Dean David  
Daniel as the  
Interim  
Department Head  
of GE for  
2003-2004**

Watch the GE Web  
Site and future  
issues of the  
GE Alumni News  
for further details!

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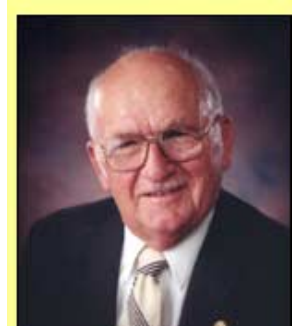
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## DOBROVOLNY PROFESSORSHIP A FIRST FOR GE

We are pleased to announce that **David E. Goldberg** has been named as the first recipient of the Jerry S. Dobrovolny Professorship in Entrepreneurial Engineering. This professorship has been made possible through the generous support of Jerry and Joan Dobrovolny, numerous GE alumni and friends, the Department of General Engineering and the College of Engineering. Further support for this fund is still needed, so additional gifts are welcome.

Jerry Dobrovolny served as Department Head of General Engineering for nearly thirty years, officially retiring in 1987. His accomplishments are too numerous to list, but



include the establishment of the General Engineering Senior Design Project, which has resulted in over ninety national awards; the establishment of Gamma Epsilon, the GE honorary society; and the publication of the first General Engineering Alumni Newsletter.

Dave Goldberg joined the faculty in 1990 and quickly rose through the ranks. His awards and recognition include a

National Science Foundation Presidential Young Investigator Award in 1985 and being named an Associate of the Center for Advanced Study at UIUC in 1995. He serves as the Director of the Illinois Genetic Algorithms Laboratory and has published several books on this subject.

This is the first endowed professorship for General Engineering, so we are really excited about this! An investiture ceremony is being planned for the coming academic year.

More detailed biographical and historical information on Jerry Dobrovolny is at [www.completetrusts.com/jsdobrovolny](http://www.completetrusts.com/jsdobrovolny) and Professor Goldberg at [www.davidegoldberg.com](http://www.davidegoldberg.com)

## FIRST ENDOWED FELLOWSHIP FOR GE



(L-R) Prof. Mark Spong, Carol Chittenden, Bill Chittenden, Prof. Karl Rosengren

William A. Chittenden II (BS GE 1950) and his wife, Carol, have made a pledge commitment to endow the first fellowship in GE! This fellowship will be used to support an outstanding

graduate student who is interested in understanding human movement and its application to engineering and kinesiology. This student will work with Professor Mark Spong from GE and Professor Karl Rosengren from Kinesiology and will help to expand upon their combined expertise in robotics and human movement. The fellowship funding available to this student is significant, as matching funds for new endowed fellowships are also available through a special program from the Provost's office. The timing is especially fortuitous due to the new M.S. and Ph.D. program in Systems and Entrepreneurial Engineering and the need to recruit students for this program.

(Continued on page 4)

## Board of Trustees and IBHE approve M.S & Ph.D. degrees in SYSTEMS AND ENTREPRENEURIAL ENGINEERING

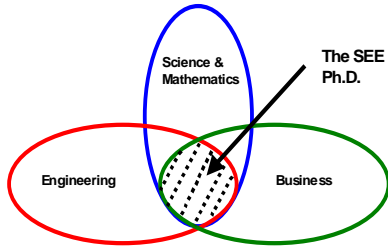


Figure 1: Intellectual Focus of the Systems and Entrepreneurial Engineering Program

*Today's intensely competitive global economy places a high premium on engineers who can work in technologies at the intersection of engineering disciplines (systems engineers) and those who can blend their technical and business skills in an entrepreneurial way (entrepreneurial engineers).*

On January 6, 2003, the General Engineering Department was formally notified that the Board of Trustees and the Illinois Board of Higher Education had approved the department's new graduate degrees in Systems and Entrepreneurial Engineering (SEE). Ph.D. research, illustrated in Figure 1 focuses on how to best manage the interfaces at the systems level between engineering, science, mathematics and business. Education of the entrepreneurial engineer is contrasted with traditional engineering education in Figure 2, the entrepreneurial engineer being more skilled at assessing commercial feasibility, particularly at the systems level of design.

Many of the defining technologies of the 21<sup>st</sup> Century—mechatronics, information technology, nanotechnology, computational intelligence, and bioengineering to name a few—are being put into practice by broadly competent systems engineers. Moreover, entrepreneurial startups and well-established companies alike are looking for entrepreneurial engineers who augment their strong technical skills with the business insight, entrepreneurial vision, and leadership qualities needed to bring products successfully to the marketplace. Yet, traditional graduate engineering programs do not explicitly address the pressing need to combine engineering and entrepreneurship.

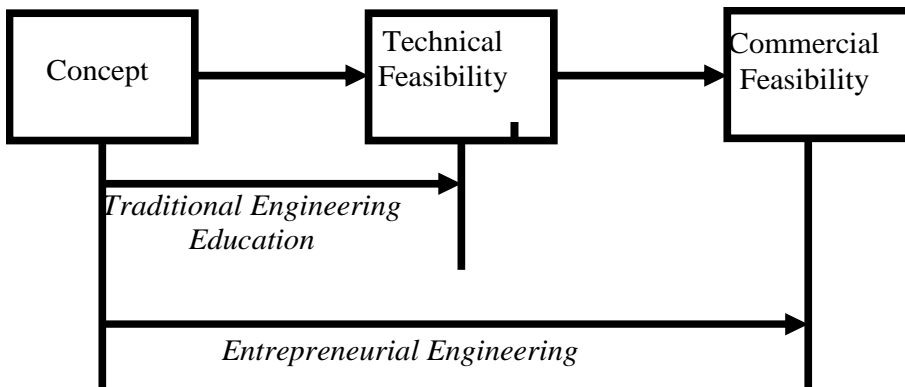


Figure 2 Traditional versus Entrepreneurial Engineering.

### MOTIVATION

**The role of the SEE program within the UIUC mission:** Economic development is now a key part of the UIUC mission. As the first new engineering Ph.D. program established following the University's enunciation of an active role in economic development, we expect the new SEE program to play an especially active role, directly and indirectly, in the economic livelihood of the State of Illinois.

**The importance of systems integration:** Three lessons of recent history are about the need for integration among engineering disciplines. The Cold War and the space program taught the lesson that technological feasibility in complex systems is driven by systems integration across disciplines of engineering. The end of the Cold War and the Japanese manufacturing revolution taught that commercial success is driven by systems integration across manufacturing engineering and marketing to provide quality to the customer. More recently, the information technology (IT) revolution taught the lesson that new technology is driven by systems integration across information systems, business systems, and science and engineering. All three generations of systems engineering place a premium on research and pedagogy at the interface of different disciplines of engineering, science, and business.

**The importance of engineering entrepreneurship:** Two lessons of recent history are about the need for engineers to be more entrepreneurial. Modern practice requires not only technological feasibility but also feasibility in the marketplace (*corporate entrepreneurship*). More recent times have taught that "new" technologies are being created by technology-based startups (*startup entrepreneurship*). Together, these two lessons place a premium on research and pedagogy at the interface of engineering and business.

### THE BODY OF KNOWLEDGE

The SEE Ph. D. program is highly integrated and therefore depends on well-established knowledge bases in all the major disciplines of both engineering and business.

## M.S. and Ph.D. degrees continued from page 2

However, the program's claim to uniqueness is in its integration, and we envision two categories of knowledge created and taught by the program:

**Technology-technology knowledge (T2T).** Technology-technology research explicitly examines research problems at the crossroads of two or more technologies as is occurring in emerging engineering systems, such as mechatronics, MEMS, communications networks or robotics, and employs engineering technologies such as modeling, simulation, control, scheduling, and optimization to design new products.

**Business-technology knowledge (B2T).** Business-technology research explicitly examines problems at the crossroads of business and technology, such as those arising in product development, telecommunications pricing, environmentally conscious manufacturing, incorporating customer preferences and social choices and using engineering technologies, such as utility theory, neural networks or genetic algorithms to model, analyze, and design innovation in organizations.

### RELATIONSHIP WITH OTHER UIUC PROGRAMS

The SEE program has a unique mission, but it is complementary to programs within the College of Engineering and the College of Commerce and Business Administration. Moreover, General Engineering, the home department of SEE, already has in place a strong program of education and research and is ready to take on the task without diluting existing programs.

#### The only UIUC Ph.D. devoted to systems and business integration:

The SEE program is the only UIUC Ph.D. program devoted to the integration of engineering and business systems. It will focus on the integration of *different* technologies across both *existing* and *emerging* disciplines and the integration of business principles with one or more technical disciplines.

**A bridge to CCBA:** The SEE Ph.D. will serve as a bridge between the College of Engineering and the College of

Commerce and Business Administration, providing a locus for funded research in such fields as technology management, six-sigma methods, e-commerce, supply chain management, product development and management, and the pedagogy of technology entrepreneurship.

#### The ability to mount the program:

The General Engineering Department began the transition to a research-oriented department nearly 20 years ago and now has in place a strong program of research and scholarship. Throughout the 80s and the 90s, the department attracted and hired research-oriented faculty from peer institutions. Of the 20 graduate faculty, nearly half were hired after 1990, so that the focus of the Department as well as its self-image are now firmly established on the side of research. This year there are over 50 research contracts held by General Engineering faculty as single or co-PI involving a total funding level of more than \$8 M.

#### Overlap with existing programs:

The term *Systems* is used in the College in such diverse areas as *computer systems, controls systems, communications systems, power systems, manufacturing systems, and micro electro-mechanical systems (MEMS)* that do not necessarily overlap one another apart from the name. The new SEE Ph.D. will add a new, complementary and interdisciplinary dimension to the more traditional engineering programs without usurping the important roles already occupied by these existing programs.

#### DEMAND FOR THE PROGRAMS

Academic programs and the private sector will both seek graduates of the SEE program.

**Demand from Academia:** SEE Ph.D.s will be hired by (1) programs like ours, (2) related engineering programs, (3) traditional engineering departments, and (4) business schools. Although SEE is a relatively new concept, the actions of MIT, Stanford, UIUC and other schools should ensure growth. Related

programs in systems, engineering management, and industrial and systems engineering will also move to hire SEE graduates. Traditional engineering departments may come to understand the need for faculty with more business background, and SEE will become one of several purveyors of choice. Finally, there is now a shortage of business faculty, and colleges of business may seek our graduates, especially for positions at the crossroads of business and technology.

