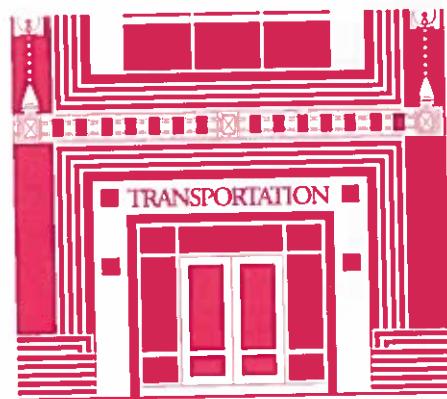


University of Illinois at Urbana-Champaign
**General Engineering
Alumni Newsletter**

Volume 40, Number 1 • Summer 1999



Spong Receives Humboldt Award

Mark Spong, professor of general engineering, has received a Humboldt Senior Scientist Research Award from the Alexander von Humboldt Foundation in Bonn, Germany. The award enables Spong to spend six months at a research institute of his choice in Germany.

During his stay in Germany, scheduled for January to June 2000, Spong will work with Guenther Schmidt, an expert in robotics and control systems, at the Technical University of Munich. The two researchers will pursue a better understanding of the control



Professor Mark W. Spong and graduate student Michael Waltz (M & IE) discuss the application of computer vision in a robotic workcell.

mechanisms involved in bipedal locomotion. This research could

have important applications in rehabilitation, the design of prosthetics, and improved walking robots.

Each year the Humboldt Foundation grants up to 150 research awards to foreign scientists. Humboldt awards are considered among the highest honors given to internationally recognized scholars. The winners must be nominated by eminent German scholars; direct applications are not accepted. Ten current College of Engineering faculty members have been recipients of this award.

Before traveling to Germany, Spong will spend fall 1999 in France

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General Engineering Alumni Leading Their Field

Joseph C. Hartman '92 and Angela Locascio '89 are achieving great success in the real worlds of industry and academia, working on the business side of engineering. Both have been recognized for their cutting-edge research: Hartman in the area of teaching engineering economy and Locascio in industrial research. Hartman and Professor Deborah Thurston recently presented papers at the Institute of Industrial Engineers Research '99 Conference in Phoenix, Arizona. Locascio, as program chair, coordinated the sessions. Hartman's paper was entitled Readers' Forum: Suggestions



Deborah Thurston, Joe Hartman, and Angela Locascio

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From Harry Cook

On Sunday, May 15, the General Engineering alumni body was enriched by a wealth of new faces, talent, and great expectations. A total of 87 GE graduates received their diplomas. I congratulated all as they came across the stage, and I shared in their parents' pride as their children fulfilled their dream of becoming an engineer.

Another important day for the department was Saturday, February 20, when the faculty and staff held a retreat at the Levis Faculty Center to stake out our vision for the future direction of the department. Angie Dimit facilitated the meeting and kept us focused. We concluded that the integration of engineering and business would be a vital part of our mission. We also agreed to consider a name change that would better reflect the department's mission. After the retreat, a faculty committee worked out the details of our mission statement (see article on page 3) and reviewed possible department names. We do not take the possibility of a name change lightly and will ask for your input when and if we decide that it is in our interest to do so.

Tom Prickett's concept of having an engineer in residence was brought to fruition this semester with Tom, Dick Reynolds, Marv Smollar, and Jeff Morris each spending a day and a half with our faculty and students and describing their experiences of being an engineer and a business person in the real world. The feedback from the four participants and from the faculty and students has been overwhelmingly positive (see article on page 4).

I attended six senior capstone design course presentations this spring and found all to be excellent, which speaks highly of the hard work of the student teams and their faculty advisors as well as of our overall undergraduate program. Although we will continue to improve our undergraduate program, our focus is on rebuilding the GE master's degree program with more courses and an expansion of the number of students at the MS level. Congratulations go to our Graduate Committee and its chair, Henrique Reis, for their outstanding job this year of recruiting top students for our MS program and tripling its size. Also, I have taken it as a personal challenge and commitment to see that we have a PhD program.

After our May 7 Alumni and Industry Advisory Board meeting, board members toured the Transportation Building to review our ideas for upgrading the laboratories and classrooms. These ideas include a major expansion of the laboratory dedicated to our student's capstone design-and-build activities, doubling the size of the GTE Telecommunications Laboratory, a tiered-seating classroom/studio combination for courses that will be offered simultaneously on campus and over the internet, and a renovation of the hallways in the building to improve the lighting, display cases, and overall ambience of the facility. Finding the resources to fund the upgrades is part of our planning. We are pursuing all avenues for support, including state, federal, corporate, and, of course, we reach out to you, our alumni. We will keep you abreast of developments.



Harry Cook

A handwritten signature in cursive script that reads "Harry".

On February 2, 1999, Professor Ray Price was invested as the William H. Severns Chair in Human Behavior. Left to right: Harry Cook, department head of General Engineering, Richard Herman, provost, Ray Price, and William R. Schowalter, dean of the College of Engineering. The mission of the holder of the chair is to provide, among other things, undergraduate and graduate engineering students with an understanding of human relationships and the importance of these relationships in successfully managing, directing, organizing, and evaluating technical and business endeavors. The chair was endowed by Robert L. Severns, ME '49, in memory of his father, who served the university with distinction as a member of the engineering faculty.



GE Mission Statement

As a result of the productive and successful faculty retreat held in February, a committee was charged with the task of establishing a mission statement for the Department of General Engineering and exploring the idea of changing the name of the department. The committee was asked to define the mission and supporting goals, determine the benefits and the risks of a name change and, if changed, to recommend alternatives, and ensure that we have the rationale and intent clearly defined to support a plan to market the department.

The committee, led by Ray Price, was committed to a thorough, objective, and detailed investigation of all aspects of the decisions. The conclusions of the committee have been shared with GE faculty and staff, the Alumni and Industry Advisory Board, and student focus groups. There has been wide agreement and support for the mission statement, and each group has provided valuable input. Although the mission statement has not been put to vote for approval of the department, we want to share it with you. We welcome your comments.

The mission of the Department of General Engineering is to:

- prepare students with innovative engineering, design, problem solving, and business skills needed to develop and bring to market competitive products and services for the benefit of society;
- develop the character, self-reliance, leadership, and entrepreneurial skills of our students through a high degree of choice, involvement, and responsibility for their education;
- engage in leading-edge interdisciplinary research and service to industry, the state, and the country;
- provide high-quality state-of-the-art courses of service to the college, the university, and the community at large.

The issue of changing the department's name is still under review.

Chicago Area Alumni Reception

Mark your calendar now for Wednesday, October 6, 1999. The Chicago Area Alumni Reception is planned for the Hyatt-Regency Oak Brook from 5:30–8:00 p.m. Invitations will be mailed to all General Engineering alumni in and around Chicago, so be looking for yours! This is always an enjoyable evening of great food, conversation, and prizes. Plan to attend and catch up with faculty and fellow GEs. We look forward to seeing you there!

Alumni Mentor Program Reestablished

Are you interested? See form on page 17, contact Angie Dimit at m-dimit@uiuc.edu, 217-333-0140, or click on the Alumni Information button at www.ge.uiuc.edu.

General Engineer in Residence

The Engineer in Residence Program was developed and established through a designated gift from Thomas A. Prickett, president of the General Engineering Alumni and Industry Advisory Board from 1997 to 1999. Prickett has spoken with GE students on numerous occasions and is committed to increasing opportunities for alumni and student interaction.

Does this endeavor interest you? As a General Engineer in Residence, you will:

- be the guest presenter for the GE 291 senior seminar,
- be “in residence” on campus for an afternoon or morning for individual appointments,
- enjoy an informal pizza evening with GE students,
- receive a \$250 honorarium to assist in travel and lodging expenses.

During the spring '99 semester, GE hosted four General Engineers in Residence. They were: *Jeff Morris* ('70), president, Telephone Products, Inc., *Tom Prickett* ('57), consulting groundwater hydrologist, *Dick Reynolds* ('53), director of mechanical research (retired), Sundstrand Corp., and *Marvin Smollar* ('68), CEO and president of Delray Financial Group and Kingsland Development Co., Inc.

Students were especially receptive to the idea. They appreciated the opportunity to speak with



Tom Prickett '57 was the first Engineer in Residence. He is pictured with Kelly Duddy (left) and Kelly Love, GE students.



Marvin Smollar ('68) traveled from his home in Del Ray Beach, Florida, to participate in the inaugural semester of the GE Engineer in Residence program.

alumni about their personal and professional goals and to get additional real-world exposure. Alumni found it rewarding, as well. If you are interested in being a General Engineer in Residence, email or call Angie Dimit, coordinator of alumni and student relations, at m-dimit@uiuc.edu, 217-333-0140.

Spong Receives Humboldt Award

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as part of the UIUC-CNRS (Centre National de la Recherche Scientifique) collaborative research agreement. He will work with Rogelio Lozano at the University of Compiegne and Carlos Canudas at the Laboratoire d'Automatique de Grenoble on the control of mechanical systems, including walking robots.

Spong, who joined the University of Illinois faculty in 1984, has made fundamental contributions in

robust and adaptive control of robots, including the control of flexible robots, robot force control, and time delay compensation in bilateral teleoperators. His recent work has focused on the integration of nonlinear control theory with computer vision and machine learning in bipedal locomotion. His work in this area includes the design and construction of a novel air-hockey-playing robot, which has generated considerable interest in

both the scientific and popular press and has won several awards.

Spong is a fellow of the Institute of Electrical and Electronics Engineers (IEEE), a member of the board of governors of the IEEE Control Systems Society, and a member of Phi Beta Kappa. He is editor-in-chief of the *IEEE Transactions on Control Systems Technology*.

—Adapted from an article by James E. Kloepfel, physical science editor, UI News Bureau

for Teaching Engineering Economy at the Undergraduate Level, and Thurston's paper was Engineering Economy Decision Issues in Environmentally Conscious Design and Manufacturing. All three have recently published articles in a special issue of the *Engineering Economist* (44(1), 1999); the special issue is subtitled Taking Engineering Economy to the Next Level. This journal is a joint publication of the engineering economy divisions of the American Society for Engineering Education (ASEE) and the Institute of Industrial Engineers (IIE).

Hartman is an assistant professor of industrial and manufacturing systems engineering at Lehigh University. He received his MS and PhD degrees in industrial engineering from the Georgia Institute of Technology. As a GE undergraduate researcher, he worked with Thurston in the Decision Systems Lab. His teaching and research are in the area of engineering economy, with emphasis on replacement analysis. Through a grant from the National Science Foundation entitled Impact of Asset Utilization on Replacement Decisions, he is developing models for deciding when to replace assets under various utilization schedules. More about his replacement analysis work can be seen on his Web site <http://www.lehigh.edu/~jch6/jch6.html>. Hartman is a member of ASEE, IIE, INFORMS, and the National Society of Professional Engineers (NSPE). He serves as director of the Engineering Economy Division of IIE, newsletter editor of the ASEE Engineering Economy Division, and as an area editor for the *Engineering Economist*. Here is a summary of Readers' Forum: Suggestions for Teaching Engineering Economy at the Undergraduate Level (*Engr. Econ.* 44(1):110-125, 1999).

Teaching engineering economy at the undergraduate level has changed little over the past century, and unfortunately, has become stagnant and trivial. As opposed to empowering students with knowledge to make capital investment decisions, students are merely learning to perform financial math calculations. This approach is seen as a disservice to students who must eventually develop and perform engineering economy studies. This paper provides motivation and suggestions to revitalize the curriculum, including teaching engineering economy in a decision-making context and integrating research advances into the curriculum. From these suggestions, a tested semester outline is presented. It is hoped that these suggestions will help move the teaching of engineering economy to the "next level" so that we can produce effective decision-makers in the critical area of capital investment analysis.

Hartman suggests revitalizing the curriculum and the way that it is taught. For economic analysis, he summarizes the decision-making process in six steps: problem recognition and definition, generation of solution alternatives, development of feasible solution alternative cash flows, economic evaluation of alternative cash flows, selection and implementation of best solution alternative, and postimplementation analysis and evaluation.

