



GENERAL ENGINEERING NEWSLETTER

Department of General Engineering, University of Illinois at Urbana-Champaign

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FALL 1986

Joint MSGE—MBA Degree Program to be Offered Beginning Next Fall

A new joint master degree program has been created by the Departments of General Engineering and Business Administration and approved by the College of Engineering and College of Commerce and Business Administration.

The proposal has been submitted to the Graduate College and is expected to be offered by September, 1987.

The program responds to the growing demand for engineers also to have an understanding of management of projects, people, resources and enterprises. It will allow a student to earn both a master of science in General Engineering and a master of Business Administration degree simultaneously.

Effectively the student can earn both degrees jointly in 2 to 2 1/2 years as compared with the average 3 years required to obtain the two degrees independently. Also the degrees are awarded for 18 units of credit instead of the 24 or 25 units required for both degrees if earned separately.

To enter the program a candidate must first apply to the GE Department and then to the Department of Business Administration and be admitted separately to both programs. Each department's requirements for admission must be met.

The GE Department will count three MBA core courses toward the MSGE degree. In return, the Department of Business Administration substitutes four units from the GE Department for the usual four electives required by the MBA program.

Prof. Thomas F. Conry will coordinate the program for GE while **Director Jane Nathan** of the MBA program will serve as coordinator for Business Administration.

Prof. Jerry S. Dobrovolny received a distinguished service award from the Illinois Society of Professional Engineers at its 101st annual conference. He was cited as a pioneer in engineering education not only as head of the General Engineering department for 24 years but also for his work with the National Science Foundation and the U.S. Office of Education.

At the same 101st annual conference of ISPE, the U.I. College of Engineering was named one of the top ten engineering achievements in the 100 years of the Organization.

GE Alumni President Asks for Member Input to Increase Interest

The General Engineering Constituent Alumni Association held its annual Fall meeting on Saturday, Oct. 11, with one of the largest attendances in recent years.

A feature of the meeting was a bio-engineering presentation by **Prof. Manssour Moeinzadeh**. The session centered on research using a new technique for the determination of body section parameters utilizing CAT and CAD procedures.

The group also toured the new micro-CADD laboratory which has 27 workstations available for students in engineering graphics.

President George R. Armstrong presided at the business meeting and led a discussion on various ways to increase participation in the association.

The concensus was to ask for input from alumni as to what type of activity would appeal to the greatest number. As a result alumni are asked to respond with their suggestions for future programs.

Things to consider include:

- Should there be a social event coupled with a short business and/or educational meeting;
- Do you favor a cocktail party, picnic, golf outing, tennis event and/or a brunch;
- Should events always be held in Urbana or be moved around such as in the Chicago area;
- Are weekends better than weekdays, afternoons preferred over evenings;
- Should programs be only for alumni or designed to include spouses and/or children.

Responses should be sent to GE Alumni Association, 117 Transportation, 104 S. Mathews, Urbana, IL 61801.

In other business, bylaws for the association were adopted. The complete text of the bylaws appears on page 7 of this Newsletter.

Appreciation certificates from the association were presented in absentia to Past Presidents **David Burge** and **Myron J. Bernard**. **Pat Hayes**, Director of Programs and Services of the UI Alumni Association dropped by to bring greetings.

Earlier during the registration-hospitality hour, alumni had the opportunity to renew old friendships with former classmates and members of the GE faculty.

Please turn to page 2 . . .

Department Head's Corner



Since the Spring Newsletter, many things have happened in the Department of General Engineering. First of all, we received a gift from Zenith Data Systems of 13 Advanced PC's with accompanying color monitors and memory expansion boards which enabled us to implement a second laboratory to teach computer graphics. This has revolutionized our whole subject matter presentation of the basic freshman engineering graphics course.

We have also moved the control systems laboratory to a larger room and have been fortunate to obtain a \$60,000 grant to expand our robotics lab, which will also then be moved to a larger room.