#### Demand from the private sector:

SEE Ph.D. graduates will fill important roles as (1) technology experts, (2) Product Planners, (3) R&D managers, (4) line managers of technology-intensive divisions, (5) startup team members.

**Student demand:** Faculty in the SEE home department already advise Ph.D. students in other departments. The addition of the business side will open a new market. Roughly half of the undergraduate students within the SEE home department now declare a business-related concentration, and these students together with those at other institutions open new possibilities.

**SEE as a faculty magnet:** Creative individuals want to be involved in a growing and vibrant atmosphere. The SEE Ph.D. will supercharge a department that already has undergone a dramatic research makeover and it will help the University attract the best and the brightest faculty at the crossroads of disciplines in engineering and commerce.

### CONCLUSIONS

The SEE Ph.D. presents a unique opportunity for the University of Illinois to create a locus of excitement and serious research and scholarship at the (1) crossroads of engineering technologies and the (2) intersection of business and engineering. Students will come to the SEE program. Young faculty will be attracted to help shape the future of an important new discipline of engineering. Employers, both academic and private, will hire its Ph.D.s, and some of those Ph.D.s will start new companies, some of them right here in Champaign-Urbana and many of them in Illinois.



(L-R) Prof. Manssour Moeinzadeh, Prof. Carolyn Beck, Arash Mahboobin, Bill Chittenden at the GE Spring Awards Banquet.

## Bill and Carol Chittenden continued from page 1

In addition to funding this new fellowship, Bill and Carol are also endowing the William A. Chittenden II Award Fund, which recognizes an outstanding graduate student. This award has been granted on an annual basis for a number of years and the selection criteria includes the quality of the dissertation or project, teaching and/or research accomplishments, professional promise, and

scholarship. By pledging to endow this award, Bill and Carol are ensuring that outstanding graduate students will be recognized in perpetuity.

Interestingly enough, this year's William A. Chittenden II Award recipient, Arash Mahboobin, focused his graduate work on studying gait analysis and postural control, which fits perfectly with the focus for the new

fellowship support. He worked with Professors Manssour Moeinzadeh and Carolyn Beck during his graduate study in GE. The results of his thesis were presented at the American Control Conference. Arash is currently a Ph.D. Student at the University of Pittsburgh. We extend our sincere thanks to Bill and Carol for this tremendous investment

## TWO NEW ALUMNI SCHOLARSHIPS ENDOWED FOR GE!!

Due to the increasing severe budget cutbacks from the State of Illinois, private support continues to make an *enormous* difference in our ability to recruit and retain both outstanding students and outstanding faculty. Thanks to the generous support of two GE alumni, our ability to recruit and retain outstanding undergraduate students is now stronger due to two new scholarship endowments. We extend our sincere thanks to Jim and Carla and Dan for their decision to invest in generations of GE students and we encourage you to consider some level of investment in your alma mater as well.



### JAMES H. AND CARLA A. CHRISTENSEN SCHOLARSHIP

James H. Christensen, BS GE 1977, and his wife, Carla, (shown at left with their inaugural scholarship recipient, Geoff Price) have created the James H. and Carla A. Christensen Scholarship, which recognizes outstanding undergraduate students in GE. This \$1000 scholarship recognizes participation in extracurricular activities in the department, college and throughout campus as well as academic merit. Jim is Director of Systems Integration in Baxter's Corporate Information Technology Department, with a special emphasis on integration activities to support mergers and acquisitions. Carla enjoys working for Endeavor Information Systems, Inc., a leading software development company that provides software and services to help research libraries. Jim and Carla are life members of the University of Illinois Alumni Association and members of the President's Council and the Dean's Club.

### DANIEL P. KRUEGER SCHOLARSHIP

Daniel P. Krueger, BS GE 1987, has created the Daniel P. Krueger Scholarship to recognize outstanding undergraduate students in GE. The Daniel P. Krueger Scholarship was awarded to Justin Dobsch in the spring of 2002 and to Andrew Mondy in the Spring of 2003. This \$1000 scholarship recognizes a General Engineering student for outstanding professional conduct, exceptional leadership, and academic merit. Dan is a partner with Accenture and just recently completed a two year term as President of the GE Alumni and Industry Advisory Board. He and his wife, Joan, are life members of the Alumni Association and members of the President's Council and the Dean's Club



## NEW QUAKER OATS SCHOLARSHIP

With a history of providing broad-based educational support, The Quaker Oats Company takes particular pride in supporting top technical students and institutions.

To that end, Quaker Oats created a \$1000 General Engineering scholarship which highlights the academic and leadership achievements of General Engineering majors at the completion of their junior year. Another objective of the scholarship is to increase awareness among the student body about Quaker and the opportunities that may exist for General Engineers within a food manufacturing company.

We are proud to have a long-standing relationship with Quaker Oats that includes industry partnerships through our Senior Design Project Course. Quaker Oats has seen, first-hand, the skills and competencies of General Engineering Students and we look forward to new opportunities ahead.



Marion Dalacker (left) Senior Manager, US Foods, R & D with 2003 recipient, Susan Shah.

## DICK AND TRUDY REYNOLDS RECEIVE TOP ALUMNI AWARD AT COMMENCEMENT 2003



For 30 years, the University of Illinois Distinguished Service Award has been presented to alumni and friends who have helped advance the welfare of the University. This year's recipient was actually a dynamic duo: Dick (BSGE '53, MSME '58) and Trudy Gassmann Reynolds ('58 ED). Together, they are some of Illinois' most active advocates—not only through their own contributions of time and expertise, but by spreading their contagious enthusiasm to recruit others to rally for the cause, as well.

Dick is the retired Director of Mechanical Research for Sundstrand Advanced

Technology Group. He established the GE Alumni and Industry Advisory Board as a constituent organization with the UI Alumni Association, and served as President for two years. He has been a member of the Athletic Association Advisory Board and is a current member of the College of Engineering Advisory Board and the GE Alumni and Industry Advisory Board. He continues to be actively involved having served as an Engineer in Residence as well.

Trudy, with a degree in elementary education, is a homemaker and community volunteer. She recently completed a term as president of the Library Friends Board and is a past chairwoman of the UI Foundation Presidents Council. While on the UI Alumni Association Board of Directors, she was active in reunion planning, board nominations and trustee selection.

Their devotion to service is so constant that the Rockford couple maintain a second home in Champaign just to accommodate their many activities.

*Edited version of original article in "Illinois Alumni"*

## RAY PRICE RECEIVES P & G GRANT

The P&G Fund announced grants totaling \$450,000 to professors at the University of Illinois and Purdue University. Courses developed by these professors were selected as winners in The P&G Fund's Curriculum Development Grant Competition. The annual competition awards seed money for innovative instruction that advances student learning in areas critical to business. Including this year's winners, the Fund has awarded \$5.75 million for 45 courses since the competition began in 1992.

Professor Ray Price's project will create a course, "Leading Change for Sustainability," for students to develop leadership skills and attributes enhancing their ability to lead, manage and adapt to sustainable change. This is a uniquely multi-disciplinary curriculum supporting the development of an Interdisciplinary Minor among five collaborating colleges – Agriculture, Business, Education, Engineering, and Liberal Arts and Sciences. Dr. Price will disseminate this curriculum beyond the University utilizing the concept of Open Course Ware, an educational initiative developed at the Massachusetts Institute of Technology (MIT). Each year, more than 90 junior, senior and graduate students will participate in this curriculum.

Established in 1952, The P&G Fund manages philanthropic contributions on behalf of P&G. In the past ten years, The P&G Fund has given over \$138 million to education-related programs. For more information about P&G's corporate citizenship, please visit our website at:

[http://www.pg.com/about\\_pg/corporate/community/community\\_submain.jhtml](http://www.pg.com/about_pg/corporate/community/community_submain.jhtml).

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**Interim Department Head**

Mark W. Spong

**Assoc. Department Head**

Medanic, Juraj V.  
Moeinzadeh, Manssour H.

**Professors**

Conry, Thomas F.  
Cook, Harry E.  
Davis, Wayne J.  
Goldberg, David E.  
Kuznetsov, Edward N.  
Price, Raymond L.  
Reis, Henrique  
Spong, Mark W.  
Thurston, Deborah L.

**Associate Professors**

Aluru, Narayana  
Burns, Scott A.  
Hall, W. Brent  
Sreenivas, Ramavarapu S.  
Srikant, Raadurgam  
Wozniak, Louis

**Assistant Professors**

Beck, Carolyn  
Bullo Francesco  
Yassine, Ali

**Adjunct Professors**

Carnahan, James V.  
Ruhl, Roland L.  
Vojak, Bruce A.

**Adjunct Assoc. Professors**

Strauss, Mark G.

**Lecturers**

Leake, James

**Adjunct Lecturers**

Mottier, Charles H.  
Wildblood Harry S.

**Academic Professionals**

Carmody, Kevin R.  
Dimit, M. Angela  
Elkins, Randall K.  
Hollis, Laura  
Wildblood, Harry S.

**Staff**

Eiskamp, Donna J.  
Hilligoss, Debra L.  
Hills, Peggy R.  
Reed, Carolyn  
Tiffin, Holly  
Tyler, Brenda



**Prof. Mark Spong** was recognized as a Distinguished Member of the IEEE Control Systems Society. The award recognizes Mark for "...significant technical contributions and outstanding long-term service to the Control Systems Society."

Additionally, he has been named as a Willett Professor. The Donald Biggar Willett Professorships honor the late Mr. Willett (1897-1981), who attended the University of Illinois from 1916 to 1922. In 1994 the College of Engineering established the Willett Research Initiatives Fund, the income from which has been used to support scholarships, fellowships,

## FACULTY NEWS

research awards, and other activities. In December 1998, three Willett Professorships were established under the auspices of the Willett Fund. The Willett Professorship is for a five year, renewable term.

More information on Prof. Mark Spong is available at <http://www.ge.uiuc.edu/people/faculty/Spong.html>



**Prof. David Goldberg** has just been elected as one of the initial ten Senior Fellows in the International Society for Genetic and Evolutionary Computation (ISGEC). The award will be presented by the ISGEC on Wednesday July 16 at GECCO-2003 in Chicago.