Locascio is an engineering manager in Motorola's Supply Chain Operations Group, where she leads a team focused on quality and cost improvements for electronics manufacturing operations. In her research at Motorola, she has developed methods and tools to improve manufacturing cycle time, quality, and cost for Motorola operations worldwide. In addition to her BSGE, she completed an

MSME '90 and PhD ME '94 at UIUC. Thurston served as her PhD advisor. Locascio's research interests include design theory, decision analysis, engineering economics, and optimization. She is a member of the American Society of Mechanical Engineers (ASME), INFORMS, and IIE, where she currently serves as director-elect of the Engineering Economy Division.

Her most recently published article, Design Economics for Electronics Assembly (*Engr. Econ.* 44(1):64-77, 1999), presents a simple yet effective model for design decision-making as it relates to manufacturing cost. Below is a summary of her main points.

The process of product design is driven toward achieving design specifications while meeting cost targets. Using this methodology to make quantitative tradeoffs between material and manufacturing costs, significant savings in overall product costs are achieved.

Although most of a product's cost, typically about 80%, is determined early in the design stage, many design decisions are made during this stage with little knowledge of the effect on downstream cost centers. New product and development engineers need to quantify costs such as: How much does adding a processing step increase manufacturing costs? What is the cost of building this new technology product versus building the old one? What is the cost of adding another unique part to this assembly? Is it more expensive to use one complicated assembly or several simple ones? Will manufacturing cost increase by replacing one expensive component with these four inexpensive ones?

Congratulations to Hartman and Locascio. Their professional accomplishments are great examples of the mission of the Department of General Engineering.

NEWS FROM OUR RETIRED FACULTY

We encourage all retired faculty members to keep in touch. This column is for your letters and news, and we look forward to hearing from you.

From Dave O'Bryant:

Since retiring in January 1993, Sharon and I have been quite busy. I worked part-time in the department for about a year and then at Ruhl & Associates. We moved to Colorado Springs in December 1994, where we can play golf year round (150 rounds in 1998). We took an Alaskan cruise in 1998 and just returned from a Panama Canal cruise. Pam, my daughter, and family live in Littleton, Colo. Sharon's boys and families are in Flemington, N.J., and Decatur, Ala. We have five grandchildren, with one more on the way.

We enjoy reading the *G.E. Alumni Newsletter*. It keeps us up on developments in the department and the activities of the alumni, many whom I remember when they were students. I encourage all alums to keep in contact with the department. Other alums, current and retired faculty members, and current students are all interested in what you are doing.

From Jerry Dobrovolny:

On October 30, 1998, while 77-year-old John Glenn was in space, Bruce Holecek ('71, MBA '75) took me, 76-year-old former department head and Professor Emeritus Jerry S. Dobrovolny ('43, MSME '47), up in his two-seater jet plane. It was an L-39 Albatross made by VodoChody aircraft manufacturer in Prague, Czech Republic. It is an advanced fighter attack aircraft used as a trainer for Russian Mig jet pilots. The flight lasted 90 minutes. Preflight instructions took some time while I was told how to eject from the plane in case of an emergency and what to do in case the



Jerry Dobrovolny '43 got the ride of a lifetime in an advanced fighter attack aircraft piloted by Bruce Holecek '71.

pilot became disabled (meaning how to fly the plane).

Once in the air we flew along the beaches from Fort Myers down to Marco Island, then turned north and flew twice around Wyndemere Country Club, where I spend the winter. We proceeded to Sanibel Island, where I flew the plane for 15 minutes, climbing at 4,000 feet per minute to an altitude of about 15,000 feet.

After that, Holecek took over and put us through a series of maneuvers. He began with the simple ones such as airborne right and left 360° rollovers maintaining +1G. Next was an inverted flight ranging from zero G to ½ G. I commented it was interesting to look up out of the canopy and see the ground. Next was a wing over with air speed of 300 knots, pulling up quickly with approximately 4 Gs (John Glenn only pulled 3 Gs) to a 70° climb as the air speed rapidly bled off and then a roll 90° to wings perpendicular to the ground as the air speed bled off to zero with the plane

quietly falling like a tornado to the ground.

The next maneuver was a split 5 at 17,000 feet with a speed of 140 knots with the plane pointing straight down at the earth, generating 4 Gs. After that, before the next maneuver, Bruce handed me a plastic bag. I asked what it was for. Bruce said just in case I needed it. I did not. The next was a loop at 12,000 feet with speed at 330 knots (380 mph), beginning with a steep climb pulling 4½ Gs then gradually reducing to 1 G at the 180° point. The diameter of the loop was 4,000 feet.

The flight ended with a low-altitude high-speed pass over the Fort Myers International Airport runway at 20 feet and 300 knots. After the flight, Holecek congratulated me because very few people were able to survive all the stunts without becoming sick. He performs at many air shows in Florida and is now taking up formation flying. He has invited me to come up with him when he gets more proficient.

A Farewell Message to My Fellow GE Alums

Time goes fast when you're having fun! These past two years have been interesting as well as fun. We have seen a changing of the guard with Harry Cook coming in as our new department head; we have been working with the dean and GE faculty members in remodeling curriculum ideas, a new name, and the possible content of GE graduate programs; we have interviewed, hired, and worked with Angie Dimit as our new alumni/student coordinator; we have initiated the new Engineer in Residence Program; we started and funded the Alumni Student Scholarship Award; and we have had numerous one-on-one meetings with almost everyone at the Transportation Building.

Whew! Things have changed fast, terrific progress has been made, and—I'm running out of gas. Now it is time to hand over the reins to Jim D'Orazio, our new president. But before I step aside, let me say a few things in retrospect.

I've had a lot of fun being your president and have enjoyed it very much. I've made many friends with both the faculty and staff and hope that the friendships will continue. Now and then, I plan to drop by the Transportation Building to see how things are going. To all my friends there, many thanks for your ideas, counsel, and enlightenment over the past two years.

As a final note, let me repeat something that I said some time ago because it still is true today. I've had the

opportunity to extensively visit with our GE students over the past two years and want to remind you that we have a different breed of people here than the other traditional engineering departments. We've known this for years. I am convinced that our students are, in fact, more well rounded, more versatile, more socially adept, and more likely to succeed in the business world than other department graduates. Furthermore, anything that we can do, as alumni, is appreciated by them—like being a mentor to them, helping them with scholarships, and joining in on the Engineer in Residence Program. The bottom line is to make a contribution to the GE Department in any way that you can. You won't be forgotten.

My best wishes to all and in particular to our new president, Jim D'Orazio.

—Tom Prickett



Tom Prickett '57 led his final meeting as president of the GE Alumni and Industry Advisory Board in spring 1999.

Alumni and Industry Advisory Board Elects New Officers

New officers were voted into the 1999–00 term of office at the May 7, 1999, meeting of the General Engineering Alumni and Industry Advisory Board. They are:

President: James D'Orazio, P. E. '75, Market Sector Leader, LAW Engineering and Environmental Services, Inc.

First Vice President: Daniel Krueger '87, Associate Partner, Andersen Consulting

Second Vice President: Gerald Pine '69 MSGE '70, Manager, R & D, Market Impact Evaluation, Gas Research Institute

Alumni Directors: Thomas A. Prickett '57, ex-officio, Thomas A. Prickett & Associates, Mary Beth Burke '87, Account Executive, Motorola, Fred Jewell '87, MSGE '89, Associate Partner, Andersen Consulting



From left to right: Department Head Harry Cook, Professor Michael Pleck, president elect of the GE Alumni and Industry Advisory Board James D'Orazio '75, Dick Jonson '56, board member, and Professor Emeritus David O'Bryant at the reception following the spring meeting of the advisory board.

Alumni Association Representative:
Richard Reynolds '53, MSME '58,

Directory of Mechanical Research
(retired), Sundstrand Corporation

FACULTY NEWS

Welcome to **Carolyn L. Beck**, a new GE faculty member. Beck received a BS degree in both electrical engineering and computer engineering from California State Polytechnic University, Pomona, in 1984, MS degree from Carnegie Mellon University in



1985, and PhD degree in electrical engineering from California Institute of Technology in 1996. From 1985–89, Beck was employed as a research and development engineer for Hewlett-Packard in Santa Clara, Calif. For the first half of 1996, she was a postdoctoral research assistant at Lund Institute of Technology in Sweden before joining the Department of Electrical Engineering at the University of Pittsburgh. In 1998, she received a National Science Foundation CAREER Award. Her research interests include the development of modeling and control methods for complex systems, with applications in power systems and bioengineering.

Harry Cook and **Mike Pozar**, UIUC Department of Mechanical and Industrial Engineering, received the Arch T. Colwell Award of the Society of Automotive Engineers in recognition of an outstanding contribution to the SAE literature for their paper entitled On Determining the Relationship between Vehicle Value and Interior Noise.

Juraj Medanic has been recognized as one of the lead researchers who developed new control design methodologies used by the U.S. Air Force and the Boeing Phantom Works in St. Louis in their guidance of “smart weapons.”

Michael Pleck and **Mark Spong** were included in the 1999 Engineering Council Award for Excellence in Advising. This recognition is given annually to the top ten percent of COE advisors by the awards committee of Engineering Council, based on a survey of all engineering students. This is the sixth time in nine years that Pleck has received this honor.

Roland Ruhl gave a seminar to the Truck Trailer Manufacturers Association (TTMA), where there is great potential for sponsored research.

In February, **Mark Spong** was one of four international researchers (the others were from Boston University,

Johns Hopkins University, and the University of Texas at Austin) who were invited by the Tokyo Institute of Technology to speak at the Super-Mechano Systems (SMS '99) Workshop and to serve as external evaluators of their program. Spong gave a talk entitled Bipedal Locomotion, Robot, Gymnastics, and Robot Air Hockey: A Rapprochement.

In March, Spong gave several invited lectures in the electrical engineering department of the National University of Singapore, where there are discussions on the development of a joint collaborative research program in robotics and manufacturing systems. It wasn't all work, however. He visited the famous Raffles Hotel, where the Singapore Sling was invented in 1920, and drank (you guessed it) a Singapore Sling.

In June he presented two papers at the International Federation of Automatic Control Triennial World Congress in Beijing, China. The

Alura Named NCSA Faculty Fellow

Narayan Aluru has been named a faculty fellow with the National Computational Science Alliance (NCSA) for 1999–00. His proposal “was distinguished by its relationship to NCSA technological goals, the connections that it made with alliance staff on our nanomaterials applications technology team, and its promise to develop software infrastructure for the design of MEMS.”

During the coming year, NCSA staff will work with Aluru to ensure the success of his project through varied resources, including a \$25,500 award. In the spring of 2000, he will be a part of a one-day symposium for faculty fellows to present the results of their projects to the university community. Aluru's work will also be featured in the online publication *Access*.

The NCSA/UIUC Faculty Fellows Program is designed to bring promising interdisciplinary projects to NCSA and to offer opportunities for multidisciplinary collaboration. The program seeks to extend to UIUC faculty members opportunities in advanced computing and information technology, including access to NCSA's high-performance computers, visualization and virtual reality environments, and computing support.

papers were entitled Passivity Based Control of the Compass Gait Biped and Mechatronics Education at the University of Illinois. The second paper was coauthored with Tsu-chin Tsao of UIUC's Department of Mechanical and Industrial Engineering.

He also attended the American Control Conference in San Diego in June, presenting the paper Control Education Crossing Department Boundaries in a special session devoted to control education. The paper discusses his experiences in the development of the multidisciplinary control laboratory network.

Rayadurgam Srikant and two of his Ph.D. students were recently honored by Nokia. Sanjay Shakkottai was named a Nokia Scholar, which is similar to a fellowship,

honoring a student's academic achievements. Srisankar Kunniyur received a Professional Work Experience Scholarship for his excellent work last summer at Nokia. The Nokia Scholar receives a \$5,000 award, and the Professional Work Experience Scholarship a \$2,000 award. The awards were presented during a campus ceremony by Raj Bansal ME EE '86, PhD EE '88, site manager with the Nokia Research Center in Boston.

