

# General Engineering Newsletter

University of Illinois at Urbana-Champaign  
Volume 35, Number 1 • Fall 1992

## GE 242 Attracts Sponsored Projects From Former Students

The thrust by the General Engineering Department to get alumni's assistance in securing sponsors for GE 242 student projects has begun to bear fruit.

**Profs. James V. Carnahan and Roland L. Ruhl**, course coordinators, have aggressively issued a call to former students to encourage their industrial employers to support a 242 project.

"It is a 'call to arms' in effect," **Ruhl** says. "Our former students vividly recall their experiences in 242 and many feel their companies can benefit by becoming involved. We solicit help from all of them in publicizing our program."

In 1991-92, GE 242 had 41 sponsored projects, 13 in the Fall and 28 in the Spring semester.

Three of the projects led to industrial support of research assistantships by sponsoring companies. One project sponsored by Frigid Coil, Sante Fe Springs, CA, with **Prof. Mark G. Strauss** and the company as co-authors, led to a publication and to project sponsorship in the current semester.

The 21st annual General Engineering Design Symposium was held in May with more than 200 representatives from industry and universities in attendance.

Three student presentations: "Compact Centrifugal Air Pre-Cleaner" for Cummins Engine Co. (**Prof. Ruhl**, advisor); "Dezincing of Iron By-Products by Size Selection," Inland Steel (**Harry Wildblood**, advisor); and "Automation of Warehouse Information System," Kraft General Foods/Lender's Bagel (**Prof. Strauss**, advisor), were featured during the Symposium.

During the current semester, the 12 industrial sponsors include: Augat Automotive, General Motors, General Electric, McDonnell-Douglas, Microswitch, Magnetrol, Cummins, Material Science, Danaher Controls, General Binding, Scot Forge and Frigid Coil.

Two of the projects were initiated by alumni who urged their companies to become sponsors.

**Michael S. Meronek**, BS '73, purchasing manager for Augat Automotive, Mt. Clemens, MI, is behind that firm's project. It is entitled "Failure Analysis of the Delco IDI Shell.

The other alumnus, **Michael F. Gasick**, BS '87, is a Senior Research Engineer with McDonnell-Douglas, St. Louis, MO. After attending the Design Symposium he came forward with a sponsored project by his firm.

## GE 103 CADD Labs Upgraded By Adding 57 New Computers

This fall, students enrolled in GE103 - Engineering Graphics and Design - have the benefit of powerful SUN IPX workstations. In a sweeping upgrade from aging and slow DOS 286 platforms, the department installed 57 new computers with 19-inch high-resolution color monitors.

Complementing the workstation purchase, a state-of-the-art SONY projection monitor was installed in the lecture hall to take the place of an older unit that was incompatible with the new equipment.

The decision to obtain this high-calibre equipment was dictated in large part by needs of the evolving GE 103 course and advances in current Computer-Aided Design Drafting (CADD) software.

This fall, two lecture groups consisting of seven lab sections — about 160 students — are testing a new three-dimensional, visual-reasoning-oriented version of the course developed by **Prof. Michael Pleck**. In the spring, all sections will make the transition to 3-D.

Augmenting this 3-D approach, multiple viewport configurations (side-by-side windows, if you will) are *de rigueur* with the frequent use of dynamic view manipulations and other computationally intensive visualization cues.

Along with the new hardware, the AutoCAD software used was upgraded to Release 11 — to take advantage of its 3-D capabilities — and a new network was implemented. This conversion culminated months of work by **Prof. Pleck** and **Kevin Carmody** in revising courseware and integrating the new AutoCAD release, the file-management routines, and locally developed security protocols and grading software into the UNIX environment.

These features have long been prominent factors in the successful operation of the GE 103 course taken by 1200 students annually.

This transition was not made without its harrowing moments. While the hardware arrived over the summer and was

(Continued on page 4)

Another project supported by Danaher Controls was the result of a company representative attending the Design Symposium.

**Carnahan** and **Ruhl** are seeking 30 sponsored projects for the Spring semester. They are urging alumni to call them directly and to urge their companies to submit projects.

## From the Department Head



### Change

This word typifies the current political, economic and social environment of our country and is also descriptive of the climate in higher education, the University of Illinois, and the Department of General Engineering. We are seeing a renewed focus by society on both undergraduate education and "productivity" and at the same time experiencing an acute awareness of the needs of our country, especially the industrial sector, for research and the transfer of its results into technology and products. As the Dean of Engineering recently observed, the political and fiscal challenges facing this institution are more serious than most current faculty members and administrators have ever known. How these political and fiscal challenges will affect the University, the College, and the Department is difficult to assess at this time, but change has been occurring and will continue to occur.