**Prof. Francesco Bullo** was selected as the recipient of the 2003 Xerox Award for Faculty Research presented at the 39th Annual Engineering Awards Convocation on Friday April 25.

The Xerox Foundation established the Xerox Awards for Faculty Research to honor faculty members annually for outstanding research in two categories: to assistant professors based on 1 year of research accomplishments; and to associate professors based on 5 years of research accomplishments. Xerox increased this funding in 1989-90 to recognize 6 faculty members, three in each category.

**Professor Lou Wozniak** surprises his students and has some fun in GE 222!



Professor Jim Carnahan received the Gamma Epsilon Excellence in Teaching Award at the 2003 Spring Awards Banquet. He is shown here with Katie Appell, President, and Jeffrey Leesman, Executive Board Officer.

## New leader at helm of Technology Entrepreneur Center; Ray Price to promote leadership in new role



The [Technology Entrepreneur Center](#) hired Dr. Ikhlag Sidhu, a former researcher, executive, entrepreneur, and UIUC alumnus, as its interim director. Dr. Ray Price, who had directed TEC since its inception in 1999, is stepping down to focus on his duties as the Sevens Chair in Human Behavior in the Department of General Engineering and his new role as the director of the Illinois Leadership Center. In explaining his departure, Dr. Price drew a comparison between his directorship and entrepreneurship. "I am extremely proud of TEC's accomplishments. The Center has grown very quickly in a very short period of time," Dr. Price said. "But forward-thinking founders of any start-up venture should know that there may come a time when the company they started will have grown beyond their own skills and abilities. They should always be looking for future leaders -- the person or persons whose experience and background will enable their venture to move forward and to achieve its full potential.

"My background and scholarship are in the areas of leadership, emotional intelligence, and human behavior," Dr. Price explained. "Leadership writers and scholars often describe what's called 'strategic intent' - the ability to identify a general plan and to capitalize on the 'happy accident.' Ikhlag's arrival was just that sort of fortuitous event. His background in high-tech intra- and entrepreneurship, experience in operations, and personal contacts in the capital markets make him the ideal person to move the Center forward and maximize its potential." Harry Cook, head of the Department of General Engineering, praised the results Dr. Price achieved during his tenure at TEC.

"The Department is especially indebted to Professor Price for taking TEC from a concept to a robust entrepreneurial activity in the space of just two and a half years," Dr. Cook said. Dr. Price will continue to be an affiliated faculty member at TEC, as well as a member of its board of advisors. His new challenge as the Faculty Director of the

new Illinois Leadership Center reflects his ongoing engagement in the well-rounded education of the University's engineers.

"I am committed to ensuring that engineers have the knowledge they need to succeed in their careers," Dr. Price said. "And whether they are employers or employees, I believe they need two things: first, knowledge of business, which the Technology Entrepreneur Center will provide; and second, leadership skills, specifically knowledge of interpersonal relations and human behavior. Both require full-time attention, and I believe I can make a more significant personal contribution in the leadership area."

Dr. Sidhu, who took the reins at TEC last August, earned his bachelor's degree in Electrical Engineering at UIUC and is excited to be rejoining the University community. "UIUC is one of the few places in the world with the appropriate depth and caliber of programs required to produce true and substantive innovation," he said. "To me, the Technology Entrepreneur Center represents an opportunity to catalyze and further increase the impact of innovations developed within the University."

Dr. Sidhu strongly supports TEC's commitment to entrepreneurial education and scholarly work. Additionally, he also looks forward to supporting the University's broader effort of commercializing technology. "TEC will continue to help the University bring subject matter experts into a community of operations experts and capital market-based investment."

Dr. Sidhu has served in various executive level roles with high-tech companies. At U.S. Robotics (acquired by 3Com Corporation) he directed the Advanced Technologies Research Center and later served as a founder and vice president of 3Com's Internet Communications Business. He also served as vice president and chief technical officer for Cambia Networks, a high-profile Chicago-based 3G wireless technology company backed by Benchmark Capital. Previously he designed hardware and algorithms for Hewlett-Packard's LaserJet printer products. Dr. Sidhu is a prolific inventor with 19 patents granted to date in areas including IP telephony, computer networking, and image processing. He holds MS and PhD degrees in Electrical and Computer Engineering from Northwestern University.

The Technology Entrepreneur Center was created in 2000 to foster entrepreneurship by creating an entrepreneurial curriculum in the College of Engineering, building a network of University alums and supporters interested in assisting young technology companies, and hosting events to promote and showcase those technology companies.

## UPDATE ON TECHNOLOGY ENTREPRENEUR CENTER

Another academic year has just come to a close, and we wanted to take this opportunity to provide a status update about the Technology Entrepreneur Center, as well as give you information about some of our upcoming events for the 2003-2004 academic year.

First and foremost in the Center's mission is education. In our third full year of operation, we saw a continued increase in enrollment in our courses. By way of reminder, we now offer ten courses that focus on entrepreneurship, the business side of engineering, and/or technology commercialization. In this past year, total enrollment in these courses was nearly 800 students. As you can see from the chart below, this is a dramatic increase over the previous years:

### TOTAL TEC COURSE ENROLLMENT

1999 – 2000: 25 students  
 2000 – 2001: 66 students  
 2001 – 2002: 159 students  
 2002 – 2003: 796 students

We have continued our efforts to aggressively expand and market the Technology Entrepreneur Center's activities and offerings, as follows.

#### Entrepreneurial Discovery Lecture Series

This course, formerly known as Introduction to Entrepreneurship, has seen some of the greatest growth, due to enhanced advertisement and marketing. The course is cross-listed within the colleges of Engineering and Business, and offers a weekly series of lectures presented by University of Illinois alumni and friends with expertise as entrepreneurs, attorneys, financial service providers, angel investors and venture capitalists.

In addition to e-mails, we now advertise the course and its lectures with weekly posters distributed and displayed across campus, and advertisements in the Daily Illini. We also have made arrangements to tape all of the lectures and post them on our website, where students and other interested persons can access them at their convenience. Portions of these lectures will be

segmented out and featured in an Entrepreneurial Resource Center that we will be creating and administering in conjunction with Illinois VENTURES.

Many of you have participated in the course as guest lecturers, and we very much appreciate your commitment. For those of you who are interested in serving as guest lecturers for a future class, we are always looking for speakers, and would welcome an inquiry from you! The fall '03 semester is already nearly filled, and we are already scheduling lecturers for the spring '04 term.

#### Curriculum and Program Expansion

As mentioned earlier, the Technology Entrepreneur Center, in conjunction with the department of General Engineering, now offers ten courses. These courses target engineering students at all levels, from freshmen to graduate students. The newest TEC course, entitled "Technology Innovation and Strategy," is taught by TEC director Ikhlāq Sidhu.

Courses offered to graduate students will be available to support the new GE Masters and Ph.D. programs in Systems and Entrepreneurial Engineering, which will commence this coming fall semester.

As of the spring 2003 semester, TEC and GE now offer a secondary field in Corporate and Entrepreneurial Technology Commercialization (CE-TEC), available to undergraduate students who take a minimum of 12 credit hours of TEC courses.

#### V. Dale Cozad Business Plan Competition

The Cozad Competition has become an established event on the UIUC campus, and we look forward to its expansion next year. Thanks to additional commitments from Peter Fox of Fox Capital, John Banta of Illinois VENTURES, and John Parks with Enterprise Works, the new incubator here at the University of Illinois, we were able to expand the prize offerings for this past year's winners from \$20,000 to \$45,000. The 2002-3 winner, Kim Laboratories, won first prize of \$35,000 and six

months' tenancy in Enterprise Works for its technology to more rapidly detect and diagnose salmonella bacteria.

#### Biennial Report

In the spring 2003 semester, the Center completed its Biennial Report, describing in more detail the activities of the Center over the past three years, as well as its plans going forward. Some of you have already received copies of the Report; those of you who have not yet received your copy will be receiving it over the next few weeks. If you have any questions or would like additional copies for colleagues, please let me know, and I will be happy to provide these.

#### Plans for the 2003-4 Academic Year

Those of us here at the Technology Entrepreneur Center will be busy over the summer organizing the courses and other events we are planning for the 2003-4 academic year, including the following:

##### (a) new certificate program

The Center is currently preparing a new certificate program in Managing Advanced Technology that will be available online, at both the graduate and undergraduate level. Both of these programs will be implemented during the 2003-2004 academic year. More information about the nature of the program will be available at the beginning of the fall '03 semester.

##### (b) 2003-2004 V. Dale Cozad Business Plan Competition

Please note that we will be needing judges for the intermediate and final rounds of the Competition. Judges for the intermediate rounds will *not* need to come to the UIUC campus; only those judges who are interested in judging the final round in February 2004 would need to be on campus. For more information see the web site at [www.ge.uiuc.edu/tec](http://www.ge.uiuc.edu/tec).

Those of you with questions, or who are interested in being guest lecturers for the Entrepreneurial Discovery Lecture Series next year (for fall '03 or spring '04), assisting with the Cozad Competition, or helping out in any other way, are welcome to contact Director, Ikhlāq Sidhu ([isidhu@uiuc.edu](mailto:isidhu@uiuc.edu); (217) 333-9303) or the Center's secretary, Brenda Tyler ([bltyler@uiuc.edu](mailto:bltyler@uiuc.edu); (217) 244-3124).

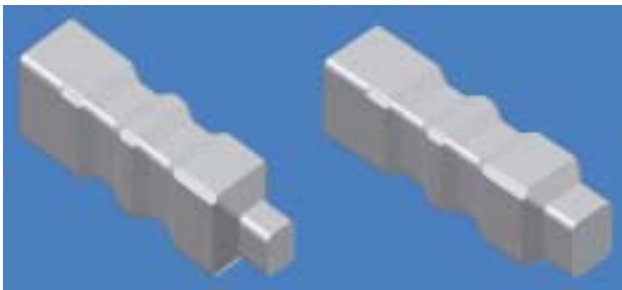
## GE 342 – Capstone Senior Design Program

The year 2002 has seen the Senior Design Program flourish in its successes both with the graduating seniors and the project sponsors. The program is unparalleled in the resources that are dedicated to the projects, including the student faculty ratio, sponsor involvement, and program support and administration. The results have again received national recognition in the Lincoln Arc Welding Foundation Awards for Excellence, in which approximately 800 engineering reports are evaluated annually. In 2002, GE's won 9 of the total 22 awards given nationally, with 21 GE projects submitted. In 2001, GE's won 13 of the total 23 awards, with 35 GE projects submitted.