Louis Wozniak and graduate student Phil Schniter (ECE '94) were awarded the 1999 Energy Development and Power Generation Prize Paper Award for their paper Efficiency Based Optimal Control of Kaplan Hydrogenerators, *IEEE Transactions on Energy Conversion* 10(2):348-353. They presented the paper at the IEEE Power Engineering Society

1999 summer meeting in Edmonton, Canada, in July 1999.

A fellow of IEEE, Wozniak was appointed editor for the *IEEE Transactions on Energy Conversion* for a two-year term commencing January 1999. He was awarded the 1998 Power Engineering Society ED&PGC Outstanding Guide Member, IEEE P1249 Working Group, for his contribution to the *IEEE Guide for Computer-Based Control for Hydroelectric Power Plant Automation*. He served as technical program coordinator for the Energy Development and Power Generation Committee of the IEEE Power Engineering Society for its 1999 winter meeting and served again for the summer meeting. In that capacity, he coordinated and scheduled technical paper and panel sessions and technical and administrative meetings.

Gamma Epsilon Excellence in Teaching Award Presented to L. Daniel Metz

Dan Metz, professor emeritus, was presented with the 1999 Gamma Epsilon Award for Teaching Excellence at the GE spring awards banquet. Metz came to the University of Illinois Department of General Engineering in 1970. His research interests are in the areas of vehicle dynamics and applied control, and he taught classes in both areas, as well as others, during his 28 years on the faculty.

He retired from the university in 1998 but still pursues an active research and consulting career. He is a consultant in vehicle dynamics and accident reconstruction and has worked for the City of Chicago, Indiana State Police, County of Los Angeles, National Academy of

Engineering, NOVA television series, U.S. Department of Justice, Indianapolis Motor Speedway, CART, the IRL, and Penske Racing International, and for many attorneys, insurance companies, and vehicle manufacturers. He also gives vehicle dynamics seminars for the Society of Automotive Engineers (SAE) and for Engineering Dynamics Corporation, makers of vehicle dynamics and accident reconstruction software. Metz was the chief vehicle dynamics consultant for the Mickyard one-mile oval racing facility at Walt Disney World and for the new Formula One track at Indianapolis Motor Speedway.

Other awards received by Metz include the College of Engineering

Everitt Award for Teaching Excellence (1971), SAE Teetor Award (1972), UIUC Harriet and Charles Luckman Undergraduate Distinguished Teaching Award (1977), Gamma Epsilon Award for Teaching Excellence, and the Engineering Council Award for Excellence in Advising (1987). Metz is a registered professional engineer in Illinois and a senior member of IEEE. He reviews papers for IEEE, ASME, SAE, and *Applied Mechanics Reviews*, among others.

Metz and his wife Mary Ann live in Champaign and enjoy gardening, gun collecting, travel, golf, and racing (he races a KT100 Yamaha go-kart!).

Davis Contributes to Best Technical Handbook for 1998

Throughout his doctoral research and his many years as a faculty member in General Engineering, Wayne J. Davis has investigated the management of large-scale systems. After the Three Mile Island disaster, he designed the emergency response plan for the state of Illinois. In 1983, he acted as technical consultant to the U.S. Department of Energy in reviewing a multiuniversity/multicorporation effort to design the computer control architecture needed to manage an integrated steel mill. Shortly after that, he began to work with several corporations and the National Institute of Standards and Technology to develop new architectures and algorithms for computer integrated manufacturing.

Despite 30 years of research effort on his part and countless years by other researchers, the management of such complex systems is not understood. For example, everyone knows that we need a new air traffic control system, yet no one knows how to design it. Some people are now proposing intelligent highway systems that would manage the traffic flow on major highways with no human assistance. Again, we do not know how to design such systems.

Fortunately, this situation is changing with the emergence of new architectures for distributed intelligent control. Developing these architectures requires not only the integration of the planning, control, and simulation technologies but also requires fundamental advancements in each of these areas. One area of particular concern for Davis is the development of new modeling and analysis approaches for simulating these systems. Recently, he was asked to document his concerns and findings in a chapter on futuristic simulation approaches for the *Handbook of Simulation* (Jerry Banks, ed., Wiley, 1998). The Association of American Publishers recently selected this handbook as the best technical handbook for 1998.

In addition to writing articles, Davis has presented invited tutorials at the 1998 IEEE International Conference on Systems, Man, and Cybernetics, 1998 Winter Simulation Conference, 1998 Army Operations Research Symposium, and the Second International Intelligent Processing of Materials and Manufacturing Conference. Both the U.S. Army and Navy currently support his research. His research team is developing new scheduling and control tools for managing the rapid-access-to-manufactured-parts flexible manufacturing systems of the U.S. Department of Defense. DOD spent more than \$100 million to develop these systems. This year alone it is spending \$14 million to remove all the control and planning software because of Y2K problems and its inherent inefficiencies. While Davis's research team designs the replacement software, these systems will be operated without any planning and control assistance.

Will his research work? You be the judge. If you have Internet Explorer 4.0 or above with Java enabled, visit the Manufacturing Systems Laboratory Web site at <http://www-msl.ge.uiuc.edu>.

Select the torpedo avoidance demo and follow the instructions. See if you can play the game better than the computer that employs Davis's new simulation technologies. Davis and his team have observed that as one watches the controller manipulate the boat, one learns how to become a better player. In short, this controller is not only a quick learner, it is also a teacher. The U.S. Air Force has requested that Davis present this demo this summer at a special control workshop, hosted by the Air Force Office of Scientific Research at Wright-Patterson Air Force Laboratory.



Alumni get a thorough introduction to student activities when they volunteer to judge displays at Engineering Open House. After a morning of hard but fun work, Tom Stover MSME '78, Cummins Engine, Inc., Renée Mullen, assistant director in the College of Engineering Development Office, Harry Cook, department head, Richard Reynolds '53, '58, and Kenneth Woods '63 stop for a break. Not pictured is Larry Kienzler '74, '75.

Two from General Engineering Knighted

Professor **Michael Pleck** received the 1999 Honorary Knight of St. Pat award. Each year, the knights-elect select one staff member from the College of Engineering to be honored as an Honorary Knight of St. Pat. The Honorary Knight is an individual who has demonstrated leadership in his or her field, contributed to the enhancement of student activities, and maintained a high level of character. Past Honorary Knights from General Engineering include Robert Bokenkamp, Jerry Dobrovolny, Robert Jewett, David Opperman, and Stanley Pierce.

Kennda Lynch was selected as a 1998 Knight of St. Pat in the College of Engineering. Approximately a dozen engineering students are chosen annually who represent leadership, excellence, and exceptional contributions to the college and its students. The knights-elect are honored at the annual Knights of St. Pat Ball in March.

The tradition of celebrating St. Patrick's Day on engineering campuses began in 1903 at the University of Missouri, Columbia, when several upperclassmen were lamenting the fact that their studies had occupied

their time continuously since the beginning of the spring term. One student realized that the next day was St. Patrick's Day and promptly declared that St. Patrick was an engineer because he freed Ireland of the snakes, a feat which he claimed could only have been accomplished by an engineer. In honor of this, they organized a class walkout the following day, which met with resistance from university administration. In subsequent years, the activities were modified to make the day more of a celebration than a protest. Events included a knighting ceremony for students, an honorary knighthip for a faculty member, and a dance.

At the University of Illinois, the tradition began in 1950 with the selection of the first group of knights. The first Honorary Knight was selected in 1958. Knights are selected from undergraduates with at least a 2.5 GPA (out of 4.0) who show strong leadership in their department, the college, and their profession. The Illinois knights have developed traditions of their own, including pranks on the college administration and the St. Pat's Ball.

Pleck Wins Campus Award for Excellence

Michael Pleck is the first faculty member in the College of Engineering to receive the Campus Award for Excellence in Advising Undergraduate Students. The award was initiated in 1998. In presenting the award, Provost Richard Herman noted, "Pleck has been, by all measures, an exceptional advisor and mentor." He described Pleck as the quintessential advisor. Colleagues say the entire General Engineering advisory system was the brainchild of Pleck, who conceived a way to marry Web technology and student records to produce a unique Course Planning Consultant. It guides students along critical paths and checks that course prerequisites have been met.

Two Campus Awards for Excellence in Advising are presented each year; each consists of \$2,000 for the personal use of the faculty member or academic professional selected to receive it. The award is designed to foster and reward excellence in undergraduate academic advising. The primary criterion for selection is evidence that the advisor has had a major impact on undergraduate students and on their intellectual development through sustained academic advising relationships.



Michael Pleck was doubly honored this year: as the Honorary Knight of St. Pat and with the Campus Award for Excellence in Advising Undergraduate Students. He is pictured with student Knight Kennda Lynch.

GE Student Leads Team to NASA

This past academic year was very exciting for the Float'n Illini, a new undergraduate student organization headquartered in the Department of General Engineering. The team's focus is conducting microgravity research, made possible by the NASA Reduced Gravity Student Opportunities Program. Administered by the Texas Space Grant Consortium, this program provides a unique academic experience for undergraduates to propose, design, fabricate, fly, and assess a reduced-gravity experiment of their choice. The program continues to grow, with nearly 100 teams scheduled to conduct microgravity research this year.

Organized by COE seniors Kennda Lynch (GE) and Jennifer Jones (AAE), the Float'n Illini team began brainstorming ideas for a microgravity experiment and started their fundraising efforts in September 1998. In November, the team submitted a proposal to the NASA program to test the diffusion characteristics of immiscible fluids under microgravity conditions. By injecting a specific amount of oil into a vial of water, they planned to compare the fluid boundary profiles in microgravity with those on the ground. Their proposal was accepted, and the Float'n Illini was invited to the Johnson Space Center in Houston to conduct their experiment in March 1999. This is the first year that a student team from the University of Illinois has been accepted into the Reduced Gravity Student Flight Program.

After arriving at NASA, the team had to pass a number of inspections. "We went through training to

teach us how to float, how to prepare for a fall, how to maneuver in a low-gravity situation, when to prepare for the pullout of the dive, what to do if you get sick—basically so you don't get hurt," stated Lynch. One test included the altitude chamber test, where students are placed in a chamber to simulate an altitude of 25,000 feet. They were asked to take off their masks and breathe the air for five



Members of the Float'n Illini discovered that zero-G was like floating in water, without the resistance.

minutes. During that time, they were given simple exercises to test their cognition.

The equipment constructed for the experiment needed to pass a number of safety inspections, too. The equipment consisted of four systems: a fluid containment system (circular contraption holding 20 test tubes with rubber stoppers), injection control system (stationary syringe with oil), data capture system (video camera), and a main containment system made of aluminum and padded with plumbing tube insulation. The fluid containment system was lifted up to the syringe and the oil was injected into the water. Data was collected through videotaping the mixing fluids, followed later by

digital frame capture and computer image processing. The team hoped to find that materials such as oil and water that cannot be mixed on the ground can be mixed in space. This type of research will help advance technologies in modeling liquid distribution in fuel tanks and manufacturing stronger alloys and better semiconductors.

Four team members had the opportunity to conduct the experiment on the Boeing KC-135A (unaffectionately known as the Vomit Comet), a plane that flies a series of parabolic arcs to simulate zero-gravity conditions. The KC-135 allowed the students to experience weightlessness and conduct their experiment in a safe environment. The team flew two 3-hour flights with a series of 40 parabolic maneuvers each flight. These maneuvers each provided approximately 25 seconds of zero-gravity conditions and 1.8-G entry and exit conditions in each reduced-G maneuver.

The data from the flight are currently being analyzed. The team will be preparing a final report for NASA in June 1999. This report will be available on the World Wide Web. The nongraduating members of Float'n Illini plan to continue their research during the next academic year.