The mission of the Department might be gauged in the context of the College's announced mission:

*The mission of the College of Engineering is to meet the needs of the state and nation through excellence in education, research, and public service; to instill in students the attitudes, values, vision, and training that will prepare them for lifetimes of continued learning and leadership in engineering and other fields; to generate new knowledge for the benefit of society; and to provide special services when there are needs that the college is uniquely qualified to meet.*

Our mission is to educate students — undergraduates, resident graduate students, and extramural graduate students working in industry in the state — in those areas of engineering that will enable them to function as engineering "generalists," preparing them for careers in industry, government, or private practice. Engineering design and systems is the core area of the teaching and research mission of the department. To accomplish this purpose we are organized as a department within a college that is one of many composing the University. And as we zoom in on the apparently smooth fabric — the effective functioning of the educational process — of General Engineering we start to see the detail of the weave and ultimately the details of the individual fibers —

a dedicated faculty, physical space, facilities, courses and curriculum, and programs of research and service. Change is occurring in the Department that will increase the strength and quality of the fabric.

Our faculty is changing. Professor Rod Hugelman retired in August and we are pleased to announce that Dr. R. S. Sreenivas has joined the Department as an Assistant Professor and as a Research Assistant Professor in the Coordinated Science Laboratory. His area of teaching and research is in control and discrete event systems and he will offer a new course next semester on discrete event systems.

The Department of Aeronautical and Astronautical Engineering (AAE) — with whom we have shared the Transportation Building since the formation of the AAE Department — has moved to Talbot Laboratory. This is a watershed event for the Department. Space is now available for undergraduate laboratories, design studios, and graduate research laboratories, all within the Transportation Building. Additionally, as part of the Engineering tuition surcharge, two new classrooms will be created and one existing classroom will be remodeled on the first floor of Transportation.

An important development affecting the education of most freshmen students in the college is the upgrading of the GE 103 (Engineering Design Graphics) laboratories. This move brings the departmental computational-laboratory philosophy in closer conformance with the College of Engineering policy of standardizing on UNIX-based systems. This new laboratory coupled with the College of Engineering Workstation laboratories should foster the migration of instructional computing in the Department to UNIX-based systems.

The new undergraduate curriculum is under review by the College of Engineering Executive Committee. This represents an important change — the first major change in over twenty years — in the structure of the curriculum and should make it more complementary to the graduate program. As our graduate program develops, we are concurrently developing new courses. Several of the graduate-level courses being offered in Spring 1993 will be proposed for a permanent course number and listing in the catalog.

Change is always with us. We are constantly updating and improving our courses and programs and generating new knowledge through the supervision of the research of our students. Within a climate of change we have an opportunity to seek better ways of accomplishing our purposes. This is consistent with the mission of the College of Engineering.

One last manifestation of change is that Professor David C. O'Bryant will retire in January 1993. He is the senior member of the faculty in terms of years of service. For as long as I have known him, he has been friend and mentor to the faculty. As chief advisor, he has given helpful — and sometimes stern — advice to many students and has kept us faculty in line as academic advisors. As Associate Department Head, he has been a loyal colleague who has displayed good judgement and shown a high standard of integrity. And last, but not least, as a teacher, he was instrumental in managing the evolution of GE 103 during the past eight years and is respected as one of the best teachers in the classroom — his first love.

Thomas F. Conry  
Professor and Head

## Engineering Open House To Be Held February 26-27

The annual Engineering Open House is scheduled for Friday and Saturday, February 26-27, 1993.

Theme for this year's event will be "Forging New Frontiers."

Representative from ISGE on the EOH Committee is **Brad Whitmore**, Coal Valley, IL. **Prof. Mark Spong** is GE Department Coordinator.

Each year hundreds of high school students, parents, faculty advisors and the public throughout the state visit campus to view the dozens of exhibits at the popular annual event.

## New Faculty Member Assumes Duties in GE

**Ramavarapu Sreenivas** has been appointed an assistant professor in the Department of General Engineering beginning with fall classes.

A native of India, he received his B.T. (Electrical Engineering) in 1985 from Indian Institute of Technology, Madras, India; MSEE in 1987 from Carnegie Mellon, Pittsburgh, PA; and Ph.D. in 1990 also from Carnegie Mellon.

Sreenivas was a Post Doctoral student at Harvard last year.

At UIUC, he is teaching GE 222, Analysis of Dynamic Systems.

## GE Freshman Excels In Big 10 Track Meet

Sophomore **Marko Koers**, Molenhoek, Netherlands, was a stellar performer for the '91-'92 UIUC Indoor and Outdoor Track Team during his freshman season.

He won the 800-meter Outdoor Championship with a Big 10 record time and was named Freshman of the Year in the championship meet. He also was runner-up in the Big 10 Indoor Meet.

Koers was named Male Newcomer of The Year among all UIUC athletes at the Spring Scholar-Athlete banquet.

He placed fourth in the NCAA Championships.

At the Barcelona Olympics, Koers competed with the Dutch Olympic team and advanced to the semifinals.

## GE Student Named To Search Committee

**Deanne Wapinski**, junior in General Engineering, Orland Park, IL has been selected by the Urbana-Champaign Senate as a member of the search committee for the U.C. Chancellor. Morton Weir, present chancellor, has resigned effective July 1, 1993.

Wapinski said she wants the Committee to consider issues such as tuition and financial aid, faculty salaries and the quality of the University's education, campus environment and the debate over the use of Chief Illiniwek as the University symbol.

## Prof. O'Bryant to Retire After 35 Years in GE

**David C. O'Bryant**, Associate Head of the Department of General Engineering, has announced his retirement effective January 31, 1993.