The GE Department's dedication to the senior design program can be easily understood by considering the following question. What is the difference between the typical graduating engineering student, and the engineer who is working successfully and productively in industry? The answer is simple... The difference is experience. The senior design program bridges that experience gap. The GE graduate is more mature, seasoned and prepared to meet future career challenges because of the demanding, real-world engineering projects accomplished in senior design. These projects are purposely defined and specified to incorporate the same features our graduates will face in their professional careers. The components of a typical senior design project are: (1) An opportunity for reduction in costs, or increased revenue by the project sponsor, (2) Engineering analyses to determine the technically feasible options to address the opportunity, (3) Establishment of technical metrics to determine the best technical solution, (4) Economic analysis of the options to determine the most profitable solution, (5) Plan for implementation of recommendations, and (6) Completion of deliverables (software, hardware, etc.). Successful completion of GE 342 also requires interfacing with many sponsor contacts, vendors, collection of data, many meetings, lots of planning and organization, time management, deadlines, equipment purchases, status reports, effective communications, development of presentations, as well as technical writing. All of this is added to the extreme technical engineering content in the

Left:  
Original pre-  
form design

Right:  
New  
perform  
design



projects. Some have said that senior design is a very hard and demanding course, but, to quote a phrase, "It's the hard that makes it great." The demanding requirements are what prepare GE graduates to meet and overcome the challenges of the future. This all translates into GE graduates landing excellent jobs and salaries.

Senior design is seen as a hub that connects the undergraduate GE degree and the new graduate programs in Systems and Entrepreneurial Engineering. The constant attention to the economic feasibility and profitability of the project goal and final recommendations denote a marked shift from engineering education from years past, to the model of the future, in which the engineer sees the big picture of engineering as a tool in the global marketplace.

## GE ALUMNUS CHAIRS SENIOR DESIGN



GE is pleased to announce Harry Wildblood as the new Chairman of the Senior Design Program. Harry is a BSGE/MSGE and went through senior design himself. Since graduation he has been a consultant to industry, a manufacturing VP, as well as a business owner with 16 employees. During all of this, he advised over 40 GE senior design projects, 9 of which won national awards. He brings experience and vision to the senior design program concerning its role in the future development of our department and engineering education. "The senior design program should continue to grow and evolve to meet the need for real-world, interdisciplinary projects, which are engineering driven, and emphasize economic viability of solutions. To fulfill this vision, the senior design lab facilities are being updated, contacts with industry are being strengthened and expanded, and direct student support during the projects is being enhanced. I would like to express my continuing thanks to the GE faculty, whose project advising keeps the project intensity and quality high."

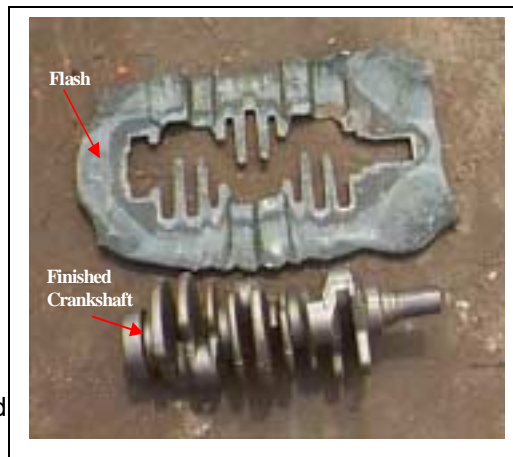
Many companies have found the senior design program to be an excellent way to tackle difficult problems in the face of limited company resources, and still get excellent results. A project lasts 17 weeks from start to finish, and is an excellent experience for the sponsor, as well as the students and faculty. Please contact me, Harry Wildblood, at 217-265-5359, [wildblod@uiuc.edu](mailto:wildblod@uiuc.edu), for more information. I'd enjoy discussing any project ideas you may have.

## PROJECT SPOTLIGHT

Following is a brief synopsis of a project advised by Prof. Henrique Reis in Fall 2002. It is selected as a typical, yet dramatic example of the success of senior design, and its recognition by industry. ThyssenKrupp Gerlach Company, hot forges crankshafts for OEM auto manufacturers in their Veedersburg, IN plant. The current billet design generates 18 pounds of flash per crankshaft in the forging process, at a scrap cost of \$2.4 million/year. The senior design team analyzed the hot-rolling process, which pre-forms, or redistributes, the billet mass prior to forging. A new rolled pre-formed billet was designed, along with modifications to the roll press tooling. Actual crankshafts made at the TKG plant with the redesigned prototype tooling demonstrated a potential weight savings of 3.4 pounds per crankshaft. As a result, savings to the company in flash reduction were demonstrated to exceed \$450K/year with implementation of the new design. Because the hot-rolling tooling must be retooled monthly in the current process, retooling to the new design was considered to have essentially no capital cost. The final presentation given by the project team was a great success, and was attended by two TKG engineers who flew from Germany for the occasion.



Left to right: (1) raw billet (2) rolled pre-formed billet (3) final forging (4) finished crankshaft



## 2001 LINCOLN ARC WELDING AWARD WINNERS

## MERIT AWARDS (13)

Woods Equipment

"Rotary Cutter Blade Deflection"

Kevin Michael Arft

Jacob Lee Borgerson

Angela Sang Kim

Advisor: Thomas Conry

International Paper Co.

"Zero Water Discharge Operation"

Deniz Arslanalp

Thomas A. Ebersole

Eamon P. Geary

Advisor: Deborah Thurston

InnerPac

"Scrap Inventory and Value Analysis"

Jacqueline S. Kubilus

Andrew B. Loulousis

Allison M. Olech

Advisor: Harry Wildblood

International Paper Co.

"Automation of Carton Folder"

Anna Hubbard

Christopher J. Ludwig

Jori R. Schiffman

Advisor: Michael Pleck

Antunes & Co., A. J.

"Piping System Layout"

Phillip J. Gibson

Eric N. Klostermann

Thomas A. Marchese

Advisor: Carolyn Beck

Flexicon

"Quick Changeover"

Kevin M. Carter

Brian D. Fischer

Joseph W. Pokorny III

Advisor: David Goldberg

Graymills Corporation

"Redesign of Parts Cleaner"

Efrain Cuevas

Jeffrey A. Legner

Jose M. Velazquez

Advisor: Brian Lilly

lomega Corporation

"Integration of PocketZip to Handspring Visor"

Ted W. Elrick

Sarah L. Quoss

Erin S. Sullivan

Advisor: Ramavarapus Sreenivas

Folding Bleacher Co.

The "Redesign of Folding Chair Hinge"

Lindsay Arnis Krussow

Marc Chanin Lifshin

Rodrigo Lizondra Valdez

Advisor: Henrique Reis

Lipton

"Warehouse Layout Redesign and Inventory Management System"

Valerie B. Fine

Jennifer L. Malitzke

Richard M. O'Brien

Advisor: Wayne Davis

Ergo-Tech, Inc.

"Design of an In-Line Industrial Water Gun"

Allen G. Demling

Thomas J. McClenahan

Daniel F. Posacki

Advisor: Adam Senalik

Wilson Sporting Goods Co.

"Locator for Center of Gravity of Golf Club Head"

Marisa Anne Bisbikis

Jason B. Kreienheder

David Thomas Patterson

Advisor: Manssour Maoezadeh

Cummins Engine Co.

"Exhaust Valve Diverter"

Brian J. Cunningham

Adam E. Jaronik

Jia X. Zhao

Advisor: Thomas Conry

*In Memoriam*

'28  
**Frederick A. Hansen**, 95, of Rock Island, IL died on August 31, 2002 at Trinity Medical Center. Frederick retired in 1973 as chief of the construction branch of the U.S. Army Corps of Engineers. In 1975 he was inducted into the Gallery of Distinguished Civilian Employees of the Rock Island District. Frederick was a World War II Navy Veteran and former member of the Army and Navy Reserves.

'31  
**Gerald H. (Jerry) Zimmerman**, 93, of Springfield, IL, passed on December 21, 2001. Jerry was a U.S. Navy veteran of World War II, serving as a communications officer on the USS Protunis. Her retired from the Department of Transportation as a civil engineer in 1974. Jerry was a member of Pi Kappa Alpha Fraternity, the University of Illinois Alumni Association, Delavan Masonic Lodge, Springfield Consistory, Ansar Shrine and First United Methodist Church.

'32  
**Jean F. Lattan**, 92, of Lombard, IL, passed on July 2, 2002 in Lexington Square Health Care. Jean was a mechanical and quality control engineer with Taylor Forge & Pipe Works of Cicero from 1933 until his retirement in 1976.

39  
**Robert C. Lewis**, formerly of Peterborough, died June 18, 2001. Robert co-founded Calidyne Company in Winchester, MA. In 1962, he became president of Ling Electronics and moved to California. In 1974, he relocated to New Hampshire and co-founded Noise Reduction Products in Sullivan. Robert is listed in several editions of American Men and Women of Science and Who's Who in Engineering. He is also author and co-author of several patents and a member of the American Society of Mechanical Engineers, Institute of Environmental Sciences and Society of Sigma Xi (MIT Chapter), Fellow of the Acoustical Society of America, and registered professional engineer in the State of Massachusetts.