1998-99 Awards

Once again, this past year the Department of General Engineering was proud to honor outstanding students with the following awards. We look forward to maintaining and building this level of scholarship support for our students in both the undergraduate and graduate programs. The significant generosity of our alumni stands out among the rest, and these awards directly affect the recruitment and retention efforts of the department. If you are interested in creating a scholarship or investigating ways that you can participate in supporting and honoring students, please call or email Angie Dimit, coordinator of alumni and student relations, at 217-333-0140 or m-dimit@uiuc.edu.

Otto Sr. and Mildred Capek Scholarship Award: a four-year scholarship given every-other-year by the College of Engineering to an incoming freshman in General Engineering who is a National Merit Scholar

Current Holder: Heloise Wang, Chesterfield, Missouri

William A. Chittenden Award: presented to an outstanding master of science graduate in General Engineering

Rex Andrew Wagner, Vernon, Connecticut

Wagner was selected by the Graduate Policy Committee based on his thesis quality, academic performance, teaching accomplishments, and professional promise. His thesis title is Design Simulation and Control of the Ball and Beam and Pendubeam.

The Jerry S. Dobrovoly Award: presented to a General Engineering senior who has demonstrated outstanding leadership qualities and academic scholarship

Gregory S. Laudermilch, Menlo Park, California

This past year, Laudermilch was business leader for the COE hybrid electric vehicle project, Future Car, and last year was named an Andersen Consulting Outstanding Student. He has held summer internships at Stanford Linear Accelerator Center and InPart, a subsidiary of Parametric Technologies. His field of concentration is engineering marketing. Activities include TQE, ISGE, the camping club Rough'n'it, engineering tutoring, several honor societies, intramural soccer, and ice hockey.

Edward S. Fraser Award: presented to an outstanding senior in General Engineering, primarily on academic merit

Joseph C. Lambert, Glenview

Lambert graduated in December '98 with a near perfect grade point average and is now working on his MS in mechanical engineering at UIUC. His field of concentration in General Engineering was manufacturing engineering. He was a James Scholar and on the Dean's List every semester.

Randolph P. Hoelscher Award: presented to a junior in General Engineering who has achieved exceptional scholarship, leadership, and cultural breadth

Nissa J. Ali, Lombard

Ali has been active in Volunteer Illini Projects, Habitat for Humanity, Society of Women Engineers, Tau Beta Pi (an officer), and Gamma Epsilon. During the summers, she has volunteered at Good Samaritan Hospital, Center DuPage Hospital, and a home for autistic children. Her field of concentration is biomedical engineering. She is a member of the Illini Women's Soccer Team and plays intramural volleyball, basketball, and soccer.

Robert Jewett Award: presented to a junior in General Engineering with outstanding leadership qualities

Lindsay A. Krussow, Hawthorn Woods

Krussow has been involved with Gamma Epsilon, ISGE, and TQE (Team CEO and undergraduate course coordinator) and maintains a strong academic record. She was a team coach for Boosting Engineering Science and Technology (BEST) while interning in Colorado. She is an avid theatre-goer



Katie Marton, a GE junior from Glen Ellyn, Illinois, is the first recipient of the Lady Andrea Jean Culumber Award of the Knights of St. Pat. The award is given to the junior engineering student who exemplifies the attributes and accomplishments of Andrea Culumber (BSME '97). When Culumber died in a car accident in 1998, TRW, her employer, set up an award in her memory.

and has written a one-act play, to be produced for Arizona State University.

Bernt O. Larson Awards: to recognize outstanding excellence in development of a creative solution to complex engineering design problems

First Place

Algis J. Baliunas, Chicago
David M. Leder, Glen Ellyn
Michael I. Lee, Homewood
Project: SciGolf: Golf Swing Tracking System, Fall '98
Sponsor: SciGolf
Faculty Advisor: Professor James Carnahan

Second Place

Ted R. Dodge, Darien
Patrick A. McDermott, Lockport
Michael J. McNulty, Schaumburg
Project: HMC: Case Cutter Cost Reduction, Fall '98
Sponsor: HMC Products, Inc.
Faculty Advisor: Professor David Goldberg

Mildred Mattux and Lisle Abbott Rose Scholarship in General Engineering: presented to two juniors in General Engineering based on outstanding academic accomplishment, extracurricular activities, and cultural breadth

Karen M. Kowalski, Wilmington

Kowalski's field of concentration is bioengineering. She has a private pilots license, has studied Hinduism and Hindi, and is active in intramural sports. During a co-op work experience at Ethicon Endo-Surgery, a division of Johnson & Johnson, she helped develop the production process for a new product and did testing and statistical analysis in their Reliability Development Lab. Karen tutors junior high and high school students and is a member of the Society of Women Engineers, Tau Beta Pi, Engineering in Medicine and Biology Society, and other student organizations.

Daniel Z. Feuser, Elgin

Feuser's field of concentration is computer science. He is a member of Tau Beta Pi, Gamma Epsilon, and other honor societies and does volunteer work in tutoring and at a convalescent center in DuPage County. His work experience includes an internship at Fellowes Manufacturing in summer 1998, where he worked on quality control procedures and a database for their die-cut department.

Herbert J. Sprengel Award: presented for the best design project by a junior in General Engineering

Laura J. Nalbandian, Tinley Park

Nalbandian's winning balsa structure featured a double-web I-beam supported by two single-web columns. It achieved the highest capacity-to-weight ratio in all sections of GE 232 last year, according to Professor Edward Kuznetsov.

Dorothy B. and Donald W. White Scholarship: presented to two students in General Engineering who have a field of concentration in construction engineering or nondestructive testing

Continuing Holder:
Elizabeth A. Rosiello,
Palos Heights

Molly K. Princehorn,
Homewood

Princehorn is a top student academically and belongs to Gamma Epsilon and Phi Eta Sigma honor societies. She has worked as a departmental lab assistant in our engineering graphics course, and she spent several months in Australia in 1998 under the UIUC study abroad program.

Alumni Award for General Engineering Students: presented to an outstanding General Engineering student in recognition of active citizenship and professional promise

Catherine A. Marton, Glen Ellyn

Marton's activities include Illini Women's Chorus, University Chorus, Illini Pride, Habitat for Humanity, and Adopt-a-School, president of the Engineering Freshman Committee, and vice president of her Residence Hall Executive Board. She worked as an Engineering Learning Assistant for GE 199 and Engineering 100 and is publicity officer for Gamma Epsilon. Her field of concentration is integrated business



Attending the 1999 General Engineering awards ceremony were (left to right) Donald W. White, award winners Molly Princehorn and Elizabeth Rosiello, and Dorothy B. White.

systems and consulting. She is a member of the Pre-Law Club. This past year she served as vice president of finance for the campus mock trial event; last year her team placed first at the mock trial regional and went on to represent UIUC at the national competition.

General Engineering Scholar Awards: awarded solely on academic merit

Sophomores (for junior year)

Michael N. Grussing, Penfield
Michael Maschek, Downers Grove
Douglas M. King, Palos Park
Andrew B. Loulousis, Brookfield
Anna Para, St. Charles
Jeffrey A. Legner, Downs
Allen G. Demling, Glen Ellyn

Juniors (for senior year)

Laura Albert, Schaumburg
Lindsay Krussow, Hawthorn Woods
Jonathan Jacobs, McHenry
Nissa Ali, Lombard

A Very Important Message

UNIVERSITY OF ILLINOIS
AT URBANA-CHAMPAIGN

Department of General Engineering
117 Transportation Building
104 South Mathews Avenue
Urbana, IL 61801-2996

Harry E. Cook
Head

Dear Alumni,

Recently Jim D'Orazio ('75), the new president of the General Engineering Alumni and Industry Advisory Board, wrote to you to share his enthusiasm and confidence regarding our direction and the exciting opportunities ahead. Today, as head of your Department of General Engineering, I write to you with great news! An alumnus has generously pledged a matching gift of up to \$100,000 if we can double our annual contributions. Let me share with you some of the reasons for investing in the department:

- General Engineering has a unique mission on campus of integrating engineering and business, a role that was the historical charge to the department in 1921 and continues today with strong rigor.
- The State of Illinois provides only 27% of the total current budget of the College of Engineering.
- We have completed long- and short-term planning and have determined the critical need for major improvements to the laboratory support facilities for the senior design course.
- 35% of General Engineering alumni maintain membership with the Alumni Association, yet only 3% contribute to the department.
- We are working to establish a Center for Entrepreneurial Engineering that will be housed in this department.

Our #1 priority is establishing the resources needed to attract the very best students to the department at both the undergraduate and graduate levels and to attract and retain the very best faculty members to teach them. Whether students or faculty, the competition for the very best has never been more intense than it is today. For example, the best students expect to receive scholarships and generally have scholarship offers from our "competitors." If we cannot also offer scholarships, we cannot continue to attract these students. To recruit the very best faculty members, we need to provide start-up funds for their research labs and named professorships and chairs.

Please take a moment to review the additional information highlighting the critical needs of the department. I am counting on you to demonstrate your support by investing in the future of General Engineering. This is how you can directly help:

- If you are already giving to the department, please continue to do so, and consider increasing your level of support.
- Remind your fellow General Engineering alumni of the need to support the department.
- If you have not given recently, please reconsider.

We look forward to new partnerships with you, and I extend a personal invitation to come back to campus and visit. You are welcome anytime, and we have numerous special events throughout the year that may appeal to you. If you have any questions or concerns, please don't hesitate to call me at 217-333-2730. If you need assistance in planning a visit or coordinating the details regarding your preferences for giving, please feel free to contact Angie Dimit, coordinator of alumni and student relations, at 217-333-0140 or Renée Mullen, our development liaison in the College of Engineering Office of Development, at 217-244-7716. Thank you.

Sincerely,



Harry E. Cook
Professor and Head
Department of General Engineering

Invest in the Future of General Engineering

It is most beneficial to the department if awards are supported in perpetuity through endowed gifts; however, we also rely on annual gifts to support a variety of programs. We especially encourage opportunities for named gifts, which provide a personal and unique connection between the student recipient and the donor.

GE Unrestricted Fund (31766)

A gift to the unrestricted fund supports a variety of critical needs in the department as listed below. The unrestricted fund also provides start-up support for new faculty members and enables us to bring in guest speakers for seminar series. Unrestricted funds may be used at the discretion of the department head in relationship to priorities and needs.

GE Scholars Award Fund (41327)

Were you a GE Scholar? Are you interested in supporting academically outstanding students in General Engineering? These awards were started by the department to recruit and retain students. In recent years, \$1,000 scholarships have been given to the top students in each class as identified by cumulative GPA. The department is committed to renewing existing GE Scholar Awards, but no new awards can be offered because there is no funding source for this annual expenditure. This loss may place the department at a significant disadvantage in recruiting and retaining the most academically talented students.

GE Women in General Engineering (31767)

Are you interested in supporting women in General Engineering? Each year, the college-based Women in Engineering Program offers merit-based scholarships to incoming freshman women. The department is asked to fund half of the cost for these scholarships and to continue to fund the full amount for those students whose academic achievements warrant renewal. At the present time, there is no designated funding source for this, and it is impossible for us to participate fully. Because 31% of the students in General Engineering are women (significantly above the college average of 19%), we would especially like to sustain these scholarships.

GE Fellowship Fund (41328)

As we continue to strengthen our graduate program, it is crucial that we position ourselves to be competitive in recruiting the brightest students in the country. Fellowship support is one of the highest priorities across the entire College of Engineering. We compete with both industry and other universities in terms of recruiting graduate students. Fellowship support is frequently a key decision factor.

GE Facilities Fund (31768)

The Transportation Building needs extensive improvements and renovation of existing laboratories and equipment. Our long-term desire is to renovate our existing space to create new, state-of-the-art facilities for the senior design capstone project course, to develop a tiered seminar room with teleconferencing capabilities, and to remodel the first floor hallways to include illuminated display cases, which will hold plaques for faculty, departmental, and student awards.

GE Development Fund (76620)

This endowment provides total funding for all alumni programming, including regional receptions and reunions, alumni newsletters, and student activities.