An Associate Professor, he has been a member of the UIUC faculty since starting as a senior teaching assistant in 1957.

O'Bryant for the next 35 years has risen through the ranks and taught 15 different GE courses. He has been chairman of GE103 and taught the In Service Training Course since 1966.

The popular faculty member served as State Coordinator of the Junior Engineering Technical Society (JETS) 1968-87.

He initiated Minority Introduction to Engineering (MITE) summer programs on the UIUC campus in 1969. The program is now nationwide serving 2,000-3,000 high ability minority students from throughout the country.

He has served as a special consultant to MITE 1973-87.

O'Bryant has co-authored three textbooks and 11 workbooks for engineering graphics.

He is a Registered Professional Engineer in Illinois.

O'Bryant says he and his wife, Sharon, plan to remain in the community. He will stay with the department in an advisory/consultant capacity.

"We want to do some traveling and I plan to work on my golf handicap."



David C. O'Bryant

## Prof. O'Bryant Honored By UIUC Dads Assn.

Prof. David C. O'Bryant, Associate Head, Department of General Engineering, has been honored by the UIUC Dads Association.

He was named one of two 1992 Outstanding faculty members. The other recipient was Paul E. Parker also of the College of Engineering.

They received their certificates of merit at the Dads Association banquet on November 6.

## SPRING DATES TO NOTE

Instruction Begins	Jan. 14
Engineering Open House	Feb. 26-27
Spring Recess	Mar. 6-14
Last Day of Classes	May 5
Semester Exams	May 7-14
Commencement	May 16





## Innovations Ease Decision-Making Among Auto Designers

Ask people to name the profession of a person who breaks down walls between individuals and they're likely to say psychologist. But a UI engineer is doing that job for American automobile designers, and the hard-pressed auto industry is thanking her for it.

**Deborah L. Thurston** brings together decision-makers from every area of a company before the design process formally starts. This in itself is a major innovation in a business characterized by one department working out multiple alternative solutions and then—in the telling industry phrase—"throwing them over the wall" for the next department to consider.

Such isolation is an expensive luxury that the U.S. auto industry can ill afford, says **Thurston**, a UI professor of General Engineering. The old process allows engineers, for example, to "resist the idea that cost is as important as material stresses and strains," she said. "Their attitude is, 'Let the bean counters worry about costs.'" The accountants, however, may hold similar attitudes about the auto styling department—the people behind the next wall.

Instead, **Thurston** breaks down the design process into a series of individual decisions. This sidesteps emotional attachments to a particular final result and provides for every department representative's input, no matter how small the decision. **Thurston** asks participants to choose within a range of numerical values (such as from one to 10) to show how strongly each person values about factors critical in the design of every component—color, material, strength, cost. "Most people say that preferences aren't quantifiable," said **Thurston**, "but they're real, they exist, and people make decisions based on them."

Her result—a program compatible with personal computers—also factors in capital outlay, profitability, manufacturing capacity, federal regulations and market share. The resulting computerized flow sheet ideally excludes possibilities conceived by individual departments that would be unworkable for the overall project, thus decreasing the amount of work that needs to be done.

## 103 CADD Lab (from Page 1)

set in place, the AutoCAD software delivery was delayed until four days before the pre-semester training of new personnel started!

GE Systems Manager **Kevin Carmody** and technician **Scott Wyatt** deserve praise for putting this totally new system together and making it function nearly flawless under the circumstances.

AutoCAD Release 12 will soon be examined and evaluated for its impact on operational infrastructure.

The GE 103 laboratory facility will eventually be linked with the Departmental LAN in the Transportation Building and the existing College of Engineering network. Under that plan, students in upper-level design courses will eventually be able to use the SUN workstations in non-demand hours to access many industrial-strength software packages resident on other computers in the network, particularly those in the College of Engineering Workstation Lab.

This significant upgrade of the CADD Labs was made possible with the support of the College of Engineering and funding from two major sources: the ISPE Engineering Equipment Grant Program—a program for support of equipment acquisitions started by the Illinois legislature in 1984 through the efforts of the Illinois Society of Professional Engineers—and the Computer Use Fund—a campus program for funding computer-based instructional laboratories that is underwritten by tuition dollars.

## Named to Search Committee

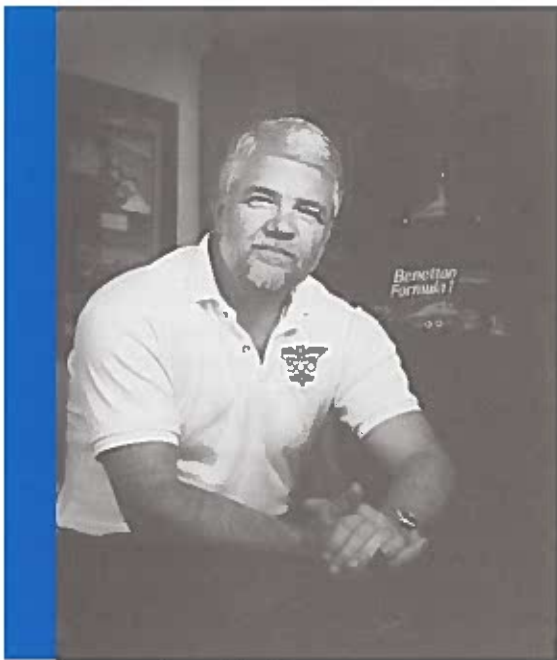
GE Professor **Manssour H. Moeinzadeh** has been appointed to the College of Engineering Search Committee for the appointment of an Associate Dean for Academic Programs and Assistant Dean and Placement Director. The appointment was made by Dean W. R. Schowalter.