This semester we have a Fulbright scholar, Dr. Zdravko Uskokovic from Yugoslavia working with Dr. Juraj Medanic. We also have a Visiting Scholar from China, Dr. Ky-seung Whang working with Drs. Osman Coskunoglu and Wayne J. Davis in the area of operations research. The undergraduate enrollment for Fall Semester was 483 students which is 49 more than last year, or a 11.3% increase. Our graduate enrollment at the present time is 22. The joint MSGE-MBA program has been approved by the College of Engineering, and forwarded to the Vice Chancellor for Academic Affairs. Hopefully, this program will be on-line in a few weeks. The non-residency MSGE program has several students enrolled and is being well-received by the outside.

The Department is undertaking an experimental program in the Rockford area whereby Adjunct Professor, Dr. Roland L. Ruhl and Professor Rodney D. Hugelmann are in the process of implementing a technical audit program whereby they will be working with small companies in helping to identify windows of opportunity and further expansion of either their product line or new product that they are capable of manufacturing. One such technical audit is about complete and several others are under consideration.

Prof. Jerry S. Dobrovolny
Head, Dept. of Gen. Engr.

UI Grads Are Available For Illinois Companies

GE alumni are urged by **Prof. Gordon E. Martin**, department placement representative, to remind placement officers of their companies to include the University of Illinois and its graduates in the firm's recruiting programs.

Martin who also serves as chairman of the College of Engineering Placement Committee said only a minority of Illinois companies are actively recruiting U. of I. graduates.

"Our engineering graduates rank at the top of their field and more of them should be finding professional positions in this state," **Martin** says. "Our placement services make it extremely easy for companies to make contacts and arrange interviews. We invite them to do so."

Director Robert J. Mosborg of the Engineering Placement office says an annual book of resumes of available graduates is prepared in early August for Fall recruitment and by Christmas for the Spring. They may be purchased (for about \$40) by interested companies or they are available for reference by recruiters visiting the campus.

Also, weekly bulletins are available throughout the semester, **Mosborg** said. Interviews also can be arranged by correspondence or telephone.

Martin reminded GE alumni "to prod your placement officer and don't let them overlook graduates from the GE Department."

Survey Reveals Attitudes Toward Social Sciences

A recent study by **Prof. Harrison Streeter** of attitudes of engineering students toward their social science and humanities courses provided some interesting results. Some 60 percent of College of Engineering seniors graduating in December, 1985, returned questionnaires in the survey.

Contrary to the popularly held notions, most of the students were satisfied with their SSH courses and found them challenging, well-taught, with well-defined objectives.

While there was some tendency indicated to take the supposedly easier courses, most students said this was not an important factor in choosing their courses. Nor did they feel they were able to build up their GPAs through their SSH grades.

The students recognize the importance of these subject areas in their personal and professional lives and most look forward to a continuing and growing relationship with them in the future.

On a less positive note, the students felt the engineering faculty was not supportive of the SSH segment of the curricula.

GE Alumni . . . from page 1

Following adjournment, most of the group attended the exciting 34-21 Illinois victory over Purdue in Memorial Stadium. The scheduled buffet luncheon was cancelled when the start of the game was moved up because of television coverage.

New Laboratory, Grants Expand Robotics Study

A larger and more fully equipped robotics laboratory now being established in the GE Department will make it possible to expand robotics education.

Prof. Mark Spong, nationally known for his research on applications of control theory to robotics, is directing completion of the new facility in 316 Transportation. He also teaches Introduction to Robotics (GE 393).

A \$70,000 grant from General Motors is the primary source of funds for the new laboratory. Additional gifts to the GE Development Fund will be added as they become available.

Prof. Spong has received a two-year NSF grant in the amount of \$142,000 for the study of "Nonlinear Methods in Robotics Control."

A second grant from the Computer-based Education Research laboratory totals \$50,000. It is for a one-year study of robotics forging and to automate a forging process at the Boston Army Arsenal.

He also has received a combined total of \$40,000 from the Research Board, College of Engineering, GE department and the Coordinated Science Laboratory to build a flexible joint robotic arm to test recent theoretical results in control.

Study of Wood Decay Will Aid Construction

Prof. Henrique Reis is actively involved in the investigation of a nondestructive testing method to detect early stages of decay in wood used in construction.