Alumni Award for General Engineering Students Fund (76614)

This fund currently provides one scholarship per year but was established with the goal of supporting ten awards. The award (\$1,000 per year) is presented to an outstanding student in General Engineering in recognition of active citizenship and professional promise.

GE Engineer in Residence Fund (31495)

This fund supports our "Engineer in Residence" program, thanks to an initial gift from Thomas A. Prickett, 1997-99 president of the General Engineering Alumni and Industry Advisory Board. During 2 days of informal meetings, alumni discuss work experiences and what it takes to become a successful practitioner, specifically addressing those topics that are not taught in standard engineering classes. Additionally, they speak to students in GE 291. Having spoken to the GE 291 students for several years, Prickett is committed to providing opportunities for students and alumni to interact and discuss issues on a personal level, especially questions that might be related to their aspirations and careers. By establishing this fund, his goal is that fellow General Engineering alumni will join him in supporting this program.

Jerry S. Dobrovoly Distinguished Professorship in Large-Scale Systems Design (71698)

This named professorship honors one of the most distinguished educators and leaders in the Department of General Engineering, Jerry S. Dobrovoly. The establishment of this professorship will directly benefit our students and will further enhance the excellence of our departmental faculty.

Donors Find Several Means Available for Giving Back to Alma Mater

Cash Gifts

Cash gifts are the easiest and most frequent way alumni give back to their alma mater (see form in this insert). Donors should indicate on the memo line of their check "Department of General Engineering" or the name of the specific fund to which they are contributing.

Gifts of Securities

Common stocks, bonds, mutual funds, and other appreciated securities may be donated to the University of Illinois Foundation. The U of I Foundation will either manage or liquidate the securities to achieve the donor's goals. A popular benefit of such a gift beyond the charitable income tax deduction is the avoidance, in most cases, of capital gains tax on the appreciation.

Gifts of Property

Donors may give real estate, including their residence, vacation home, farm, ranch, commercial property, or undeveloped land, to the U of I Foundation. These gifts can receive the same tax treatment as gifts of securities: no capital gains tax plus deductibility at fair market value.

Corporate Matching Gifts

Many alumni of the GE Department are employed with companies that offer matching gift programs. In these instances, alumni gifts may be multiplied once, twice, three times, or more. (Ford, IBM, and 3M are just a few examples of the companies offering matching funds.) Donors should check with their company's personnel departments for further details on this program.

Named Endowments Create a Lasting Legacy

Named endowments bring honor to those who are beneficiaries of the endowment and to the person for whom the endowment is named. The gift of an endowment represents a perpetual legacy because it is an endowment's interest income—not the principal—that serves as a source of available funds.

Endowed Scholarships • Endowed scholarships in the GE Department include the Edward S. Fraser Award, Alumni Award for General Engineering Students, Dorothy B. and Donald W. White Scholarship, and the Jerry S. Dobrovolny Award. The minimum gift for a named scholarship is \$25,000. These scholarships provide students with at least \$1,000 to be applied to their tuition bill or to be given as a cash award. Endowments create many opportunities and add to the prestige of an academic program. Endowments can be established through outright gifts, through a bequest or deferred gift arrangement, or through a term funding agreement.

Term Funding Opportunities • One advantage of term funding is that it provides immediate support while also building an endowment for long-term support. For example, to term fund a scholarship, an individual could provide \$3,750 each year; \$1,250 of which would go toward an annual distribution to a student meeting the applicable criteria and \$2,500 of which would go toward principal to build an endowment. Companies that provide matching gifts are particularly well suited to term funding agreements. For example, if a company matches gifts 2:1, an individual could establish a named scholarship with a gift of only \$1,250 each year.

Endowed Chair • Endowed chairs are the highest honor the university can bestow on prominent faculty members. The income from endowed chairs may be used to provide salary support, and it may help to fund much of the professor's teaching and research requirements. Minimum gift: \$1.25 million.

Named College Professorship • Endowed professorships help attract and retain promising scholars early in their careers. The income may be used to augment the salary of the professor, and it may be used to support the scholarly and research needs of the holder. Minimum gift: \$500,000.

Named Fellow • Named fellows allow the department to invite scholars and others who have distinguished themselves in their fields to visit campus and share their expertise with students and faculty. The income generated from the endowment provides stipends for the visiting fellows. Minimum gift: \$250,000.

Named Fellowships/Assistantships • Graduate fellowships supported by endowments provide a crucial means of bringing to the department some of the best and brightest students in the country. Minimum gift: \$100,000.

Unlike the current gifts mentioned above, deferred gifts benefit the GE Department at some future date.

Bequest in a Will or Living Trust

The most common form of planned giving, a bequest is a gift that is made through a will or living trust. The bequest may be stated as a percentage of the estate, as the residual of the estate, or for a specific dollar amount.

Life Income Gifts

There are two basic types of charitable remainder trusts: charitable remainder annuity trust and charitable remainder unitrust. Both can be funded through a gift of stock, cash, or other assets during a donor's lifetime or through a testamentary disposition. Both provide life income for the donor or designated beneficiaries.

Other ways of giving include

- Charitable Gift Annuity
- Deferred Gift Annuity
- Retained Life Estate
- Retirement Accounts
- Life Insurance
- Charitable Lead Trusts

If you have questions about current or deferred gifts or to request written information, please call Renée Mullen at 217-244-7716 or the U of I Foundation's Office of Trust Relations and Planned Giving at 217-333-7346.

Will we hear from you?

How to Support General Engineering

Your contribution to General Engineering will make a significant difference as we work to maintain, improve, and expand our programs and facilities.

Listed below are some of the options available for designated gifts. If you would like your gift used in a way that is not listed, please indicate OTHER.

Remember, matching gifts multiply your dollars. If your company has a matching gift plan, please include a form from your company along with your contribution.

Return this form and your check to:
University of Illinois
Foundation
P.O. Box 3429
Champaign, IL 61826-9916

When you use a credit card, you can fax your donation to 217-333-5577.

Please send to the attention of Cash Receipts.

This gift is tax deductible as allowed by law.

In support of the Department of General Engineering, enclosed is my gift of:

\$1,000 \$500 \$100 Other \$ _____

Mark the appropriate box. If you are sending a check, please make it out to UIF/(fund name). (Accounts are listed in alphabetical order.)

- UIF/GE Alumni Award Fund: Funds the Alumni Award for General Engineering Students. (76614)
- UIF/GE Development Fund: Provides total funding for alumni programming, alumni newsletters, and student activities. (76620)
- UIF/GE Jerry Dobrovolny Distinguished Professorship (71698)
- UIF/GE Engineer in Residence Fund: Provides funding for Engineer in Residence program in General Engineering. (31495)
- UIF/GE Facilities Fund: Provides funding for upgrades to laboratories and equipment. (31768)
- UIF/GE Fellowship Fund: Provides fellowships for graduate students. (41328)
- UIF/GE Scholars Award: Provides funding for merit based scholarships. (41327)
- UIF/GE Unrestricted Fund: Provides start-up funds for new faculty and other vital needs. (31766)
- UIF/GE Women in General Engineering Fund: Supports departmental participation in scholarship programs for women in General Engineering. (31767)
- OTHER _____

I authorize the U of I Foundation to collect my gift in the amount above through the credit card checked: Visa MasterCard Discover American Express

Card no.: _____ Expiration date: _____

Signature: _____

I would prefer to pay by installment.

Amount pledged \$ _____ Installment paid now \$ _____
Installment to be paid (check one): Quarterly Semiannually Annually
We will send you a reminder per your requested schedule as indicated above.

My company, _____ will match my gift with \$ _____. I am enclosing my employer's Matching Gift form.

I will make a gift via a transfer of stock. Please send me the appropriate form.

Name _____

Home address _____

City, state, zip _____

1998 Lincoln Arc Welding Awards

The James F. Lincoln Arc Welding Foundation offers annual awards to recognize and reward achievement by engineering and technology students in solving design, engineering, or arc welding fabrication problems. The five criteria used to select the winners are originality or ingenuity, feasibility, results achieved or expected, engineering competence, and clarity of the presentation.

Since the Department of General Engineering first entered this national competition in 1968, 87 senior design projects have been recognized with the prestigious award. The number of these awards that have been bestowed on GE senior design projects is a testimonial to the high quality of work that can be found through this business-education partnership. Congratulations to all of the winners. Listed below are the awards, titles of the winning projects, student team members, and project advisor in 1998.

Silver

Title of project:	Redesign of Toggle Stop	Title of project:	Seal Design in Automotive Coolant Valve
Team:	Henry Chou Eugene Hahm Carmen Hernandez	Team:	Daniel Beedon Amy Leung Carolyn Sperle Stephen Stone
Faculty advisor:	Henrique Reis	Faculty advisor:	Harry S. Wildblood
Sponsor:	Wes Tech Automation Systems	Sponsor:	Eaton Corporation

Title of project:	Packaging System Design
Team:	Sarah Beckman Joshua Benoist Melodie Luk
Faculty advisor:	Deborah Thurston
Sponsor:	Revere Ware Corporation

Title of project:	Transmission Downsizing
Team:	Troy Shawago Max Sutlin David Weinberg
Faculty advisor:	L. D. Metz
Sponsor:	U.S. Gear Corporation

Title of project:	Water Pump Test Rig Design
Team:	Sean Leonard Derrick Umphlett Vivian Vlamakis
Faculty advisor:	L. D. Metz
Sponsor:	Cummins Engine Co.

Merit

Title of project:	Design Optimization of Rocker Lever Adjusting Screw for the Signature 600 Engine
Team:	Charles Crouch Trevor Hutchinson Christopher Wahl
Faculty advisor:	Ed Kuznetsov
Sponsor:	Cummins Engine
Title of project:	Single Sided Hole-Making Method
Team:	Joshua Ibarra Donald India Khris Richardson
Faculty advisor:	W. Brent Hall
Sponsor:	Greenlee Textron, Inc.
Title of project:	Dishwasher Dryness Sensing System
Team:	Brent Crossley Gregory Lyons Heena Shah
Faculty advisor:	James V. Carnahan
Sponsor:	General Electric Appliances

Kenneth W. Hamming Scholarship Fund Announced

Kenneth W. Hamming '40 and his wife Joyce of Naples, Florida, have established the Kenneth W. Hamming Scholarship for General Engineering. In 1974, Ken Hamming was the first recipient of Gamma Epsilon's Distinguished Alumnus Award, which recognized his contribution to the development of electric power generating facilities. Other honors he has received include fellow of the American Society of Mechanical Engineers, honorary member of the Western Society of Engineers, and member of the National Academy of Engineering. Hamming was a senior partner of Sargent & Lundy, a major consulting engineering firm. The first Hamming award, which will be based on academic merit and financial need, will be presented at the spring 2000 GE awards banquet.

Scholarships like the one supported by the Hamming endowment create many opportunities and add to the prestige of our academic program. A fully endowed scholarship provides the student recipient with at least \$1,000 per year toward educational expenses. Named endowments bring honor to those who are beneficiaries of the endowment and to the those for whom the endowment is named. It is a direct way for graduates of General Engineering to invest in the next generation of general engineers! If you have questions about opportunities to support our students, programs, and needs, telephone Renee Mullen at 217-244-4416 or Angie Dimit at 217-333-0140.

GE 342 Projects, Spring Semester 1999

It is well known that the Department of General Engineering offers an engineering education with a unique orientation toward real-world problem solving. This approach can be found at only a few other engineering schools across the country and in no other curriculum on campus. One of our keys to successfully educating engineers is our partnership with industry, as evidenced by our Senior Design Project Course. We are a pioneer in this regard. Our program served as the model for a national accreditation board mandate of senior design activity as a requirement for all baccalaureate engineering degree programs. GE students have won 40% or more of all the major national awards for senior project design in the last three years. This success translates into our graduates landing excellent jobs and salaries and our maintaining one of the top placement rates in the College of Engineering.

Senior projects can be a great way to leverage your efforts or those of your people. The student team can focus on a specific goal for a short period and will stay in close communication with you if you are responsive and use the senior project voice mail system. On average, the bang for your buck is hard to beat. Call Professor Carnahan or Professor Hall at 217-333-9623 if you would like more information or would like to participate. Below is a list of our spring 1999 projects.