One such **Thurston**-designed program allowed Chrysler's product-strategy department to reduce its work force from eight people to four and still substantially reduce overtime during periodic three-month product evaluations, according to Ray Maloni, product-strategy manager of Chrysler Corp.

In a paper soon to be published in the ASME Journal of Mechanical Design, **Thurston** uses advanced mathematical techniques to take into account in the decision-making process uncertainties such as the long-term price of oil. The technique, employing so-called fuzzy sets, is a way of tolerating ambiguity in mathematical equations without arbitrarily assigning a particular value to an unknown factor.

**Thurston's** work is funded by Chrysler, General Motors, Ford and a Presidential Young Investigator grant awarded in 1989 by the National Science Foundation.

(Courtesy of *Inside Illinois*)



## Metz Research Shows Vehicle Rollovers May Involve Vehicle Design

The reason sport-utility vehicles roll over more frequently than other vehicles may have less to do with driver recklessness than with a subtle handling design characteristic exhibited by the vehicles, a UI researcher has shown.

Rapid lane changes, such as pulling out to pass and then quickly swinging back in to avoid an oncoming car can cause an augmented motion that may precipitate a rollover, says **L. Daniel Metz**, a professor of General Engineering. Metz, a consultant to the United States Auto Club on Indianapolis Motor Speedway safety, was a product development engineer at Ford Motor Co.

Some of Metz's findings, derived from a series of computer simulations, were delivered at the 1992 Society of Automotive Engineer's International Congress and Exposition Feb. 24 in Detroit.

His conclusions—believed to be some of the first to identify a possibly unique mechanical characteristic of the popular vehicle class, which includes the Suzuki Samurai, Ford Bronco and Jeep CJ5—may be of interest to those in rollover litigation with auto companies, said Metz, who conducted the studies with a graduate student.

Auto companies, Metz said, concede that utility vehicles roll over more frequently than any other class of vehicle, but point to the relative youth and uninhibited behavior of their drivers as a cause—a courtroom position that has often successfully warded off corporate liability.

Sport-utility vehicles are automobiles built in part for off-road service. They feature high ground clearance; flexible, wide tires; and a relatively low top speed. Their suspension systems are different from those of other vehicles. However, said Metz, "95 percent never leave the asphalt [of the high-

## ISGE Elects Officers For the '92-'93 Year

Officers for the 1992-93 academic year have been elected by the Illinois Society of General Engineers.

**David Kramer**, senior from Urbana, will serve as president.

Others are: **Brad Whitmore**, senior from Coal Valley, vice president; **Jon Smejkal**, senior from Flossmoor, secretary; **Karl Hadler**, senior from Champaign, treasurer; **Brian Ormanioc**, junior from LaGrange Park, athletic director.

**Michael Johnson**, senior from Paxton will be the ISGE representative to the Engineering Council and **Joe Macro**, Schaumburg, is the graduate advisor.

## Gamma Epsilon Elects New Officers for 1992-93

Gamma Epsilon has elected **Nancy Erler**, Inverness, IL for the 1992-93 academic year.

Other officers include: **Jason Morgan**, Naperville, IL, vice president; **Tara Pernot**, Centralia, IL, secretary; **Don Chamberlain**, Polo, IL, treasurer; and **Joe Wallace**, Calumet Park, IL, publicity chairman.

**Steve Berger**, Creve Coeur, MO, was named representative to the Engineering Council and **Brad Whitmore**, Coal Valley, IL, will serve as Engineering Open House Chairman.

**Prof. Brent Hall** is faculty advisor and **Elizabeth Fikes**, Springfield, IL, is the graduate representative.

way], and they may behave very differently than traditional vehicles during rapid lane-change maneuvers.

Given enough time during a pull-out, pull-in maneuver, the vehicle can stabilize. "But if you have to pull out and pull back in quickly, as in the case of encountering an oncoming car or a child in the road, a harmonic effect is created that can overturn the vehicle."

"The harmonic can create a relatively large amplification, causing a swing outward that a turn of the wheels inward can't overcome," he said.

Automakers and some university research labs, recognizing the need for more understanding of vehicular dynamics, have conducted vehicle tests on tracks to measure the speeds at which slides and rollovers in a steady-state turn take place. While the tests have taken into account such factors as lateral stiffness of tires and certain car-suspension properties, the tests have not considered all motion factors.

Metz's computer simulations considered the effect of more sinuous, real-life motions.