2002 LINCOLN ARC WELDING AWARDS

**GOLD AWARD**

Kraft Foods, Inc.  
 "Foil Seal Troubleshooting"  
 Ryan P. Jacobs  
 Andrew J. Olszta  
 Benjamin D. Rigby  
 Advisor: Edward Kuznetsov

Stockton Cheese, Inc.  
 "Brine Tank Distribution Design"  
 Neal A. Gabriel  
 Anthony J. Meizelis  
 JoAnne S. Y. Wong  
 Advisor: Brent Hall

Holland Company L.P.  
 "Butt Welder Structural Weldment Redesign"  
 John M. Davidson  
 Patricia D. Robbins  
 Amy J. Russell  
 Advisor: Edward Kuznetsov

**MERIT AWARDS (8)**

Rexam Beverage Can Americas  
 "FEA of Can Flange Forming Tooling"  
 Adam E. Grosch  
 Anneliese Herzog  
 Brian L. Pawula  
 Advisor: Thomas Conry

Mueller Company  
 "Drilling and Tapping Machine Redesign"  
 Amanda K. Bates  
 John N. Milner  
 Lindsey R. Stancliff  
 Advisor: Henrique Reis

Advance Filtration Systems, Inc.  
 "Troubleshooting Filter Media Tube Sealing Operation"  
 Joseph A. Koral  
 Tyler R. Spalding  
 Christopher J. York  
 Advisor: Narayana Aluru

Bretford Manufacturing, Inc.  
 "UV Coating Process Analysis and Control"  
 Adam B. Biggam  
 Andrew C. Vaughn  
 Chrystina E. Zelaskiewicz  
 Advisor: Harry Wildblood

Ivex Packaging Corporation  
 "Benchmarking Polystyrene Sheet and Thermoforming"  
 Bryan T. Hoppe  
 Joanna B. Jenne  
 Danny O. Navarrete  
 Advisor: Brent Hall

Duraco Products, Inc.  
 "Polyurethane Mold Tooling Analysis"  
 Brian D. DeGraff  
 David A. Kessler  
 Zachary D. Niehues  
 Advisor: Brian Lilly

**'Donald W. White**, (BSGE '50) 77 of Wheaton, an engineer and consultant on numerous commercial and industrial projects in Chicago and the western suburbs, died on Monday, May 20, 2002 of heart failure. From 1965 to 1973 Donald worked for Del Webb in Oak Brook, during which time his construction projects included the McDonalds' corporate building and the towers that now houses the Marriott Hotel on 22<sup>nd</sup> Street in Oak Brook. He also worked on the Hyatt Hotel and Sheraton Hotel, as well as many office and industrial structures throughout the area. Later, he became Vice President of Construction for the real estate division of IC Industries in Chicago.

Before his retirement in 1992, Don also worked for New York based George A. Fuller Co. and Harbor Contractors in Oak Brook. While with Fuller he was part of a team of engineers that helped with the reconstruction work on the Prudential building in downtown Chicago. He also worked on the construction of the 311 South Wacker Building in the Chicago Loop, the world's tallest concrete structure. Donald was an Air Force Veteran and served as a radio operator in Italy and Brazil during World War II.

Donald and Dottie White established the Donald W. White Scholarship in 1996 to support and encourage dedicated sophomore and junior students in General Engineering to "pursue the challenge of their future careers in the field of construction."

'43

**Lowell A. Wessels**, 80, passed away on November 4, 2002 at Mt. Carmel East Hospital, Columbus, OH. Lowell was a Naval Pilot on the carriers Saratoga and Monterey, and among the first to fly over mainland Japan.

'48

**Elliot Cabrera** of Downers Grove, died of cancer on April 3, 2002. Elliot was a communication engineer whose work with the Federal Bureau of Investigation helped make President Ronald Reagan's phone calls more secure. Mr. Cabrera was honored by the Department of Justice with an award and certificate of appreciation. While working for Western Electric in the early 1960s, Elliot helped create a series of radar stations in northern Alaska to protect the United States. Elliot is a veteran of World War II and the Korean War.

**Charles A. Brooks, Jr.** of Sturgeon Bay, WI passed away at nearly 80 years of age on June 2, 2002.

'50

**Gunther 'Red' Wittmuss**, 75, of Wheaton, IL, passed away on April 26, 2002 of congestive heart failure. Gunther served in the Navy in radio communications.

'74

**Randall E. Nelson**, 51, of Moline, IL, passed on September 24, 2002. Randall was employed as a manager of parts distribution overseas for Deere & Co. at John Deere Parts Depot, Milan.

## FROM HARRY COOK

The faculty of the General Engineering Department put its intellect and energy into shaping a successful proposal for the new M.S. and Ph.D. degrees in Systems and Entrepreneurial Engineering. We also greatly benefited from the early and constant support given by Dean David Daniel of the College of Engineering. A strong letter of support from Dean Avijit Ghosh of the College of Commerce was equally beneficial as were letters of support from other department heads in the College of Engineering.

Many GE faculty members contributed to developing the proposal and getting it through the system. We now need to deliver on our promises and we are determined to pull it off based upon a highly successful off-site faculty meeting we held at the Allerton Conference Center.

We will need to excel in research at the interface of traditional engineering and business, an area that is just emerging. Fortunately, MIT, Stanford, and other institutions also have relatively new programs in systems engineering and technology management. Thus, a critical mass of leading institutions is forming which should help encourage agencies that support academia to fund the research to strengthen markedly the ties between engineering, business success and customer satisfaction.

The new M.S. and Ph.D. degrees do not directly affect the General Engineering undergraduate degree and the faculty strongly supports maintaining the GE degree. Dean Daniel has also asked us to keep the undergraduate degree intact. An important benefit for our undergraduate program is that our students will have a wider selection of courses to choose from on the systems and business side. Gaining greater systems knowledge and business savvy will help our graduates keep their edge in the marketplace.

Since becoming Department Head, my plan has been to step down after five years, the effective date being August 20, 2003. Consequently, Dean Daniel will appoint an interim head if the search for the new head is not completed by then.

As I look back, it is clear that the faculty and staff have accomplished much over the past five years. The new M.S. and Ph.D. programs and the Technology Entrepreneur Center represent two major accomplishments. The department can also take pride in that there are now three chaired professorships held by GE faculty. The capstone design course continues to provide our seniors with real-world problems that they must solve under very realistic constraints on time and resources. Not only do our seniors solve these problems but many win national awards in doing so.

In closing, I would like to thank the many alumni who have supported the GE Department in many ways during my tenure. Please continue your support with the new head as the challenges ahead will require that we continue to bring forth and implement fresh ideas.



(left) Ross Gadiant '01 of Boeing visiting in Trans with GE Seniors during Engineering Expo.



Donna Cislo, Vice President of GEPS (center) with Aaron Voegelé '98, and Karen Kowalski of Ethicon Endo Surgery before their information night, which was sponsored by GEPS.

To change your regular mailing address, e-mail address or update other personal information, go to the Alumni Association website at [www.uiaadirectory.org](http://www.uiaadirectory.org)

## FROM YOUR ALUMNI RELATIONS COORDINATOR

I'm sure that you have all heard about the budget crisis impacting the University of Illinois and the State of Illinois. While we (the department) were able to get through the last wave of cuts with minimal impact on students and alumni programming, this is not the case this time around. Here are some things that you, as our alumni, need to know because we have had to cut \$25,000 from alumni programming.

- We can no longer afford to have the newsletter produced by outside sources, so we have moved to this format and it is being done totally "in house". Additionally, we do not have the funds to mass produce and mail the newsletter, so it will be in electronic form. If you send us your email address, we will send it directly to you. For those who may not use email, the GE Alumni News will be on our web site and we hope to be able to respond to individual requests for a hard copy. We are hoping that moving to an electronic version of the newsletter may make it easier to send you news on a more regular basis, so PLEASE send your email address to me at [adimit@uiuc.edu](mailto:adimit@uiuc.edu).
- Additionally, we have had to cancel plans for the annual Chicago Area Alumni Reception this fall. We hope to be able to bring back this event—perhaps in Spring 2005.
- We are still moving ahead with planning for our Annual Alumni Reunion on Homecoming Weekend, October 24<sup>th</sup>. However, it is probable that we won't be able to afford to send a special mailing about this event. Please see the article in this newsletter for all the details. Reservations may be made on-line on the GE Web Site using the Alumni Express Link. You will also notice a few changes to the event itself, but we have done everything possible to continue this new tradition!
- We hope that you will send us your email address so that we can send more frequent news (maybe a quarterly newsletter?) to you, to stay connected, and to thank you for your support and continued involvement. We want you to know that the time that you give to students and the investments you contribute make a direct impact; however, we won't be able to send a card around the holiday season this year.
- Despite the increasing popularity of the Engineer in Residence Program, (growing to 11 alumni this year!), we cannot financially support this level of activity. We must limit our Engineers in Residence to 5 per semester and eliminate the honorarium. We will, however, work hard to increase the number of recent alumni participating and hope to assist, in some way, with travel expenses using alumni contributions that directly support this program.
- We will be aggressively seeking "partnerships" to help us support the Gamma Epsilon Spring Awards Banquet which now attracts 200 attendees that include students, parents and family, faculty and staff. We need these partnerships to be able to do things such as offer complimentary tickets to our award winners and slightly discounted tickets to their parents, and to offer discounted tickets to our students (prices will be \$10 for students and \$20 otherwise).

As you can see we have many new opportunities regarding our alumni programming and innovative ways to stay connected with you. As we move through this time of transition, I ask a few things of you.

- Please continue to send me job announcements via email so that I can forward them to students. Your networking efforts have been crucial to our undergraduates during the flat job market. We have had the highest job placement rate in the college of engineering for the past two years thanks to GE alumni who send us job information and help make sure General Engineering students can access interviews with their company. Do you know if GE is on your company's list? Please double check! Our students can't market themselves as General Engineers if they can't submit their resume.
- If you haven't already logged-in to the Alumni Mentor Discussion Board, please do so. We have so many current and prospective students with questions regarding secondary fields and career options! Just use the Alumni Express Link on our web site and click on the Alumni Discussion Board. This is a great way to connect with old friends as well--- and when I receive job announcements for non-recent grads, I publicize them here.
- Maintain your membership in the Alumni Association. The department receives a percentage of your membership dues and we use this allocation to support our Distinguished Service Awards for students, alumni and faculty. You can become a member on line using this link [www.uiaa.org/urbana/](http://www.uiaa.org/urbana/). Go to "Become a Member" and remember to use the Promotion Code UD14 at the bottom of the form.
- Finally, I ask you to **please** consider an investment in General Engineering. Your gift *will* make a significant, positive difference in the daily experience of a GE student. While we lead the Urbana Campus with 32% of our 3800 alumni maintaining membership in the Alumni Association---only about 4% or 152 individuals contribute some level of financial support. The college of engineering average is about 10%. Just think, if we could double that to 8% and 152 additional alumni would give \$120 each (\$10 per month), we would have over \$18,000 to use to restore scholarships and programming that have been cut this year! You can give online using our web site and click on "Invest in General Engineering."
- **REMEMBER TO SEND US YOUR EMAIL ADDRESS!!!**



Mike Brunetto, BSGE '77

## FROM YOUR PAST AND CURRENT ALUMNI BOARD PRESIDENTS

It probably comes as no surprise to those of you who live in Illinois or follow the University, that these are difficult times. State budget cuts have or will affect many state services and programs, and many individuals. The University of Illinois, and the Department of General Engineering are no exception.