Economic Insulation Choice for a Warehouse

Faculty Advisor: Ramavarapu S. Sreenivas
Company Sponsor: Anheuser-Busch, St. Louis, Missouri
Company Contacts: Michael D. Brunetto '77, Frank Laenen

Thrust Disk Containment

Faculty Advisor: Edward N. Kuznetsov
Company Sponsor: Barber-Colman, Loves Park
Company Contact: Craig Lins '89, '91

Gearmotor Noise Test and Evaluation

Faculty Advisor: Henrique Reis
Company Sponsor: Bodine Electric Co., Chicago
Company Contact: James Pesci

Transfer Cart Redesign

Faculty Advisor: W. Brent Hall
Company Sponsor: Carlisle SynTec, Inc., Greenville
Company Contact: Bill Knuf

Modification of Corrosion Sensing

Faculty Advisor: Henrique Reis
Company Sponsor: U.S. Army Construction Engineering Research Lab, Champaign
Company Contact: Charles Marsh

Printing Layout and Scheduling

Faculty Advisor: Rayadurgam Srikant
Company Sponsor: Crane Carton Co., Chicago
Company Contacts: Colette Verdun, Christine Cesek

Thermostat Redesign

Faculty Advisor: Roland Ruhl/Mark Strauss
Company Sponsor: Cummins Engine Co., Columbus, Indiana
Company Contacts: Tom Stover, Kris Bare, Sue Brasmer

Plastic Housing Fracture Analysis

Faculty Advisor: Narayana Aluru
Company Sponsor: Eaton Corporation, Rochelle
Company Contacts: Claude McKibben, Chuck Hacker

Redesign of Manual Assembly Operations

Faculty Advisor: Manssour Moeinzadeh
Company Sponsor: InnerPac, Cicero
Company Contacts: Anthony DiTommaso, Chris Woods

Reduction in Energy Expenditure

Faculty Advisor: Juraj V. Medanic
Company Sponsor: Kraft, USA, Champaign
Company Contacts: John Pravdica, Joe Matesic

Automated Data Collection and Analysis

Faculty Advisor: Francesco Bullo
Company Sponsor: MacLean Power Systems, Franklin Park
Company Contacts: David Dembowski, Jason Blayney

Easier Cellular Phone Programming

Faculty Advisor: David E. Goldberg
Company Sponsor: Motorola Advanced Technology Center, Schaumburg
Company Contact: Tom Tirpak '87, '89

Toaster Performance Evaluation

Faculty Advisor: Scott A. Burns
Company Sponsor: Prince Castle, Inc., Carol Stream
Company Contact: Dan Rubino

Improvement of a Dip-soldering Operation

Faculty Advisor: W. Brent Hall
Company Sponsor: Triton Manufacturing Co., Alsip
Company Contacts: Lee Cassidy, Kyle Edwards

Ergonomic Assist for Drilling Operation

Faculty Advisor: Wayne J. Davis
Company Sponsor: Werner Company, Franklin Park
Company Contacts: Nick Cray, Leigh Carlson, Kurt Hull

General Engineering Alumni Mentor Program

Name: _____

Company: _____

Mentor Application

Please complete this form and fax to 217-244-5705 or mail to:

Angie Dimit
University of Illinois at
Urbana-Champaign
Department of General Engineering
104 Transportation Building
104 South Mathews Avenue
Urbana, IL 61801

Company address: _____

Company city, state, zip code: _____

Company phone number: _____

Company fax number: _____

Email address: _____

Home address: _____

Home city, state, zip code: _____

Home phone number: _____

Graduation year: _____ Secondary field: _____

Other degrees/universities: _____

What is/are the general practice area(s) of your company? _____

What is/are your area(s) of expertise? _____

How many students would you like to mentor? _____

What are your hobbies and interests? _____

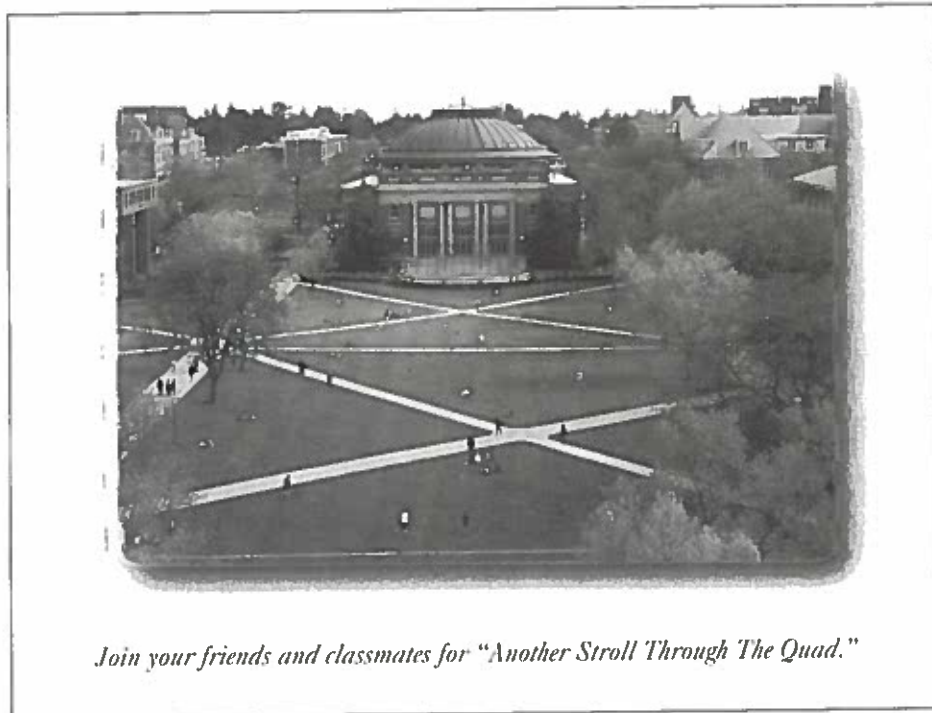
Do you have any questions or suggestions? _____

For office use only:

Student(s) assigned _____

Reunion Weekend 1999

October 29 - 31 ~ Classes of 1939, 1949 and 1959



— Schedule of Events —

Friday, October 29

Registration, continental breakfast & memorabilia displays
Choose among several guided tours, which may include

- ~ The Beckman Institute
- ~ The Rare Book Collection at the Library
- ~ Japan House
- ~ The newly remodeled lower level of Assembly Hall
- ~ Bielfeldt Athletic Administration Building
- ~ Krannert Center for the Performing Arts
- Visit to College/Department

Reunion Classes Lunch or Lunch by Colleges
Aitgeld Moment - Meet the chimesmaster and enjoy a concert of Illinois music, followed by a leisurely stroll through the Quad

Campus Bus Tour
Visit to the Harding Band Building for a Sousa concert and tour of the Sousa Museum and Archives
Pre-dinner Reception
Reunion Classes Dinner

Saturday, October 30

Visit the Alumni Association office, Illini Union Bookstore, etc.
Reunion Classes Tent Party (two hours before kickoff)

Optional activities

- ~ Illinois vs. Penn State football game
- ~ Visit to Robert Allerton Park in Monticello

Post-game Reception at Krannert Art Museum
Spend the rest of the day on your own to visit with friends, see more of the campus, etc.

Sunday, October 31

Reunion Classes Breakfast

Hotel Information

Overnight rooms have been blocked at the following hotels: ■ University Inn: 217/384-2100, 302 E. John St., Champaign ■ Ramada Inn: 217/328-4400, 902 Killarney St., Urbana ■ Radisson Suite Hotel: 217/398-3400, 101 Trade Center Dr., Champaign ■ Holiday Inn Hotel: 217/328-7900, 1001 Killarney St., Urbana ■ Jumer's Castle Lodge: 217/384-8800, 209 S. Broadway Ave., Urbana ■ Clarion Hotel: 217/352-7891, 1501 S. Neil St., Champaign



Questions? Please contact
University of Illinois Alumni Association
227 Illini Union
1401 W. Green St., Urbana, IL 61801
Phone: 217/333-1471
Fax: 217/333-7803
E-mail: alumni@uiuc.edu

Professor Establishes Successful Partnership between General Engineering and Industry

For years, General Engineering students have reaped the benefits of numerous partnerships with business and industry. Professor Roland "Rolly" Ruhl has established one partnership that is unique in its diverse, broad offerings and his significant, personal approach. Its success stands as a model for others.

Ruhl, formerly a full-time faculty member and currently an adjunct professor, influences and supports general engineers in ways that individually and personally affect students. He advises graduate students and senior design project teams, and his company, Ruhl & Associates, provides assistantships and supports General Engineering students through employment opportunities and hands-on experience.

Currently, graduate students Brent Clark, Adam Senalik, and Erica Olson Southcombe are doing their MS thesis/project work in the heavy truck area. Clark and Senalik are supported by Ruhl & Associates Research Assistantships. (Senalik is advised by Juraj Medanic.) Erica Olson Southcombe is a GE graduate and former R&A employee who is enrolling for an MS under the remote program. She and her husband work in the Chicago area, where she is employed by Stilson Engineering. This summer, Clark and Senalik will be going to the National Convention for EDVDS software users (reconstruction/vehicle dynamics software). Clark and other team members used this software on the Wilson Trailer GE 342 project, fall '98.

GE graduates at Ruhl & Associates are Vivian Vlamakis '98 and Rod Ruhl '91 in Illinois and Jonathan Balasa '97 and Dan Fittanto '92 in the Arizona office. Fittanto will be returning to Illinois later this year for the soon-to-be-opened Chicago office.



Faculty members enjoy informal conversation during the spring reception for faculty and the Alumni and Industry Advisory Board. Pictured left to right are faculty members Francesco Bullo, Nayaran Alura, Ramavarapu Sreenivas, and James Carnahan with Roland Ruhl, adjunct professor and department benefactor.

GE ALUMNI UPDATES

'36 Robert C. Lewis resides at Heritage Heights, 149 East Side Dr., No. 105, Concord, NH 03301.

'63 Dennis W. Anderson was 1 of 16 people who recently received the 1998 Crime Prevention Award for Excellence presented by Wilmington, N.C., Governor Jim Hunt. Anderson is owner of McAnderson Inc., which owns McDonalds in Wilmington. He was recognized for helping start the Badges-to-Burgers program, which works with the local police to help high-risk teens find jobs in the restaurant chain.

Nextera Enterprises acquired the management consulting firm of Sibson & Company. Gresham T. Brebach, Jr., president and CEO of Nextera, said that Sibson is an excellent addition to his business. Nextera Enterprises is a rapidly growing international consulting firm that specializes in helping businesses achieve greater levels of growth and profitability through improvements in strategy development and execution, operational effectiveness, the use of information technology, and the continuous enhancement of human capital. Nextera, a wholly owned, independent subsidiary of Knowledge Universe, is based in Los Angeles.

'71 PaySys International, Inc., a global leader in credit card processing software, has named James W. Locke as executive vice-president and chief operating officer of PaySys. Locke is a retired captain in the U.S. Naval Reserves and a veteran of two tours of duty in Vietnam.

Bruce A. Huber joined Clark Engineers, Inc. in Peoria, in January 1999 to manage new business diversification along with IT, HR, finance, and business planning functions. He lives in Morton.

'75 James E. Spese is project manager with the Office of Project Planning and Facility Management at the UIUC campus. He is responsible for all major remodeling and new construction north of Green Street. He resides in Mahomet with his wife Tonya and two children, Beth and Rob.

'76 After 7 years as CEO of a plastics packaging company, in November 1998 **Dave Boyer** purchased a manufacturing company doing printing finishing services. He says his GE degree has been invaluable in this transformational career move of owning his own company.

'77 **Bradford W. Dickson** has been appointed executive vice-president of Dresser-Rand Company in Houston, Tex. He and his family are returning from Caracas, Venezuela, where he was managing director. Dickson has been with Dresser-Rand since 1977.