(Courtesy of *Inside Illinois*)

# Faculty Notes

## Prof. Manssour H. Moeinzadeh

Professor Manssour H. Moeinzadeh and two of his former students, Lawrence M. Kaplan and Jeffrey A. Gurosh, have obtained a patent for an invention they developed in G.E. 242. The invention is a novel semi-disposable surgical stapler. The patent, U.S. Patent No. 5, 111,987, was granted by the United States Patent and Trademark Office on May 11, 1992. Kaplan and Gurosh are both 1986 graduates of the Department of General Engineering. Kaplan is also a graduate of the University of Illinois' College of Law. He is an intellectual property attorney at William Brinks Olds Hofer Gilson & Lione in Chicago, Illinois. Gurosh is General Manager at Admiral Heating and Ventilating, Inc. in Hillside, Illinois.

As chairman of the Biomedical Engineering Division of the American Society for Engineering Education (ASEE), Professor Moeinzadeh presided over the division's activities during the 99th annual meeting of ASEE which was held at the University of Toledo, June 21-25. The Centennial celebration of the ASEE will be held at the University of Illinois in June 1993.

During August, Professor Moeinzadeh attended the Second North American Congress on Biomechanics which was held in Chicago and chaired the session on motor control.

## 13 Inducted into GE At Initiation Banquet

Thirteen General Engineering students were inducted into Gamma Epsilon, General Engineering honorary, at the Organization's fall banquet.

They are: Bill J. Deligiannis, Aurora; Michael J. Hoehn, Peoria; Scott Jackson, Wayne City; Briant R. Kelly, Glendale Heights; K. Louis Luangkesorn, Morton Grove; Chris McPeck, Springfield; John E. Meenan, Fairfax, VA; Jason C. Morgan, Naperville; Rajini H. Ragavan, Urbana; Jason R. Sagan, Des Plaines; Clinton J. Wallace, Harvey; Bradley J. Whitmore, Coal Valley; and Mayling L. Wong, Deerfield.

## Prof. Mark G. Strauss

- Has received a \$380,000 grant from the Rehabilitation Services Administration to start a graduate level Rehabilitation Engineering program.

- Attended the Rehabilitation Engineering Society of North America Conference in Toronto in June. Also he attended the North American Society of Biomechanics in Chicago in September.

## Professor Yong Se Kim

Professor Yong Se Kim has received a National Science Foundation Research Initiation Award for his research "Form Feature Recognition Using Convex Decomposition." A grant of \$29,229 is awarded for FY1992; \$30,737, FY1993; \$30,000, FY1994.

Professor Kim presented a paper entitled, "Conversions in Form Feature Recognition Using Convex Decomposition," co-authored with a Computer Science graduate student, Kenneth D. Roe, at the 1992 ASME Computers in Engineering Conference held in San Francisco in August. He organized a special session "Feature-Based CAD/CAM" in the conference.

During August 10 - August 24, Professor Kim visited several universities and industries in Korea, including Seoul National University, Korea Advanced Institute of Science and Technology, KIST, Samsung Advanced Institute of Technology, Kia Motors Company and Tong Yang Magic.

## Kendricks to Represent GE on UI Alumni Board

At a recent conference of the General Engineering Constituent Alumni Association Leroy E. Kendricks, Champaign, secretary-treasurer of the association was named as the GE representative to the Alumni Association Board of Directors.

He will serve a minimum of two years.

Kendricks is President of Integrated Controls and Computer Systems, Inc.

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## More Faculty Notes

### Prof. Mark W. Spong

-Has received a grant of \$66,807 from National Science Foundation's Instrumentation and Laboratory Improvement program to upgrade the General Engineering Robotics Laboratory started by Prof. Spong in January, 1987. The UIUC Manufacturing Engineering Program under direction of Prof. Shiv Kapoor, Mechanical and Industrial Engineering, will match the NSF grant. The \$133,614 will be used to purchase computer workstations, software for 3-D graphic animation of robotic motion and workcell design and for construction of high performance direct-drive robot arms for robot control instruction. Now known as the GE Robotics and Automation Laboratory it supports courses in robotics, controls and manufacturing. This is the first major purchase of equipment since inception of the lab and raises the quality of equipment to a level usually found only in research laboratories.

-Has received a \$300,000 grant in collaboration with Profs. Gerald DeJong (Computer Science) and Seth Hutchinson (Electrical and Computer Engineering) from National Science Foundation and the Electric Power Research Institute for a project entitled: "Integration of Machine Learning and Sensor Based Control in Intelligent Robotic Systems." Qualitatively, a system that exhibits the ability to learn about its environment, process the information to reduce uncertainty, plan, generate and execute control action in a safe and reliable manner constitutes an intelligent control system. NSF and EPRI have established a major new collaborative effort in the area of intelligent control systems with awarding of 21 such grants across the US, each for \$300,000. The research of Profs. Spong, DeJong and Hutchinson will combine techniques of nonlinear and adaptive control theory with learning methods in artificial intelligence and computer vision.

Both theoretical and experimental investigations will be carried out.

-Was co-recipient with Seth Hutchison (ECE) of an equipment grant of \$48,000 from NSF for a project in real-time vision feed-back control of robot manipulators. The money will be used to purchase cameras, vision processing equipment and computer equipment for visual serving of a robot arm.