For example, the University of Illinois state funding has been reduced by 9%

for the year 2004, resulting in fewer instructors, larger class sizes, and loss of some faculty. General Engineering has already lost three positions to previous budget cuts, and several student scholarships and awards will be reduced or eliminated in 2003-4. You can, however, help.

If you've followed the Department News, you know of all the positive news coming from General Engineering:

- General Engineering has had the highest job placement rate in the college for the past two years.
- General Engineering Alumni salaries continue to rank among the highest in 5 and 10 year surveys.
- The Technology Entrepreneur Center has been extremely successful.
- The Department has a new PhD program in Systems and Entrepreneurial Engineering.
- Two new undergraduate scholarships have been established by alumni in the past two years.
- The department has its first Fellowship thanks to one of our alumni.
- The Dobrovoly Professorship has been established and is the first Professorship for the department.

Also, if you've spent any time on campus with the GE students, you have found them to be an extremely intelligent, resourceful, and delightful group. Like the General Engineering curriculum, they truly are unique among their engineering peers! I strongly encourage you to logon to the GE Alumni Mentor Discussion Board on the GE web site. This is a great way to network with students and offer them a perspective from the real world.

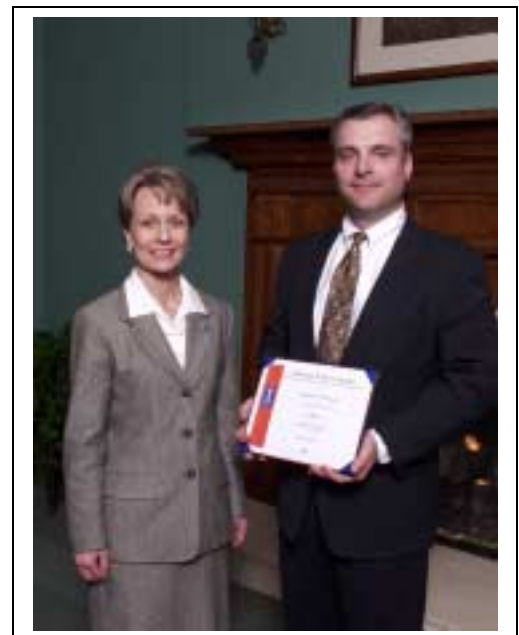
As alumni, we have the opportunity to help maintain this success story. If you've contributed to General Engineering before, please consider increasing the amount of your gift. If you've thought about contributing before, now would be a good time to start. As the past and current Presidents of the Alumni Advisory Board, we can promise you that your funds will directly impact the quality of students entering the department, and the quality of the education they receive. You may designate your gift to directly support one of the funds listed in this newsletter, or you may leave your gift as undesignated. If your company has a Matching Gifts program, as many do, you can double or triple the value of your contribution.

Each of us has benefited from the legacy of General Engineering. I urge you to help maintain and grow this legacy by contributing to the mission of General Engineering today.

Sincerely,  
Mike Brunetto, Current President  
Dan Krueger, Past President  
GE Alumni and Industry Advisory Board

**WANT TO RECEIVE FUTURE  
ISSUES OF  
THE GE ALUMNI NEWS?  
SEND US YOUR EMAIL ADDRESS  
TODAY!  
WWW.GE.UIUC.EDU**

Dan Krueger BSGE '87 receives the Alumni Association Orange and Blue Award from Karen Tow, Chief Operating Officer of the UI Alumni Association, in recognition of his two years of service as President of the GE Alumni and Industry Advisory Board



## 2003-2004 ALUMNI BOARD OFFICERS ELECTED

### President:

Michael Brunetto '77  
Senior Manager, Wholesaler  
Business Consulting  
Anheuser Busch, Inc  
[Mike.Brunetto@anheuser-busch.com](mailto:Mike.Brunetto@anheuser-busch.com)

### First Vice President:

Jeffrey Morris '70  
President, Telephone Products,  
Inc.  
[jmorris@untangler.com](mailto:jmorris@untangler.com)

### Second Vice President:

Deanne Kolath, '94  
Senior Consultant, IBM Business  
Consulting Services  
[deanne.m.kolath@us.ibm.com](mailto:deanne.m.kolath@us.ibm.com)

### Alumni Directors:

Daniel Krueger '87  
Partner, Accenture  
[Daniel.p.krueger@accenture.com](mailto:Daniel.p.krueger@accenture.com)

James D'Orazio '75 (ex-officio)  
Vice President and National  
Director of Engineering  
Grubb & Ellis Management  
Services, Inc.  
[James.dorazio@grubb-ellis.com](mailto:James.dorazio@grubb-ellis.com)

Mary Beth Burke '87  
[mdburke@xrcmi.com](mailto:mdburke@xrcmi.com)

The mission of the Board is to advise the Department Head and Staff of the industry perspective relative to the curriculum, senior capstone design projects, research initiatives, and any other topics on which the Department can use the Boards' expertise and experience to better serve industry's needs. Anyone interested in serving on the Alumni and Industry Advisory Board is welcome to submit her/his name for consideration to Angie Dimit at [adimit@uiuc.edu](mailto:adimit@uiuc.edu)

## 2003 ALUMNI REUNION FOR GENERAL ENGINEERING OCTOBER 24-25

On behalf of the entire department and the GE Alumni and Industry Advisory Board, we would like to invite you back to campus for our Annual Alumni Reunion. This is a great opportunity to visit with old friends, professors (old and new), and classmates. We hope you can join us!

The GE Alumni Reunion Weekend is planned for Friday, October 24<sup>th</sup> and Saturday, October 25<sup>th</sup>. The GE Reunion is from 5:30-8:00 p.m. on Friday, October 24<sup>th</sup> at the Transportation Building, with dinner featuring a local favorite for barbeque turkey and beef—Longhorn Smokehouse. (Sauce is served separately, vegetarian options available.)

The GE Reunion is \$15.00 per adult (age 12 and older) and \$5.00 per child.

Reservation information is available on the Alumni Express Link at [www.ge.uiuc.edu](http://www.ge.uiuc.edu). The reservation deadline is Monday, October 20<sup>th</sup>.

On Saturday, October 25<sup>th</sup> you are invited to attend the College of Engineering Pre-Game Party and cheer-on the Fighting Illini Football Team in the Homecoming Game against Minnesota.

For detailed information about all of the College of Engineering events during Homecoming weekend (football tickets, hotel rooms, reservations) go to [www.engr.uiuc.edu/alumni/events/homecoming](http://www.engr.uiuc.edu/alumni/events/homecoming).

The faculty and staff are eager to see you again!

Sincerely,

*Harry Cook & Angie Dimit*



(Top) Gary Newton '57 "clowns" around with Harry Cook during last year's Alumni Reunion. (Center) Roger Stein '81 enjoys the company of (left to right) Erin Sullivan '01, Jessica Kwak '01, Erin Engels '00, and Carrie Solberg '01 (Bottom) Prof. Scott Burns, Faculty Advisor to ISGE catches up with Erin Sullivan, Past ISGE President.

(Left) Harry Cook with Tom Prickett (right) at the 2003 Spring Awards Banquet where Tom received the GE Distinguished Service Award for Alumni.



## ENGINEERS IN RESIDENCE SPRING 2002, FALL 2002, SPRING 2003



**Michael Brunetto '77**, Senior Manager, IMPACT Consulting, Anheuser-Busch, Inc.

**Myron Bernard '56**, Construction Management Services and Management Consultant

**Forrest Buchtel '60-BS**, Mechanical Engineering, Consultant and Musician

**Bill Chittenden, 50**. Retired Senior Partner, Sargent & Lundy

**Jim D'Orazio '75**, Vice President and National Director of Engineering, Grubb-Ellis, a Property Solutions Corporation

**Erin Engels '01**

**Jay Goldberg '79**, Director of the Healthcare Technologies Management Program at Marquette University in Milwaukee, WI and Assistant Professor of Biomedical Engineering

**Deanne Kolath '95**, IBM Business Consulting Services

**Jay Lovelace '63**, Vice President and Location Manager of Space Systems Glendale, Honeywell, Inc

**Dan Metz '65-BS**, Univ. of Cincinnati; '67-MS, Univ. of Detroit; '71-PhD, Cornell University

**Jeff Morris '70**, President, Telephone Products, Inc.

**Bradley Mottier '81-MS; '79-BS**, President and Chief Executive Officer, Unison Industries

**Gary Newtonson '57**, Retired Chief Patent Counsel, Chrysler and private attorney

**Dennis Polhill '70**, Vice President with American Pacific Financial, President of CAIB (Colorado At Its Best), and private consultant

**Tom Prickett '60**, President, Thomas A. Prickett & Associates, Consulting Groundwater Hydrologist

**Ducky Sherwood '96-MS**, Independent Consultant

**Marvin Smollar '68**, CEO, President, and Co-Founder of Delray Financial Group, Inc. and CEO and President of Kingsland Development Co., Inc.

**Roger Stein '81**, Intellectual Property Attorney, Wallenstein & Wagner. Ltd.

**Marshall Tudor '57**, Retired Vice President and General Manager of the Tape Manufacturing Division, 3M

**John White '71**, Chairman of the Board and Strategic Planning Officer, Universal Technical Institute, Inc.

**Harry Wildblood '88-MS; '86-BS**, Chair, Senior Design, former entrepreneur



Top to bottom, counterclockwise:

- Marshall Tudor with his 2 scholarship holders, Katie Kopren and Christopher Marshall.
- Deanne Kolath with Justin Dobsch and Ben Goodman.
- Dennis Polhill with Ben Ervin and Obi Oriji
- Ducky Sherwood with husband, Jim, (center), Jon Piersal (left) and Ben Goodman (right)
- Jay Goldberg
- Jay Lovelace (right) with Iklaq Sidhu and Harry Cook.
- John White

## ALUMNI UPDATES

'01

Navy Ensign **Kevin Carter** received his commission as a naval officer after completing Officer Candidate School (OCS) at Naval Aviation Schools Command, Naval Air Station, Pensacola, FL.

**Jill Frisby** was featured in an article in the *Chicago Tribune*, titled "Outsiders can easily tap into wireless networks." Jill is employed by Crowe Chizek.