He points out that wood is the only construction material that comes from a renewable natural resource. As a biological material, wood is subjected to biodegradation or decay often in less than eight years.

"Few people ever hear about the hundreds of low-rise wooden units, that have reached moderate to advanced stages of decay because of leaks or other moisture problems caused by inadequate design or construction," Reis says.

He points out that decay is caused by fungi in the group called basidiomycetes. They have four requirements for decomposing: air, water, favorable temperature and food source. The food source is the wood itself.

Decay fungi invade the wood substrate in the form of hyphae that grow at the tip, branching and ramifying through the wood. They secrete enzymes that actually dissolve the wood substance, resulting in the total destruction of the wood cell walls.

"To use wood adequately, designers must understand the nature of decay and how to prevent or control it," Reis says.

He points out that the frightening thing about decay in structures is that most of the strength of the wood is lost in such early stages of decay that the decay can only be diagnosed with accuracy under the microscope.

He hopes to correct this problem by developing a nondestructive testing method.

Zenith Data Systems Donation Enables GE To Expand Instruction



An Engineering Graphics I class is shown in the new laboratory made possible by a gift of equipment by Zenith Data Systems.

A gift of 13 advanced personal computer workstations by Zenith Data Systems has resulted in a second graphics-based workstation laboratory in the GE Department.

The equipment consists of 13 ZW-241-82 Advanced PC's, 13 ZVM-1360 Color Monitors and 13 Z-405 Memory Expansion Boards. When added to the 14 new workstations purchased by GE, 27 places are now available to expand the capacity of the department to 750 students per semester.

Prof. Michael Pleck, Director of the IBM Excellence in Computer-Aided Education and Learning project—GE, said the new laboratory installation now enables all students enrolled in GE 103 (Engineering Graphics I) to benefit from the highly successful micro-CADD experiment developed under the EXCEL project.

"The donation of the equipment has had an immediate and dramatic impact on the College of Engineering's instructional program," **Prof. Pleck** points out. "It has permitted us to put a second graphics-based workstation laboratory into operation which accommodates the stiff demand for the GE department's nationally prominent engineering design graphics course."

Prof. Osman Coskunoglu has received five grants totalling \$262,524 from the US Army Construction Engineering Research Laboratory. His research concentrates on integration of optimization techniques with information support technology. His two-year study will develop models and information systems that will support the US Army Office of Chief of Engineers in Washington, D.C. The army sent Prof. Coskunoglu to Germany this summer to investigate the decision support requirements of the army's engineering activities in Europe.

'Shaping Our World' To Be Theme of 1987 Engineering Open House

The theme of this year's Engineering Open House is "Shaping Our World." It will be held March 6-7, 1987, and promises to be a challenge to all departments in the College of Engineering.

Other than sporting events and Homecoming, EOH is the largest student-run event at the University of Illinois. Some 20,000 people are expected to attend this year.

The EOH effort for the General Engineering Department will be headed this year by the Illinois Society of General Engineer's Franz Pachtl, Darien, and Gamma Epsilon's Jeff Johnson, Melrose Park.

Project and exhibit emphasis will be placed on manufacturing—from the design and testing of a product using the department's CAED and CAD facilities to the actual manufacturing techniques employed using such tools as the department's robots. Senior projects and graduate research related to the manufacturing process also will be presented.

This year's EOH promises to be one you won't want to miss. College exhibits will be open 9 a.m. to 4 p.m., Friday, March 6, and 9 a.m. to 3 p.m., Saturday, March 7. Please plan on attending to see where our future is headed.

List GE Teaching, Research Assistants

There are 25 teaching or research assistants in the department of General Engineering for the fall semester.