-Received a \$12,358 grant from NSF US-Mexico Cooperative Program for a project "Nonlinear Control of Robots and Teleoperators." The grant supports a collaborative effort between Spong and Prof. Rafael Castro and Jaime Alvarez of National Polytechnic Institute in Mexico City. They have received a counterpart grant from CONACYT, Mexico's equivalent to NSF.

-Attended the SIAM Conference on Control and Its Applications September 17-19 in Minneapolis to present a paper, "Robust Versus Adaptive Control of Flexible Joint Robots."

-Has been appointed Associate Editor of *IEEE Transactions on Control Systems Technology* and Associate Editor of the *IEEE Transactions on Robotics and Automation*.

-Has been invited to speak at the Workshop on Nonlinear and Adaptive Control December 9-11 in Cancun, Mexico.

-Will attend the IEEE Conference on Decision and Control in Mid-December at Phoenix, AR. He will present a paper with a former student, Scott Bartoff, entitled "Nonlinear Control of the Acrobot Using Spline Functions."

-Has coedited a book with Profs. Frank L. Lewis (Univ. of TX at Arlington) and Chaouki T. Abdallah (Univ. of New Mexico) with IEEE Press. The book, *Robot Control: Dynamics, Motion Planning, and Analysis*, is a collection of papers treating the latest advances in robot motion planning and control intended primarily for students and researchers in robotics.

### ATTENTION ALUMNI!

Do you remember your GE 242 project? Many alumni do and with great fondness.

Now you can help pass on this heritage to present-day students.

Contact Prof. J. V. Carnahan or Prof. R. L. Ruhl with the following information:

Your Name: \_\_\_\_\_  
Name of your firm: \_\_\_\_\_  
Products: \_\_\_\_\_  
Firm Address: \_\_\_\_\_  
Firm Telephone No.: \_\_\_\_\_

Your help is needed. Write:

Dept. of General Engineering  
117 Trans. Bldg.,  
104 S. Mathews Ave.,  
Urbana, IL 61801

(217) 333-2731

fax: (217)244-5705



# Alumni Notes

**1948** Richard G. Love who retired in 1982 as a manufacturer's representative has moved to Belleair Bluffs, FL. His two daughters reside in Florida where one is an attorney and the other a pediatric orthopedic surgeon.

**1950** William K. English of Littleton, CO, retired on October 1 and has moved to Tucson, AZ.

**1961** Richard K. Van Weelden, MSEE '71, IIT, has been employed as Senior Electrical Engineer, at Metropolitan Water Reclamation District of Chicago. A resident of Matteson, IL, his daughter, Sandra, is enrolled as a freshman in EE at UIUC.

**1967** David Peterson, MEd '71, has been named President, Disk-Tec, Champaign, IL.

**1969** Thaddeus Stanley Figus, JD '72, has relocated the offices of his law firm, Corporate Legal Advisors in Minneapolis, MN. The firm focuses on the legal needs of small to medium businesses.

Roger A. Reeves, Collinsville, IL, is a staff systems engineer - information systems department, Granite City Steel, Division of National Steel, Granite City, IL. Mrs. Reeves, (Debbie), is a 1969 LAS graduate.

**1974** Mark C. Benton, MS '77 and Ph.D. '78 (ME), U. of Wisconsin, Madison, is an engineering supervisor, DuPont Connector Systems, Etters, PA. The family resides in Camp Hill, PA and recently welcomed their third child.

**1976** Bruce R. Bartholomew, M. Management '80, Northwestern, has been promoted to senior vice president-manager, Corporate Real Estate, Nations Bank Services, Inc., Atlanta, GA. He is a resident of Marietta, GA.

**1977** Ted N. Vasiliw, senior mechanical engineer, Bechtel Corp., has moved to Naperville, IL.

**1978** Bradford A. Kroll, Charlotte, NC, has a new position as Regional Sales Manager, Brad Kroll and Associates, Real Estate Appraisal Co.

**1979** Larry Dean Will, Batavia, is a Captain on DC9, American Airlines, O'Hare International Airport, Chicago. He also owns a Custom Home Construction Business building homes in the far western suburbs of Chicago.

**1980** David V. Adams, MS '83, U. of Calif., Berkeley, has been named mechanical engineer with Acuson, Mountain View, CA. He was awarded his second patent in February and third in April. Recently married he resides in San Carlos, CA.

Eugene V. Dunn, Jr., MBA '84, Northwestern, MA '89 (Japanese History), U. of Chicago, is a senior product engineer, Panasonic Factory Automation, Franklin Park, IL. Father of a new baby girl he resides in Elgin, IL.

Silvana Araceli Medin Freestone, MBA '84, Harvard, Poway, CA, has completed her second year of law school at U. of San Diego. Mother of a new baby boy, she works as a law clerk with Barr and Pike, San Diego.

Dwight M. Woodbridge, Ortonville, MI, has assumed the position of Program Manager, GM Motorsport Technology Group, Warren, MI. He is responsible for engine development for 6.5 litre V8 used in IMSA GTP and GTS classes for Oldsmobile Road Racing Program in the IMSA GTP series.

**1981** James D. Anfield, MBA '85, DePaul, has a new position as manager of Financial Analysis, Budget Rent A Car, Chicago. He resides in Bensenville, IL.