'79 **Anthony L. Bonasera** is celebrating his 20th year with Lucent Technologies in Rolling Meadows, where he is senior technical consultant with the Global Commercial Markets Division. He and his wife Elizabeth have three children: Joel (15), Alessandra (11), and James (2).

After 13 years working as an engineer in the medical device industry, **Jay R. Goldberg** returned to school and received a PhD in biomedical engineering from Northwestern University in December 1998. He is currently the director of the Healthcare Technologies Management Program at Marquette University and an assistant professor of biomedical engineering. He lives in Libertyville.

'82 **Eric M. Austin** of Aurora has earned a doctoral degree in engineering mechanics from Virginia Tech. He is now a postdoctoral research associate at the university. He and his wife Elizabeth live in Blacksburg, Va.

Charles E. Belanger, P.E., has been named as an associate with Hennerman, Raufeisen and Associates, Inc., an engineering and architectural firm based in Champaign. Belanger has been an electrical engineer with the company for 15 years and is currently a project manager for an underground high-voltage electrical distribution and load center project at UIC.

'83 **Michael W. Hartley** and his wife Lisa announce the birth of their son, Thomas Michael, born on October 5, 1998. He joins sister Ellen at home in Elmhurst.

From the Coordinator of Alumni and Student Relations

It is hard to believe that I have reached my first anniversary with General Engineering. I would like to share with you some of my impressions from the past year.

Our alumni. I have been pleasantly overwhelmed by the enthusiasm and interest of our alumni. One of my priorities this year was to increase the opportunities for alumni and student interaction, and I have yet to meet a GE graduate who is not interested in staying connected in some way with students and the department! This involvement is a clear example of the quality of our programs, faculty, and staff and the positive impact that this department has made in the lives of the students it has served.

Our students. The academic and leadership qualities of our current students are exceptional. In my 12 years on campus, I have had the chance to interact with a great many students, and I can honestly say that I have found our students to be bright, well-rounded, highly motivated, extremely competent and responsible, and resourceful. GE students are among the strongest student leaders with whom I have worked.

Our department. This year has been a dynamic one! There are so many new and developing extraordinary opportunities and partnerships available for students, alumni, and industry. Our faculty members continue to be recognized by the campus and internationally for their cutting edge research and exceptional service to students. The Engineer in Residence Program was established in the spring with a gift from Thomas A. Prickett and was tremendously received by the students and the four inaugural alumni. The Alumni Mentor Program is being reestablished, and a Student-to-Student Mentor Program is being launched in the fall semester 1999.

I am extremely excited to announce that one of our alumni has been so pleased with the new direction of the department that he has generously offered us a matching gift if we can double our current level of alumni contributions. He would like to give fellow alumni a special incentive to become active donors, in light of the fact that only 3% of our 3,500 alumni are currently investing in the department with financial resources. Please read the special insert in this newsletter, which outlines the new initiatives in the department and gives you the opportunity to invest in the next generation of successful general engineers.

For the next academic year, we are looking forward to some new alumni programs, including

- department alumni reunion for the classes of '64, '69, '74, '79, '84, '89, '94.
- spring alumni reunion in the Cincinnati, Ohio, area.
- local alumni reunion in conjunction with the department's spring picnic.

At the suggestion of Dave O'Bryant, you will find a new column in the newsletter, *News from Our Retired Faculty*. I am so glad that he offered this suggestion and look forward to receiving news from our retired faculty members. Our alumni are interested in what you are up to these days!

I would like to offer a special thanks to the people who were GE Alumni in the Classroom during the spring semester 1999. Some of these alumni also served as Engineer in Residence (see article on page 4): Michael



Angie Dimit

Brunetto '77, Anheuser Busch, Chris McPeck '93, Proctor & Gamble, Chris Daniel '97, Ernst & Young, Tom Prickett '57, Thomas A. Prickett & Associates, Dick Reynolds '53, retired director of Mechanical Research, Sundstrand, Marvin Smollar '68, CEO and president of Delray Financial Group, Inc. and Kingsland Development Company, Inc., and Jeff Morris '70, president, Telephone Products, Inc.

I am eager to keep in touch with you. Click the Alumni Information button on our new Web site at www.ge.uiuc.edu or use the form on page 23 to keep me updated on your life and career and to let me know in what ways you are interested in staying connected with the department. Next time your job brings you to Urbana-Champaign, stop in to see us. Please consider spending an hour or so of informal time to talk with our students. I am happy to facilitate all opportunities for students and alumni to get together.

—Angie Dimit

Gamma Epsilon Outstanding Alumnus Award

Michael K. Wyffels ('67, MSME '69) was selected as the 1998 Outstanding Alumnus for the Department of General Engineering. Wyffels is the manager of product development for worldwide harvesting equipment for John Deere. He is responsible for the product development of combines manufactured at East Moline, Illinois, Zweibruecken, Germany, Horizontina, Brazil, and Jiamasui, China. He has been instrumental in coordinating the support and sponsorship of John Deere for the College of Engineering Mechatronics Lab, located on the second floor of the Transportation Building. Among other leadership positions, Wyffels is a member of the College of Engineering Advisory Board (CEAB).



Mike Wyffels (right) presents a check from John Deere to Professor Mark Spong for the College of Engineering Mechatronics Lab, which is located in the Transportation Building.

'84 Matthew P. Spears has been admitted as associate partner in Andersen Consulting. He lives in Park Ridge with his wife, Sara.

'85 Richard P. Harmet and Christine Bradley were married on July 11, 1998. He is a mechanical engineer for Mitsubishi Motor Manufacturing of America, Inc., and she, a graduate of Illinois Central College, works from home as a Web developer. They also farm. The couple resides in Cropsey.

'86 Tim Filbert is an instructor in the Department of Community, Natural Resources, and Economic Development at the University of Wisconsin, Madison. He works on community revitalization issues and lives in Lancaster, Wis., with his wife, Robin, and two daughters, Janelle and Madeline.

Brian Fruchter is a manufacturing engineering manager at Watlow Controls. His address is 1241 Bundy Blvd. (P.O. Box 5580), Winona, MN 55987-5580; telephone 507-454-5300, and email brian_fruchter@watlow.com.

'87 Scott Berry was promoted to marketing manager for high-frequency radio products for Rockwell Collins. He was previously a senior sales engineer with Rockwell Automation. He lives in Cedar Rapids, Iowa, with his wife Lori and their 3 daughters.

John Glynn of Hardin is a senior analyst at BJC Health System of St. Louis, Mo., where he develops enterprise GUI applications in the Information Systems Department. He and his wife Toy have three children: Caitlin, age 6, and 4-year-old twins Meghan and Bridget.

Laura Nanko is now with the Department of Energy Office of Naval Reactors in West Mifflin, Pa. In July 99, she, her husband Ross Cronkite, and sons Robert (5) and Richard (15 mos) moved to 442 Mitchell Avenue, Clairton, PA 15025.

Gonzalo Perez and Ljubinka Jandrich are operating an import-export consulting firm from their home in Champaign.

'88 David M. Cushing is general manager of Michigan Local Communications Corporation in Southfield, Mich., and lives with his wife Michele and children Elizabeth (6 years) and Micaela (9 months) in Naperville.

Edward T. Hightower is product manager for the BMW 7 Series and 5 Series vehicle lines in Woodcliff Lake, N.J. He resides with his wife and daughter in Westwood, N.J.

Michelle L. Krause has been admitted as associate partner in Andersen Consulting. She lives in Hinsdale with her husband, Jeff, who is also an associate partner with Andersen Consulting.

The Training Channel, a company founded by Harry and Karen Wildblood, is growing in popularity in the C-U area. The Training Channel aims to train business people by means of electronic courseware and through instructor-led classes.

'89 Mark Baysore and Diane Cox were married May 30, 1998, at St. John Lutheran Church in Champaign. They are both employed at the U.S. Army Construction Engineering Research Laboratories.

Frederick W. Jewell has been admitted as associate partner in Andersen Consulting. He lives in Atlanta, Ga., with his wife, Julie, and two children, Madison and Maxwell.

New GE Courses on Business Side of Engineering

Two new courses have been added in fall '99 as we continue to emphasize the original mission of the Department of General Engineering "to provide a fundamental engineering training with moderate emphasis on design and some stress given to the business side of engineering and industry through sequences of courses in economics, money and banking, and labor problems." (*A History of the Department of General Engineering*, by J. Dobrovolny).

The introduction of these courses is just the beginning of several exciting industry/business-related endeavors and partnerships on the horizon for General Engineering. We expect strong demand for these courses from students throughout the College of Engineering as well as within the department. These courses will further strengthen the real-world application of our undergraduate curriculum as we prepare our students to deal with and solve issues of importance in industry today.

GE393 HEC1-Validation and Planning of New Products (3 hrs)

Students become skilled in the use of tools and methods for developing world-class products. These methods and products include value engineering, competitive benchmarking, marketing research, product planning, quality deployment, activity-based costing, pricing, demand forecasting, and concurrent engineering. A common theoretical formalism is used to integrate the tools. Automotive examples are used to illustrate the methodology.

GE393 HEC2-Design and Analysis of Strategic Experiments (3 hrs)

Strategic experiments are used to examine multiple product features and identify those that will be most profitable to implement. Students become skilled in the use of orthogonal arrays, Taguchi methods, and Monte Carlo simulation. Case studies are used to illustrate the methodology.

General Engineering Alumnus Named 1999 Mellon Fellowship Winner

The Woodrow Wilson National Fellowship Foundation announced that Joshua Kundert ('94) won an Andrew W. Mellon Fellowship in the Humanistic Studies, the only national humanities graduate award. Nearly 800 of the nation's top humanities students competed for this year's fellowships; 98 awards were given.

Kundert will begin doctoral work as a Mellon fellow in fall 1999. The one-year award includes payment of all tuition and fees and a \$14,500 stipend. Sponsored by the Andrew W. Mellon Foundation, more than 1,600 Mellon fellows have been named since the award was initiated in 1982. Fellows may attend any accredited

graduate school of arts and sciences in the United States or Canada.

Kundert plans to enroll in the PhD program in the history of science at the University of Wisconsin, Madison. He has spent the past two years as a computer consultant in Germany while taking courses at the Georg August University in Goettingen, and he has published an internet article in German. He has a special interest in how science and technological innovations create "social" revolutions, the relatively recent merging of invention and scientific theory, and the role of government in fostering scientific discovery.

Alumni Update Form

Name

Year of graduation

Additional degrees

Current title and position

Company

Business address

Business phone

Business fax

Home address

Home phone

Home fax (if applicable)

email address

Personal news, achievements, honors:
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Please indicate:

- Include above information in Alumni Updates of the *GE Alumni Newsletter*.
- Do not include above information in the next *GE Alumni Newsletter*.

I am interested in receiving information about the following:

- GE Alumni Mentoring Program
- Senior Design Project 342
- General Engineering Placement Service (for students)
- GE 291 and TQE
- Engineer in Residence

Return Alumni Update Form to Angie Dimit:

FAX 217-244-5705

OR 117 Transportation Bldg.
104 South Mathews Avenue
Urbana, IL 61801

Thank you.

John W. Kozel has been promoted to compensation consultant for Microsoft Corp. in the state of Washington. He designs compensation programs for domestic and Latin American subsidiaries.

'90 Jay Saltzman became a partner at the patent law firm Fitch, Even, Tabin & Flannery in Chicago. He and his wife Susan reside in Chicago. **Robert A. Uhe** and Gretchen Jokisch were married November 14, 1998, in Springfield. He is the chief legal counsel for the speaker of the Illinois House of Representatives, and she is the director of marketing at CyberCity Communications, Inc. They reside in Springfield.

'92 Christopher D. Johnson has been named a project manager at the Moline office of Shive-Hattery Inc.

Tara L. (Winslow) Morr works part-time for Caterpillar on special projects and reliability analysis. She had a son, Alex, on September 21, 1998, and resides in Decatur.

'93 Cheryl F. (Fernandez) Benes has moved to Downers Grove.