They are:

Teaching Assistants: Erica Blazevil, Olympia Fields; Spiros I. Deligiannis, Aurora; Edward J. Dougherty, Arlington Heights; Stephen M. Dowd, Katonah, N.Y.; Matthew Fonck, Wilmington; Lawrence Kaplan, Warrenville; Vladimir Kokotovic, Belgrade, Yugoslavia; L.J. Lavering-Gesell, Seattle, Wa.; Robert A. Leland, Los Altos, Ca.; Lisa Metzger, Crete; Timothy J. Moore, Joliet; Janice Mueller, Cary; William Scheid, Chicago; Eve Sierocki, Palatine; Brett Stovall, Elmwood; Karin Weidner, Charleston; and Daniel Williams, Ellsworth.

Research Assistants: Terry Anderson, Catlin; John Gardner, Peoria; Matthew Grisey, Independence, Oh.; Lisa Murphy, Marion; Chris Rieger, Chatsworth; Can Simga, Turkey; Mary Ann Bitz Widing, Steger; and Harry Wildblood, Mahomet.

In addition to the assistantship, Ms. Mueller holds a fellowship.

Prof Mark Spong was one of 12 university faculty members invited to participate in a National Science Foundation sponsored Institute for Educating Students in Robotics and Automation, June 12-13 at Purdue University. They joined industrial representatives and selected university students at the Institute. **Bill Scheid**, 1986 graduate from Chicago, was the UI representative. A series of video tapes were made for use by instructors of robotics and automation courses.

Researchers Test Digital Controller on Site

A GE research team headed by **Prof. Louis Wozniak** and including four research assistants visited the headquarters of the US Bureau of Reclamation in Denver this summer. While there they tested a digital controller on the Bureau's analog computer simulator.

The digital hardware was developed in the GE Department under a two-year research grant from the US Bureau of Reclamation.

The group also visited a power plant at New Melones, Ca. There they replaced the conventional governor with the digital controller in a working power plant for testing and observation.



Shown at the Denver Headquarters of the US Bureau of Reclamation are, left to right: Jay Agee and Chuck Lennon of the Bureau staff; Greg Orelind, Prof. Wozniak, Louis Wozniak, Mark Vogt and Lisa Olson of the U. of I.

Lincoln Arc Welding Foundation Honors Six GE Students

Two teams of GE students have received cash awards in the 1986 College Engineering Student Award Program of the Lincoln Arc Welding Foundation for achievement in design, engineering and fabrication.

Stephen M. Dowd, Urbana; **Annette G. Drilling**, Northbrook; and **Roman Kruis**, Schaumburg; jointly received a \$250 merit award. They received recognition on the design of a computer controlled water level sensor for washing machines.

Scott W. Holmes, Mt. Vernon; **John Q. Meyer**, Elmhurst; and **Brett A. Johnson**, Belvidere; also jointly were granted a \$250 merit award. Their project was a report on a method of calculating design parameters in electromagnetic clutch and brake systems.

Their instructors were **Prof. T.F. Conry**, **Rodney Hogleman** and **L. Daniel Metz**.

The Foundation granted cash awards totalling \$15,750 to 27 graduate and 31 undergraduate students in 19 colleges.

Two faculty members in GE have been promoted in rank according to an announcement by **Prof. Jerry S. Dobrovolny**, department head. **L. Daniel Metz** was named professor and **Mark W. Spong**, associate professor in GE and research associate professor in the Coordinated Science Laboratory.

High School Students Hear About Engineering

The second annual Junior Engineering Technical Society Research Day was held on Nov. 14, 1986. Members of high school JETS chapters in East Central Illinois were invited to UIUC to attend presentations from various departments, giving them insight into current research being conducted in the U.I. College of Engineering.

The National Engineering Aptitude Search Test, sponsored by JETS, was given to 688 high school students at 43 locations in Illinois this year. The test developed by the American College Testing Service, was designed to indicate engineering aptitude.

JETS is a national non-profit organization that promotes interest in engineering, technology and science among talented high school students. In addition to the Engineering Aptitude Test, it sponsors summer sessions at three Illinois locations and conducts other motivational and guidance activities.

The two-week summer programs orient students to college courses in engineering, mathematics, library research, computer science and lectures.

JETS will be leaving the auspices of GE during the coming year. State Director **David C. O'Bryant**, who is also associate head of GE, is stepping aside due to the demands of his duties as undergraduate advisor and his teaching and administrative assignments.