Bradley S. Gregor has moved from Tillson, NY to Fairfax, VA.

Larry F. Holmes, Taylors, SC, is a Sales Engineer with General Electric, Greenville, SC. He is the father of a second child, his first son.

Gregg D. Johnson, JD '86, DePaul, is a Sales Engineer with Dresser-Rand Co., Elmhurst, IL. Father of a new daughter, he resides in Naperville, IL.

Mary L. Swillum Jones is in the Air Force Reserves, Civil Engineering at Bitburg AB, Germany with NATO AWACS.

Jeanne Weber, MS (Indust. Admin.) '90, Carnegie Mellon, is a Senior Program Control Specialist with AEG Westinghouse Transportation System, Pittsburgh. She resides in Irwin, PA.

**1982** Richard Thornton Cartwright, MS '84, is Production Manager, ATACC Program, Grumman Data Systems, Springfield, VA. He has just finished requirements for MBA (Information Systems), U of MD. He resides in Upper Marlboro, MD.

David M. Lipari, MBA (Marketing) '84, Buffalo Grove, IL, has been named Marketing Manager, Motorola Inc., Schaumburg, IL.

Robert A. Mog, MAE '85, MSE '89, PhD '90, U. of Ala. (Huntsville), has been named Vice President SAIC, Systems Survivability Engineer, UAH. He is father of a new son (third child) and is authoring a book entitled "Spacecraft Protective Structures Design Optimization."

Timothy J. Nolan has accepted a position as Engineering Manager, Design Specialities, Milwaukee, WI. He is studying toward a MBA at Lake Forest Graduate School of Management.

**1983** Julie A. Chalden Evans, MBA '88, San Francisco State U., has been named Manager, Corporate Research, Pacific Bell, San Ramon, CA. Mother of a first child, she resides in Oakland, CA.



**David Changnon**, MS (Atmospheric Sciences) '86, Ph.D. '90, Colorado State U., has accepted a position as Assistant Professor, Dept. of Geography, NIU, DeKalb.

**1984 Paul Estrada**, MSME '86, Stanford, has been appointed Marketing Director, Infochip Inc., San Jose, CA.

**Gerald Lee Fellows**, MS (Ind. Eng.) '89, Penn St.; JD '92, Marquette U., is an associate attorney, Reinhart, Boerner, VanDeuren, Norris & Rieselbach, Milwaukee, WI. He resides in Elm Grove, WI.

**David L. Lukens** has been employed by Combustion Engineering International, Windsor, CT. He has a one-year assignment as Planning and Performance Engineer for rehabilitation of six power plant boilers in Buenos Aires, Argentina.

**Michael J. O'Sadnick**, MS (Systems Mgmt.), U. So. CA, is Project Manager, Hauser Chemical Research, Boulder, CO.

**Capt. Dean Francis Osgood**, USAF, has been assigned to Fort Belvoir, VA, as Director of Scheduling, Defense Systems Management College. His responsibilities include scheduling 14 sections of a 20-week course in Program Management for Army, Navy, Air Force and Marine Corps upper level management as well as all classes for DSMC faculty and students.

**1985 Gerard J. Close**, MS (ME) '87, U of WI (Madison), is a Senior Engineer with Martin Marietta Corp., Canareral Operations, Cocoa Beach, FL.

**John Joseph Doherty** has lived in Australia for the past three years selling Computer Systems for Reuters Australia Party Ltd.

**Joseph Noren Elliott**, Thousand Oaks, CA, is a Chief Project Management Control Systems Engineer for the Turner Construction Co., Los Angeles, CA.

**Brad Lane**, JD '88, U of MI, is a patent attorney with William Brinks, Olds, Hofer et al., Chicago. He announces the birth of a first child, a daughter.

**Laura A. Shoffer Smith** has taken a new position as Product Engineer with Application Engineering Corp., Wood Dale, IL. She, with her husband and two sons, has moved to Wood Dale.

**Cindy Schur** has received a MBA degree from UCLA.

**1986 Cedric A. Ball** recently received a MBA from the U. of Mich. with a concentration in international business. He has accepted the position of strategic/product planner with Saturn Corp. where he was previously a vehicle development engineer.

**Nancy L. Boyer** has been named president and Chief Executive Officer of Hsiong Associates Ltd., Springfield, IL. The firm is a certified DBE/WBE firm specializing in transportation related projects. She recently gave birth to a daughter.

**Leslie Anne Grever**, MBA '92, U. of Conn., has accepted a position as Engineering Manager, Aetna Life & Casualty, Downers Grove, IL.

**Aron Kyle Janvrin**, Los Actos Hills, CA, is a Manufacturing Engineer, Ray Chem Corp., Menlo Park, CA.

**Joel G. Lehman** is Market Manager, Branch Marketing, Johnson Controls Inc., Milwaukee, WI. He resides in Menomonee Falls, WI.

**Robert A. Link**, ME (Systems Engr.) '89, U. of VA, is President of CIM Associates Inc., Factory Automation Services, Ruckersville, VA. A resident of Madison, VA, he announces the birth of a second child.