On November 27, 1998, more than 75 UIUC graduates witnessed the marriage in Chicago of **Robert J. Cotner** and Marsha Comber.

Elizabeth M. Fikes and Jeffrey Norman Ford were wed on September 13, 1998. The couple lives in Wyoming.

Michael A. Johnson holds the title of Sales Engineer with Illinois Concrete Company, Inc. He and his wife, Stephanie, and daughters Natalie and Heather reside in Loda.

Jason A. Struthers was the recipient of the 1988 Teen of the Year award. The Princeton Elks give awards to former county high school seniors who have completed their college educations and have been working in their chosen fields for several years. Struthers is the regional manager for Parker-Hannifin and resides in Algonquin with his wife, Amie.

'94 Brian Ormaniec, who is employed at the Museum of Science and Industry, Chicago, was married to Christine Moritz (EE '95/Bioeng '96) on August 29, 1998. He is currently developing an exhibit about automated manufacturing at the museum; the

exhibit is scheduled to open in about two years.

'95 **W. Ryan Geister** and Catherine M. Orn (Land Arch '88) were wed on May 23, 1998. He is a graduate training instructor for Trane Co. in LaCrosse, Wis., and is working on an MBA at the University of Wisconsin at LaCrosse. They live in Holmen, Wis.

David P. Lowe and Victoria Read were married August 8 in Idaho Springs, Colo. The couple works for the consulting firm of Keane Inc. in Lakewood, Colo., and reside in Denver.

'96 Navy Ensign **Ian W. Bruce** recently completed the Submarine Officers Advanced Course. During the 22-week course, students prepare for increased responsibilities as department heads aboard U.S. Navy submarines.

Joselito C. Pecis and Holly R. Pulver were wed October 10, 1998, in Centralia. He is employed by Haley and Aldrich of Boston as an engineer, and she as a sixth-grade teacher at Amesbury Middle School in Amesbury, Mass.

'97 **Erin Allison** and Mark Converse were married on January 2, 1999. She is a systems analyst for Andersen Consulting, Northbrook. They live in Bensenville.

Carolyn Sperle is a sales engineer with Honeywell Micro Switch. She has been relocated to San Jose, Calif., to cover the Silicon Valley area.

'98 **Ryan R. Hoyer** resides in Burbank and is a controls project engineer at Temperature Equipment Corp. in Lansing.

Trevor A. Hutchinson and Carey A. Dielman (BS ElemEd '98) were married on June 14, 1998. He is a process engineer for Procter & Gamble in Green Bay, Wis., and she teaches first grade at Annunciation School in Green Bay.

Calendar of Events

August 18, 1999

Industrial Program Meeting, GE 342, Clock Tower Resort & Conference Center, Rockford, 8:00–10:00 a.m.

September 4, 1999

Home football game with Arkansas State (Salute to Labor)

September 10, 1999

General Engineering reunion for the classes of '64, '69, '74, '79, '84, '89, '94
For more information, click on the Alumni Information button at www.ge.uiuc.edu or contact Angie Dimit at 217-333-0140, m-dimit@uiuc.edu.

September 11, 1999

Engineering Tent Party. Home game with San Diego State (Pork Day)

September 15, 1999

Industrial Program Meeting, GE 342, Holiday Inn O'Hare, Rosemont, 8:00–10:00 a.m.

September 15–17, 1999

College of Engineering Advisory Board Meeting

September 18, 1999

Football game at Louisville

September 23–25, 1999

UI Foundation Annual Meeting

September 25, 1999

Home football game with Michigan State (Foundation and Siblings Weekend)

October 2, 1999

Football game at Indiana

October 6, 1999

Chicago area alumni reception, Hyatt Regency Oak Brook, 5:30–8:00 p.m.
For more information, click on the Alumni Information button at www.ge.uiuc.edu or contact Angie Dimit at 217-333-0140, m-dimit@uiuc.edu.
Industrial Program Meeting, GE 342, Hyatt Regency Oak Brook, 4:00–5:00 p.m.

October 16, 1999

Homecoming with Minnesota

October 23, 1999

Football game at Michigan

October 29–31

Alumni Association Reunion Weekend for the classes of '39, '49, '59

October 30, 1999

Home football game with Penn State (4-H Day)

November 6, 1999

Football game at Iowa

November 13, 1999

Football game at Ohio State

November 20, 1999

Home football game with Northwestern (Dad's Day)

December 15, 1999

GE Alumni and Industry Advisory Board Meeting

Senior Design Project Final Presentations



Chris Daniel '97 has been an active alumni in the classroom. He recently spoke to students in GE 291 and participated in a pizza and presentation evening with students sponsored by TQE (Total Quality Education).

IN MEMORIAM

'29 **Frederick K. Gartung**, 91, of Springfield died August 13, 1998, at home. He was employed by Illinois Bell Telephone Company for 38 years, retiring in 1971 as staff supervisor of Independent Bell Relations Department.

'37 **William R. Fahrestock** passed away recently. His hobbies were hunting, fishing, and touring.

'45 **Edward J. Demlow**, 77, of Dowagiac, Mich., died December 29, 1998. He was an engineer for Anchor Coupling Co., Libertyville, from 1942 to 1974 and for Hamilton-Pax from 1974 until he retired in 1988. Demlow invented the split flange connector, which is commonly used today.

Welcome to the University of Illinois Alumni Association.

Your membership is helping build an even greater University Alumni network. We hope you will become involved in the Association's many activities and take advantage of the growing number of exclusive member benefits.

Loren R. Taylor
President

Please clip and mail this application along with your check or credit card authorization to **University of Illinois Alumni Association**, 1401 West Green Street, Urbana, Illinois 61801.

UNIVERSITY OF ILLINOIS ALUMNI ASSOCIATION

PERSONAL INFORMATION

Name: _____
 Social Security Number: _____ Degree/Year: _____
 Address: _____
 City, State, Zip: _____
 Home Phone: _____ Fax: _____ e-mail: _____

SELECT YOUR MEMBERSHIP OPTION AND PAYMENT PLAN

UD14

ANNUAL MEMBERSHIP OPTIONS

Annual dues Single \$30 Joint* \$40

LIFE MEMBERSHIP OPTIONS

One payment Single \$450 Joint* \$500

If you prefer, you may choose our convenient Installment Plan

Single \$500 (\$100 down payment now, four yearly payments of \$100 each)

Joint \$550 (\$110 down payment now, four yearly payments of \$110 each)

Membership dues include \$12 per year for a subscription to your official alumni magazine.

*Joint members are two persons living at the same address who receive one copy of each issue of the alumni magazine and Association, college and department mailings.

METHOD OF PAYMENT

Check: Please make your check payable to the University of Illinois Alumni Association.

Credit Card: Please charge my

Card Number: _____

Expiration Date: _____

Signature: _____

JOINT MEMBER INFORMATION

If you have selected a joint membership, please provide the following information for the joint member.

Joint member name: _____ Social Security Number: _____

University of Illinois graduate? No Yes Relationship to member (optional) _____

Name on Diploma (if different than above) _____

General Engineering Placement System

Dear Alumni,

Each year, the General Engineering Placement System requests the assistance of our GE alumni in finding internship and full-time employment for general engineers. GEPS is back for fall 1999, and once again, we would appreciate any information you could provide regarding the status of hiring at your company. In the competitive job market of today, you can think of GEPS as a means of free advertising. Below is a survey about your company and GE hires. The responses we receive from our survey are distributed to all GE students through a handbook, electronic mail, a bulletin board, and our Web page.

After completing the survey, you may send it traditionally through the mail to the address below, fax it to us at 217-244-5705, or email the information using INENDINO@UIUC.EDU.

We thank you for your time and consideration for assisting GEPS with job placement for our GE students, and look forward to working with you.

GEPS
117 Transportation Bldg.
104 South Mathews Ave.
Urbana, IL 61801

General Engineering Alumni Name

Year of Graduation

Name of Firm

Check one:

- My firm is currently hiring.
- My firm is not actively hiring but will review the résumés of qualified applicants.
- My firm is not hiring at this time.
- Other

Positions available:

- Engineering design
- Technical sales
- Manufacturing
- Consulting
- Other

Summer positions: check one:

- My firm is hiring engineering students for the summer.
- My firm is not hiring engineering students for the summer.
- Other

GE 342, Senior Design Course: check all that apply:

- I would like to receive an information packet about the Senior Design Course.
- I would like to receive a call about project sponsorship.
- Other

Alumni-student programs: check one:

- I would like to be involved in the alumni-student mentor program.
- I would like to be involved in presentations for GE 291.
- I would like to be involved in other projects/programs bringing together alumni and students.

Contact Person for job openings:

Name

Company

Address

Telephone

Fax

Email

Attributes/training that you are seeking for successful engineers in your firm:

.....
.....
.....

How to Support General Engineering

Your contribution to General Engineering will make a significant difference as we work to maintain, improve, and expand our programs and facilities.

Listed below are some of the options available for designated gifts. If you would like your gift used in a way that is not listed, please indicate OTHER.

Remember, matching gifts multiply your dollars. If your company has a matching gift plan, please include a form from your company along with your contribution.

Return this form and your check to:
University of Illinois
Foundation
P.O. Box 3429
Champaign, IL 61826-9916

When you use a credit card, you can fax your donation to 217-333-5577.

Please send to the attention of Cash Receipts.

This gift is tax deductible as allowed by law.

In support of the Department of General Engineering, enclosed is my gift of:

\$1,000 \$500 \$100 Other \$ _____

Mark the appropriate box. If you are sending a check, please make it out to UIF/(fund name). (Accounts are listed in alphabetical order.)

- UIF/GE Alumni Award Fund: Funds the Alumni Award for General Engineering Students. (76614)
- UIF/GE Development Fund: Provides total funding for alumni programming, alumni newsletters, and student activities. (76620)
- UIF/GE Jerry Dobrovolny Distinguished Professorship (71698)
- UIF/GE Engineer in Residence Fund: Provides funding for Engineer in Residence program in General Engineering. (31495)
- UIF/GE Facilities Fund: Provides funding for upgrades to laboratories and equipment. (31768)
- UIF/GE Fellowship Fund: Provides fellowships for graduate students. (41328)
- UIF/GE Scholars Award: Provides funding for merit based scholarships. (41327)
- UIF/GE Unrestricted Fund: Provides start-up funds for new faculty and other vital needs. (31766)
- UIF/GE Women in General Engineering Fund: Supports departmental participation in scholarship programs for women in General Engineering. (31767)
- OTHER _____

I authorize the U of I Foundation to collect my gift in the amount above through the credit card checked: Visa MasterCard Discover American Express

Card no.: _____ Expiration date: _____

Signature: _____

I would prefer to pay by installment.

Amount pledged \$ _____ Installment paid now \$ _____
Installment to be paid (check one): Quarterly Semiannually Annually
We will send you a reminder per your requested schedule as indicated above.

My company, _____ will match my gift with \$ _____. I am enclosing my employer's Matching Gift form.

I will make a gift via a transfer of stock. Please send me the appropriate form.

Name _____

Home address _____

City, state, zip _____



In the John Deere Mechanatronics Lab, Professor Mark W. Spong demonstrates an active noise cancellation system to graduate students Michael Waltz, Brad Bishop, and Dan Black. See article starting on page 1.



Jeff Morris '70, with a few of the students and faculty that enjoyed an informal evening of pizza and conversation. See Engineer in Residence article on page 4. (l. to r.: Michael Pleck, Dan McNicholas, Tricia Robbins, Dan Hayes, Jeff Morris.)



Franz Rothlauf, German exchange student, Harry Cook, and Ken Anderson ('57), President of Anderson Seal Company, Inc., Springfield, Ill., at the spring '99 GE picnic. See page 20 for more alumni activities.



The University of Illinois at Urbana-Champaign is an equal opportunity and affirmative action institution.



ILLINOIS
UNIVERSITY OF ILLINOIS AT URBANA CHAMPAIGN

Department of General Engineering
117 Transportation Building
104 South Mathews Avenue
Urbana, IL 61801

Address Correction Requested