JETS will be relocated physically and administratively to the Office of the Associate Dean of Engineering. **Jonathan N. Horner**, who has been State Coordinator since 1979, will remain with the program.

Gamma Epsilon Announces New Officers for 1986-87

Joan Olson, Oneida, has been elected president of Gamma Epsilon honor society of General Engineering for the 1986-87 academic year.

Other officers include: vice president, Tim Solarz, Cary; secretary, Andrew Hill, Dixon; treasurer, Tony Schaff, Nashville; engineering open house chairman, Jeff Johnson, Melrose Park; engineering council representative, Tom Tirpak, Glenview; and publicity chairman, Chris Crawford, Libertyville.

Prof. Harrison Streeter is faculty adviser.

Fred Jewell To Head ISGE For 1986-87

The Illinois Society of General Engineering has elected Fred Jewell as president for the 1986-87 academic year.

Other officers include: vice president, Pete Kim, Mason City; secretary, Joan Olson, Oneida; treasurer, Mike Murphy, Silvis; engineering open house chairman, Franz Pacht, Darien; publicity chairman, Tracy Urban, Pekin; and engineering council representatives, Mary Sims, Flossmoor; and Ellen Sedlacek, Naperville.

Prof. Wayne J. Davis and **W. Brent Hall** are faculty advisers.

Industrial Firm Donates Laboratory Equipment



GE students are shown "patching a board" for solving dynamic problems on the EAI 680 Analog Hybrid Computer. The equipment was donated by Babcock and Wilcox, Lynchburg, Va., in Spring 1985. It is used by students enrolled in GE 234, GE Laboratory. **Prof. Louis Wozniak**, who is in charge of laboratory equipment, expressed appreciation to the firm for the gift. He said such support from industry is essential to the department's total educational program and cited it as an example of how education and industry works together.

Offer Technology Audits To Rockford Area Firms

An experimental technology audit program is being conducted in the Rockford area by **Prof. Rodney D. Hugleman** and **Adjunct Prof. Roland L. Ruhl**.

Under the plan small companies are analyzed technically as to efficiency and for potential new products within the scope of the firm.

Two audits have been undertaken to date.

A technology assessment of the Kysor-Byron Corporation has resulted in proposed new products in the air conditioning field for trucks and off-road vehicles. Specific proposals for new procedures, facilities and technologies also have been presented to improve Kysor-Byron's market position.

Research for Warner-Lambert Corporation is proceeding on the thermal properties and heat transfer associated with continuously extruded gum. The final objective is optimization of a proposed liquid cooled band conveyor to cool the gum extrusion to working temperatures on a continuous basis. The highly irregular and temperature dependent properties of the gum extrusion is a major problem.

Faculty Notes

Prof. Thomas F. Conry presented a paper entitled "A Reynolds—Eyring Equation for Elastohydrodynamic Lubrication in Live Contacts" at the 1986 Tribology Conference in Pittsburgh. His co-authors were Prof. C. Cusano (ME) and graduate student Shao Wang.

Prof. Juraj V. Medanic is co-principal investigator of a \$50,000 research grant awarded by the Jet Propulsion Laboratory for research on voltage control in electric utilities. The study will be conducted in the Coordinated Science Laboratory jointly with Prof. M. Ilic-Spong, Department of Electrical and Computer Engineering. A proposal is pending to extend the research into a second year.

Prof. Juraj V. Medanic was co-chairman of the 24th Annual Allerton Conference on Communication, Control and Computers held Oct. 1-3 at the U. of I. Allerton Park. Over 200 persons from the USA and abroad attended the meeting.

Matthew Grisey, A GE research assistant, spent the summer at Lowrance Livermore National Laboratory. There he designed input files for the GEMINI finite element modeling package and on implementing algorithms to design controllers for large space structures. This work is related to the on-going research project on Control of Large Scale System supported by the national laboratory and carried out in GE and in the Coordinated Science Laboratory.