**Robert Matson, Jr.**, MBA '92, Ind. U., has been appointed Director of the Economic Development Board, Columbus, Ind.

**1987 Mun Young Choi**, PhD '92, Princeton, has been awarded a National Research Council Fellowship at the National Institute of Standards and Technology, Gaithersburg, MD.

**David A. Egbers**, Wheeling, IL, holds the position of Product Manager, Laudis and Gyr Powers, Inc., Buffalo Grove, IL.

**Daniel P. Krueger** has been employed by Arthur Andersen Consultants, Chicago. He resides at Hawthorn Woods, IL.

**1988 Cheryl K. Akouris**, Oak Lawn, IL, has been named Account Engineer, Loss Prevention Consultant, Schirmer Engineering Corp., Deerfield, IL.

**Jeffrey A. Baker**, MBA '91, Texas A&M U., has accepted a position as Gas Planning Engineer, Central Illinois Public Service Co., Springfield, IL.

**Stanley T. Gratt**, Peoria, IL, is employed by Andersen Consulting, Chicago. He announces the birth of a new daughter.

**Edward Mathew Karls** has started studies toward a MBA at the Univ. of Mich. He is a Product Development Engineer, Natural Gas Vehicles, Ford Motor Co., Overseas Product Engineering, Allen Park, MI.

**Laurel Taylor Lundborg** has been promoted to Quality Systems Engineer with Furnas Electric Co., Batavia, IL. She is pursuing graduate studies at Northern Illinois Univ.

**James E. Michaels**, Redondo Beach, CA, has been named a Senior Engineer with Mattel Toys, El Segundo, CA. He is assigned to Preschool Toys Design and Development. Michaels was married in July.

**1989 Paul G. Johnson** has left employment as an IBM Marketing Representative with IBM, Peoria, IL to attend Northwestern Univ. to study full time for a MBA. He is concentrating on international management and finance.

**Shelia J. Manion Kimlinger**, MS (CE) '90, is a Staff Engineer, Frauenhoffer and Associates, Champaign.

**Brian Steck** has been employed as an Equity Option Trader, O'Connor Securities Canada, Toronto.

**David W. Taraboletti** who was formerly employed by Andersen Consulting has been named a Senior Consultant with Technology Solutions Co., Chicago.

**John E. Vogl** was killed in a drive-by shooting in Rochester, NY on December 14, 1991. He was an Environmental Engineer for a division of Waste Management, serving as an overseer of landfill regulations.

**1990 Tamara D. Athas**, Chicago, IL, is a Product Specialist with Andersen Consulting, Chicago.

**Stephen Robert Bicking** has accepted a position as Civil Engineer II with the Illinois Department of Transportation in Schaumburg, IL. He resides in Hanover Park, IL.

**Stephanie Ann Connolly**, MS (operations research) '92, MIT, has been named a Quality Engineer with Ford of France, Charleville, France. She expects to be in France for a minimum of three years.

**Jayne Caye Lassiter DeCoste** has been appointed a Civil Engineer with Anderson-Bogert Engineers and Surveyors Inc., Cedar Rapids, IA. She recently married Dave DeCoste, a 1991 UI graduate who is an electrical engineer with Rockwell International.

**Diane Lynn Figiel** has been appointed a Water Resource Engineer with the Wisconsin Department of Natural Resources, Madison, WI. She announces the birth of a son in September. The grandfather is **Artemus W. Pulford, Jr.**, 1962 GE graduate.

**Traci L. McAllister**, MS (CE) '92, N.C. State, has taken the position of Water Resources Engineer with Tetra Tech Inc., Fairfax, VA. She has moved to Arlington, VA.

**David H. Shupe** has a new position as Senior Project Engineer, Chemical Laboratories, Inc., West Salem, IL.

**1991 John R. Booras** is a Quality Engineer with Sage Products, Inc., a medical device manufacturing co., Crystal Lake, IL. He announces the recent birth of a daughter since graduation.

**Lisa Elaine Boreland** has been named Project Engineer, Sizemore Environmental Group - Enclean, Houston, TX.

**Neal A. Coordes** has been hired as Associate Engineer with Colonial Pipeline Co., Atlanta. He resides in Marietta, GA.

**Cynthia D. Duncan** is a Process Engineer, Corning, Inc., Corning, NY.

**John A. Fisher** has been appointed a Civil Engineer with Hayes, Seay, Mattern & Mattern, Greensboro, NC.

**Michael Joseph Hirsch** is working as a Construction Engineer with the Illinois Department of Transportation, Schaumburg, IL.

**Steven Patrick Seaney** is completing requirements for a MS (ME) at the University of Wisconsin (Madison). He serves as a research assistant in the Robotics Research Laboratory at UW.

**James Robert Taylor** holds the position of Program Analyst, Office of Construction and Capitol Projects, U.S. Department of Energy, Germantown, MD. Recently married, he resides in Germantown.

**James W. Townsend**, League City, TX, is a System Integration Engineer, McDonnell Douglas Space Systems Co., Houston, TX.

**Gregory H. Wuerfel** has taken a position as Design Engineer with Landis & Gyr Powers Inc., Skokie, IL. He reports that he works with two General Engineering alumni, **Larry Augustine '84** and **Paul W. Shafer, '83**. Both are Project Engineers.

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