'00

**Sara Koehler** was quoted on the Whitaker Foundation website in the article "Biomedical Engineering Top Choice for Women".

'99

**Randall W. Clark** and Peggy A. Neubert were married on July 1, 2001 at Covenant Church in Galesburg. Randall is pursuing a master's degree in electrical engineering at the University of Illinois. Peggy is a graduate of the University of Illinois, with a degree in elementary education. The couple will reside in Champaign.

**Edward A. Donat** graduated from the Air National Guard Academy of Military Science at McGhee Tyson Air National Guard Base in Knoxville, TN, and was commissioned as a second lieutenant assigned to a reserve component of the U.S. Air Force.

**Reynaldo Rojas** and Jennifer Siebert were married in November, 2001. The bride is employed by Caterpillar as a Hydraulic Systems Engineer. The groom is employed by Allstate as a professional specializing in web development.

**Jason W. Smith** and Mary K. Kinate were married June 30, 2001, at St. Mary's Catholic Church of Pontiac. The groom is employed at Morton Buildings, Inc. The bride is employed at Sunset Hills Primary School in Pekin. The couple resides in Morton, IL.

'98

**Daniel Beedon** and Casey MacTrinder were wed on June 2, 2001 at Itasca Country Club. Daniel is employed as a senior engineer for Baxter Healthcare Corp. in Round Lake, IL. Casey is employed as a speech assistant for Schaumburg School District 54.



Dick Jonson '56 (left) and Bob Hoffman '70 enjoy a laugh at the Holiday Reception for Alumni Board Members, Faculty, Staff, and Student Leaders.

**Joshua Benoist** has joined architectural and engineering firm Shive-Hattery of Des Plaines, IL. Joshua will serve as project engineer for mechanical engineering projects.

'97

**Lt. Neil A. Krueger** and Amy Jo Perrea were married August 18, 2001 at St. Paul's Lutheran Church in Saratoga Springs, N.Y. Arthur is currently a lieutenant in the U.S. Navy on the USS George Washington. Amy is a special education teacher working with autistic children at Deep Creek Elementary School in Chesapeake, VA. The couple reside in Virginia Beach, VA.

'96

**Christopher Michael Pangallo** and Carey Benoit were wed on April 13, 2002 at Sacred Heart Church. The couple will reside in Chicago.

Gary Kloster and **Brin Schuler** were wed November 24, 2001 in Riberside Community Church in Machesney Park, IL. Brin is a medical resident in the University of Wyoming Rural Family Practice Residency. The couple resides in Cheyenne, WY.

**Mark Scifres** provides Ethernet access to many fraternities, sororities, and apartment complexes in the Champaign-Urbana Area. His business DMISI is based in Savoy.

'95

**John W. Bozrth** and Jennifer R. Jones were wed on June 9, 2001 at Faith Christian Family Church in Rushville. The couple resides in Rushville, IL.

**Peter A. Friddle** and Kathleen M. Ruzon were married at St. Patrick's Church in Joliet, IL on October 21, 2000. Peter is employed by L.R. Nelson Corporation as a manufacturing engineer. Kathleen is employed at Tazwood Behavioral Health Systems as a therapist. The couple reside in East Peoria, IL.

'94

The seventh annual **Caryn Terese Casaz** Memorial Fund took place on September 16, 2001 at Centennial Park in Tinley Park. The "Running With Angels" benefit includes a five kilometer walk and fun run. Caryn was 24 and training for a marathon when she was killed by a drunk driver.

A profile was done on **Ivan Favila** in the February 6, 2002 issue of UIC News. Ivan spoke of the major influences in his life and the way he gives back to the community.

On September 29, 2001, **Kevin Hannel** and Patricia Steczek were married at Holy Trinity Catholic Church in Bloomington. The couple is employed by at Fransworth Group in Bloomington. They reside in Bloomington.

## ALUMNI UPDATES (CONTINUED)

'94

**John P. Keagle** and Lerah K. Mitchell were married on September 15, 2001 at the Oberlin Congregational Church in Steilacoom, WA. The bride is an elementary teacher; the groom is a major in the Air Force Reserves and is currently studying for a MBA degree at the University of Washington.

'92

**Mark D. Dogadalski** and Denise L. Stowell were married September 23, 2000 at St. Joseph's Church, Libertyville, IL. Mark is employed by Accenture. Denise, also a U of I graduate, is employed as a piano teacher in Libertyville.

'91

Roderick Berthold and **Julie A. Nochumsom** were married on February 17<sup>th</sup>, 2001 in Long Grove, IL. Rod is the president of Gus Berthold Electric Company in Chicago. Julie is the regional energy coordinator for the General Services Administration's Great Lakes Region. The couple resides in Park Ridge, IL.

**Paul English**, his wife Amy, and their children, Emily and Russell, sailed along the Florida Keys and across Lake Michigan in a celebration of 10 years of cruising together.

'90

**Ed Lennox** was quoted in *Illinois Alumni* magazine, in the section "Alumni Clubs In Action."

'89

**Lisa Dullum** and her husband, Olav Lund-Mikkelsen had their first child, Ingrid Marie Lund-Mikkelsen on May 9, 2001. Lisa is working while Olav stays home full-time to take care of Ingrid.

'88

**Mark E. Brenner** and Melissa A. Campbell were married June 2, 2001 at the St. Clement Church, Chicago. The couple resides in Chicago.

'87

**James Dickinson II** received a master's degree in electrical engineering, with honors and distinction from Fresno State University in California. James

earned the degree while employed full time at Northrop Corporation in California.

**Daniel Grill** accepted a partnership in a Harrisburg, PA law firm, Thomas, Thomas & Hafer LLP, in the summer of 2001, and relocated his practice there from Lancaster, PA. His practice is concentrated on the defense of physicians and other professionals and institutions in malpractice litigation. Dan and his wife Mary (Burns) (LAS, 1987, Math/Computer Science) have two sons, Austin, 6 and Eric, 4. Mary is in her 15<sup>th</sup> year with IBM Corp.

'85

Jeremy L. Fredley and **Jennifer L. Anderson** were married on October 20, 2001 at Village Church of Gurnee. Jennifer and Jeremy are employed by Abbott Laboratories. The couple lives in Waukegan.

'86

**David Samyn**, formerly of ADC and Raychem, Joins AirFiber as Vice President of Global Sales. David has had more than 16 years of telecommunications and sales experience.

'81

**Thomas F. Taylor** retired as a Commander in the Navy on March 1, 2001, after commanding an F/A-18 squadron deployed on the USS Abraham Lincoln. He is currently a Financial Advisor with UBS Paine Webber in Fresno, CA. His team won the June 2001 Financial Planning Competition held in Wechawken, NJ.

'80

**Mitchell Feiger**, President and CEO of MB Financial Inc. was quoted in *Crain's Chicago Business* in January, 2002 in the article "Banking on deals in slowing market". He was also named "A 2002 Rising Star" in the banking industry.

**John W. Peterson** turned over command of the guided missile destroyer USS Hopper (DDG70) in the summer of 2000 off the coast of Iran. He took over his current job in Washington D.C. in August 2000. He is returning to sea as a Destroyer Squadron Commodore in the summer of 2002.

**Robert (Bob) Schultz** was appointed as vice president of Hewlett Packard Network Storage Solutions marketing and solutions team.

'79

**Steven Stubit**, has joined Brigade Corporation as Vice President, Business Development. Steven will be based in the Brigade Chicago office. Steven also holds a 1982 masters degree in General Engineering and a Master of Business Administration degree from the University of Chicago.

'78

**Randall W. Kramer's** oldest son will be entering the College of Agriculture, Consumer, and Environmental Sciences (ACES) at the University of Illinois in the Fall 2002.

'75

Praxair has named **Al Belair** quality director for the industrial gases company's Global Supply Systems group. Al will be located at the Praxair Technology Center in Tonawanda. Al has worked with Praxair since 1975.

'74

**Larry Kienzler** was re-elected to the Savoy Village board in 2001. He has been serving on the Board since 1997.

**Neal Nealis** was elected President of the Board of Directors of the University of Illinois College of Dentistry Alumni Association. His daughter, Courtney, attends the University of Illinois. His daughter, Lindsey, is attending Indiana University on a field hockey scholarship.

'72

**Louis Mancini** has been named Vice President, Maintenance Operations Services of Boeing Commercial Airplanes.

Deanne Kolath '94 (left) with Angie Dimit at the 2002 Chicago Area Alumni Reception.



## New Faculty Member joins GE and TEC

**Ali Yassine** is the newest assistant professor in General Engineering. He is the director of the Product Development Research Laboratory and an affiliated professor with the Technology Entrepreneur Center (TEC).

Prior to joining UIUC, Professor Yassine was a research scientist at MIT Center for technology, Policy and Industrial Development (CTPID) and a project manager at Chrysler International Corporation. He also consulted on numerous occasions for the automotive, electronics, and telecommunications industries in the areas of product development management and decision analysis.

Dr. Yassine received the B.E. degree in Mechanical Engineering in 1988 from the American University of Beirut. He received the M.S. and Ph.D. degrees in 1989 and 1994 in Industrial and Manufacturing Engineering from Wayne State University in Detroit, Michigan. He is a member of INFORMS, ASME and PDMA.

Ali's research deals with the interdisciplinary issues of developing and managing complex engineering systems. This research is motivated by a lack of formal Product Development (PD) models in the engineering/operations management literature and practice. His research concentrates on this gap by using quantitative techniques [based on optimization theory, linear systems theory, and stochastic modeling] to formulate and analyze an emerging set of product development (PD) problems, including the management of iteration, overlapping decisions, system decomposition & integration, and information technology enabled PD. In general, this research comprises three complementary streams:

1. Development of new tools to improve the management of complex development projects using the Design Structure Matrix (DSM). His DSM research and activities have significantly contributed to the rapid growth of this tool and its diffusion to the industry. First, he has developed a robust set of algorithms for DSM data collection and analysis, including information flow modeling, project management, and product architecture analysis. Secondly, he has streamlined the method and its techniques by using it for analyzing over a dozen of complex development projects from automotive, electronics, aerospace, and software industries.