Prof. Wayne Davis spent his Spring semester sabbatical at the Automated Manufacturing Research Facility of the National Bureau of Standards in Gaithersburg, Md. Using previous experience in the development of decision-making/control hierarchies for automated steel manufacturing, Davis undertook the task of developing an on-line, real-time production scheduler for the flexible manufacturing environment. Since his return to campus, he is maintaining an interaction between GE and AMRF.

Prof. Davis is actively participating in the development of a manufacturing engineering option with the College of Engineering. Also in the past year, he has made numerous presentations on manufacturing at companies including IBM and Northern Telecom, at universities such as Pennsylvania State, George Mason and Purdue and in various government agencies, National Bureau of Standards, National Science Foundation and Argonne National Laboratory.

Prof. Osman Coskunoglu is engaged in on-going research on integrating artificial intelligence techniques into optimization approaches of operations research. Last Spring he presented a paper, "Time-Optimal Trajectory of Robotic Manipulators Via Geometric Programming" at the Institute of Management Science/Operations Research Society of America joint national meeting in Los Angeles.

Prof. Scott Burns presented a paper, "Design of a Slender Space Frame for Torsional Rigidity," at the American Society of Civil Engineers Structures Congress '86, Sept. 15-18 in New Orleans, La. The report was based upon a GE242 project from last semester sponsored by Chicago Bridge and Iron.

Prof. M.H. Moeinzadeh presented a paper at the North American Congress on Biomechanics, 10th annual conference of the American Society of Biomechanics and 4th biannual conference of the Canadian Society of Biomechanics in August at Montreal. His paper, co-authored with **Prof. Scott Burns**, was entitled "A New In-vivo Technique for the Determination of Body Segment Parameters Utilizing CAT and CAD Procedures."

A paper, "Design and Development of a Computer Aided Musical Instrument for a Child with Cerebral Palsy," written by **Prof. M.H. Moeinzadeh** has been accepted for publication in the Journal of Practical Approaches to Developmental Handicap.

Prof. Mary Bea Walker was invited to present a paper on UIUC College of Engineering continuing engineering education remote delivery systems Oct. 23-25 at Purdue University. The paper was presented at the 1986 Annual Illinois, Indiana and North Central Section Meeting of the American Society for Engineering Education.

Prof. M.H. Moeinzadeh was organizer and a session chairman for the 1986 Annual Conference of the American Society for Engineering Education, Biomedical Engineering Division in June at the University of Cincinnati. His session was entitled, "Current Educational Material for Biomedical Engineering Courses."

Prof. M.H. Moeinzadeh has been awarded \$12,837 in research grants from the U. of I. Bioengineering Program and Rehabilitation Education Division. The funds will finance two proposals, "A Computer Aided Design (CAD) Finite Element Analysis and Experimental Evaluation of Tennis Racquet Design" and "Design and Development of a Computer Aided Robotic Feeding Device for Handicapped Individuals." Another \$2,250 grant was awarded for "Application of Biomechanic Techniques in Early Diagnosis of Canine Hip Dysplasia." The study is a collaboration effort of the College of Veterinary Medicine and the Department of General Engineering.

Prof. Mark Spong was invited to present a paper, "Robust Control Design Techniques for Nonlinear Systems" at the American Control Conference, June 18-20, in Seattle, Wa.

Prof. Thomas C. Hartley retired from the GE faculty on Aug. 31, 1986. He began his association with the department in 1949 as an assistant.

S. Daniel Thompson is a visiting assistant professor in the GE Department this semester. A native of West Virginia, Thompson received his doctorate from West Virginia University in December, 1985. He teaches engineering graphics I and introduction to general engineering design.

Two international academic visitors are with the GE department this semester. Fulbright Scholar **Dr. Zdravko Uskokovic** from Yugoslavia is working with **Prof. Juraj V. Medanic**. Visiting Scholar **Dr. Ky-seung Whang** from China is working with **Prof. Osman Coskunoglu** and **Prof. Wayne Davis** in operations research.

Prof. Mark Spong has been appointed an associate editor of the IEEE Control Systems Magazine.