2. Development of mathematical models to improve the understanding of complex PD processes. This research stream is also cutting edge. His latest PD research explains why different levels of concurrency (among development tasks) can be optimal based on the discrepancy between "local" and "system" performance accrual rates. Along similar lines, he explained the oscillatory nature of PD performance. This line of research not only contributed significantly to the development of a formal theory of PD, but also is ground breaking in illuminating the importance of investigating local and system perspectives in complex PD environments.
3. Finally, his research in information technology (IT) enabled PD is very promising. In general, he is interested in understanding the impact of IT tools on PD "performance". One example is his research on modeling the impact of the frequency and fidelity of exchanged information (between dispersed development teams) on the convergence properties of the development process. Another research investigates how different forms of integrative IT architectures ("IT Connectedness"), utilized in design chains, impact the performance of PD processes (in terms of development time, cost, and customization capability).

Professor Yassine's publications appeared in Management Science, IEEE Transactions on Engineering Management, Concurrent Engineering Research & Applications (CERA), and several other international journals and conference proceedings.

## SENIOR DESIGN PROJECTS

**SPRING 2002**

Lawn Sweeper Brush Clutch Design

Project Advisor: Henrique Reis

Company Sponsor: Agri-Fab, Inc.

Weathering Test Machine Humidity Modification

Project Advisor: R. S. Sreenivas

Company Sponsor: Atlas Electric Devices Co.

Economic Recycling/Disposal of Grinding Swarf

Project Advisor: Brian Lilly

Company Sponsor: Banner Service

UV Coating Process Analysis and Control

Project Advisor: Harry S. Wildblood

Company Sponsor: Bretford Manufacturing, Inc.

Paper Waxing Control

Project Advisor: Juraj V. Medanic

Company Sponsor: Brown Paper Goods Company

Seal Costing and Drawing Generation System

Project Advisor: Scott A. Burns

Company Sponsor: Forsheda Engineered Seals

Butt Welder Structural Weldment Redesign

Project Advisor: Edward N. Kuznetsov

Company Sponsor: Holland Company L.P.

Benchmarking Polystyrene Sheet and

Thermoforming

Project Advisor: W. Brent Hall

Company Sponsor: Ivex Packaging Corporation

Packaging Material Audit Algorithm Developments

Project Advisor: David E. Goldberg

Company Sponsor: Kraft Foods, Inc.

Drilling and Tapping Machine Redesign

Project Advisor: Henrique Reis

Company Sponsor: Mueller Company

Production Simulation and Plant Design

Project Advisor: Wayne J. Davis

Company Sponsor: Northrup-Grumman

FEA of Can Flange Forming Tooling

Project Advisor: Thomas F. Conry

Company Sponsor: Rexam Beverage Can Americas

Brine Tank Distribution

Project Advisor: W. Brent Hall

Company Sponsor: Stockton Cheese, Inc.

Energy Usage Reduction in Injection Molding Facility

Project Advisor: Wayne J. Davis

Company Sponsor: White Cap, Inc.

**FALL 2002**

Pump Performance Test Stand Design

Project Advisor: Francesco Bullo

Company Sponsor: Aurora Pump

Coating Process Design and Control

Project Advisor: Harry Wildblood/Ali Yassine

Company Sponsor: Forsheda Engineered Seals

Escape Chute Prototype

Project Advisor: Edward Kuznetsov

Company Sponsor: University of Illinois Fire Service Institute

Butt Welder Structural Redesign, Phase II

Project Advisor: Thomas F. Conry

Company Sponsor: Holland Company, L.P.

Engineering Department Reorganization

Project Advisor: Brian Lilly

Company Sponsor: Ivex Packaging Corporation

Cheese Whiz Changeover Analysis

Project Advisor: Scott A. Burns

Company Sponsor: Kraft Foods, Inc.

Forging Flash Reduction

Project Advisor: Henrique Reis

Company Sponsor: Krupp Gerlach Company

**SPRING 2003**

Bulk Creamer Downtime Prevention

Project Advisor: Ali Yassine/James Carnahan

Company Sponsor: ACH Food Companies, Inc.

Setup Information Database

Project Advisor: Scott A. Burns

Company Sponsor: Advanced Filtration Systems, Inc.

Cast Manifold Grinding Analysis

Project Advisor: Narayana Aluru

Company Sponsor: Alloy Engineering & Casting Company

Plant Consolidation Layout

Project Advisor: Wayne J. Davis

Company Sponsor: AMD Industries, Inc.

Manufacturing Record Cataloging and Retrieval System

Project Advisor: R. S. Sreenivas

Company Sponsor: Buhrke Industries, Inc.

Meal Loadout Dust Control

Project Advisor: Brian Lilly

Company Sponsor: Central Soya

Continued on next page

## BRAD MOTTIER NAMED GAMMA EPSILON 2002 DISTINGUISHED ALUMNI

Bradley Mottier completed his BSGE in 1979 with a Secondary Field in Business Administration. His Senior Design Project Team won a Lincoln Arc Welding Award for their project, "Fluidically Controlled Industrial Robot" and also received a Certificate of Recognition from the Illinois House of Representatives for the project. He complemented his MSGE in 1980 with a specialization in Managerial Decision Analysis and Dynamic Systems Simulation. While a student, he also completed Flight and Instrument Training with Private Single-Engine-Land, Complex Endorsement.



Harry Cook (left) and Brad Mottier during his visit as Engineer in Residence in October 2002. Brad was in the first "class" to receive the MSGE.

Brad is currently President and Chief Executive Officer of Unison Industries, Jacksonville, Florida. Unison Industries is a wholly owned subsidiary of General Electric Engine Services, which is a part of General Electric Aircraft Engines. GEES acquired Unison, which was wholly owned by management including Mottier, on April 18, 2002. In 1980, shortly after Unison (formerly known as Slick Electro, Inc.) was purchased by its President, Mottier was hired as an independent consultant to work on various engineering projects. In January 1981, following completion of Graduate School, Mottier joined Unison as Senior Development Engineer. Over the next twenty years, Mottier held positions with increasing responsibility including Engineering Manager, Materials Manager, Quality Control Manager, Product Line Manager, Sales and Marketing Manager, Operations Manager, Vice President Marketing, Senior Vice President, and Executive Vice President. Following the sale of the company to General Electric in 2002, Mottier was named President and Chief Executive Officer.

Between 1980 and 2002, Brad Mottier helped manage and grow Unison from a business with one domestic facility, sales of less than \$10 million and less than 100 employees, to an international and market leading business with five domestic and one offshore manufacturing facilities, overseas offices, sales near \$200 million and 1450 employees. The company successfully expanded its products and services from ignition systems for small piston engine powered aircraft where it began in 1980, to ignition systems for every type of gas turbine powered aircraft, the Space Shuttle, missiles, and bi-propellant rocket engines. Technology development is a key strategy of the business and over the last ten years, Unison invented and patented fundamental and pioneering technologies in the area of ignition that provide new solutions to customer needs. In 1989, Unison began expanding its product offerings beyond ignition and is now a leading supplier of other proprietary electrical control and accessory products including permanent magnet alternators, signal and control wiring harnesses, switches, and sensors worldwide. Today, Unison is the world leader in high-energy ignition and engine dedicated alternator systems for airborne, marine, and industrial applications. Virtually every aircraft in the free world flies with a Unison product on board.

In addition to helping manage Unison's technology, product, market and facility expansions, Mottier assisted in restructuring the business several times as debt was taken-on and paid-off, equity partners were bought-out, and businesses were acquired and divested. At the time of the acquisition by General Electric, Mottier was Executive Vice President reporting to the President and responsible for all aspects of the business, with the exception of Finance.

(Continued on page 22)

## SENIOR DESIGN PROJECTS CONTINUED

### SPRING 2003

Dental Needle Redesign  
Project Advisor: Harry Wildblood  
Company Sponsor: Dentsply

Laminated Collar Design  
Project Advisor: Brent Hall  
Company Sponsor: Emerson  
Power Transmission

Drill Bit Coating Comparison  
Project Advisor: Brian Lilly  
Company Sponsor: Greenlee  
Textron

Work and Material Flow Efficiency  
Improvement  
Project Advisor: Wayne Davis  
Company Sponsor: Kama  
Corporation

Material Tracking System  
Project Advisor: Rayadurgam  
Srikant  
Company Sponsor: Kraft Foods,  
Inc.

Treadmill Off-Tracking Analysis  
Project Advisor: Edward Kuznetsov  
Company Sponsor: Life Fitness,  
Inc.

Heat Exchanger Fouling Analysis  
Project Advisor: Juraj Medanic  
Company Sponsor: Pactiv  
Corporation

Balance Beam Scale Redesign  
Project Advisor: Henrique Reis  
Company Sponsor: Pelstar LLC

Work Instruction Management  
System  
Project Advisor: Francesco Bullo  
Company Sponsor: Phonak, Inc.

Thermoforming Air  
Pressure/Vacuum Analysis  
Project Advisor: Harry Wildblood  
Company Sponsor: Solo Cup  
Company

FasTagger Stapler Redesign  
Project Advisor: Carolyn Beck  
Company Sponsor: Weber Marking  
Systems, Inc.

### BRAD MOTTIER CONTINUED

Brad has three patents: U.S. Patent No. 5,544,633, Magneto with Dual Mode Operation; U.S. Patent No. 5,630,384, Magneto-Based Ignition System for Reciprocating Internal Combustion Engine Having A Capacitive Discharge Booster; U.S. Patent No. 5,875,763, Internal Combustion Engine With Temperature Dependent Timing of Spark Event. He is Director of the General Aviation Manufacturers Association (GAMA) Board of Directors and a member of the Institutional Review Committee, Baptist Medical Center, Jacksonville, FL. He enjoys automobile racing, race car design and fabrication, flying, mountain biking, white water kayaking, sailing, running, and woodworking. Brad resides in Florida with his wife, Jennifer, and they have three children, Danielle (19), Bradley, Jr.(17) and Charles (15). Danielle is currently a student at the University of Illinois at Urbana Champaign. Additionally, Brad's brother, Charles (Chip) is a GE alumnus.

**GLIMPSES OF  
2003  
ENGINEERING  
OPEN HOUSE IN  
GENERAL  
ENGINEERING**



ISGE challenged visitors to build the strongest, self supporting structure with toothpicks and marshmallows.



Enthusiastic elementary school visitors try to make the strongest egg-drop vessel.



Students control the robotic arm playing Tic-Tac-Toe against the computer.



(right) Gamma Epsilon President, Katie Appell served as the official "egg-dropper".



(below) Prof. Jim Leake assists a student in the CAD lab.