Adopt Alumni Association By-Laws at Fall Meeting

By-Laws for the GE Constituent Alumni Association were adopted at the fall meeting of the group on Oct. 11. The complete by-laws follow:

UNIVERSITY OF ILLINOIS

Department of General Engineering Constituent Alumni Association

BY-LAWS

ARTICLE I

Name and Object

Section 1. NAME. The name of this organization shall be the University of Illinois General Engineering Constituent Alumni Association. It shall here-in-after be referred to as "the Association." It shall be a constituent organization of the University of Illinois Alumni Association.

Section 2. OBJECT. The object of the Association shall be to further the educational, social, and charitable interests of the University of Illinois Department of General Engineering, and the Alumni, and to promote the general welfare of each.

ARTICLE II

Membership

Section 1. CLASSIFICATION. Membership will consist of regular, and honorary members.

Section 2. REGULAR MEMBERS. Any person who holds a degree from the University of Illinois Department of General Engineering shall be eligible for active membership. All such graduates are considered regular members when they have paid dues for the current year to become Life members of the University of Illinois Alumni Association. Upon paying such dues, regular members are entitled to vote at any general alumni meeting where a vote is requested. Delinquent members shall not be entitled to cast a ballot in any general meeting or general election.

Section 3. HONORARY MEMBERS. The Board of Directors of the Association may elect a person to honorary membership by a two-thirds vote. Such a person shall be admitted to membership in the Association. Honorary members shall be entitled to participate in all the undertakings of the Association, but shall not be entitled to vote or hold office. Honorary members shall be exempt from dues.

ARTICLE III

Officers and Directors

Section 1. OFFICERS AND DIRECTORS. The Officers of the Association shall consist of a President, First Vice-President, (who shall also be known as President-elect), Second Vice-President, Secretary,

Treasurer, and other officers as appointed by the President. The Board of Directors of the Association shall consist of the Officers, additional Directors as may be elected by the Board, the immediate Past President, and the General Engineering representative to the University of Illinois Alumni Association Board of Directors.

Ex-officio members of the Board, without the right to vote or hold office, are the Department Head of the Department of General Engineering, such other personnel from the Department as shall be appointed by the Department Head and one student representative appointed by the Illinois Society of General Engineers (ISGE).

Section 2. TERMS OF OFFICE. The Officers and Directors shall serve for a period of one year, except for the General Engineering representative to the University of Illinois Alumni Association Board of Directors whose term shall be two years.

Section 3. POWERS AND DUTIES. The Officers of the Association shall have such duties as ordinary for such offices.

Section 4. REMOVAL FROM OFFICE. Any Officer may be removed from any office for cause by a vote of two-thirds or more members of the Board of Directors.

Section 5. SUCCESSION TO THE PRESIDENCY. In the event of vacancy of the Presidency, for any cause whatsoever, the First Vice-President shall succeed to the Presidency. In the event of further vacancy, succession of the Officers shall take place in the order in which they are named in ARTICLE III, Section 1, of this constitution. In the event of failure of the above provision, any vacancy of any office may be filled by two-thirds vote of the Association Board of Directors.

Section 6. ELECTION. The Officers and Directors of the Association shall be elected annually.

Section 7. APPOINTED OFFICERS. The President, after consultation with the Department Head and the Board shall appoint such additional Officers as necessary to conduct the affairs of the Association. These Officers shall include the General Engineering representative to the University of Illinois Alumni Association Board of Directors.

Section 8. QUORUM. All actions of the Board of Directors shall be decided by majority vote of those present at any regular or duly-called meeting.

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Prof. Mary Bea Walker attended the ASEE—IEEE 1986 Frontiers in Education Conference Oct. 13-15 at the University of Texas at Arlington. She presented a paper on problems encountered in the delivery of continuing engineering education off-campus programs.

On Oct. 27, **Prof. Mary Bea Walker** and **Joe F. Donaldson**, head, UIUC Extramural Courses, were invited to present a paper at the annual meeting of the Consortium for Institutional Cooperation Instructional Television Sub-committee in Urbana.

Double Your Money, Double Our Pleasure

Over 1,000 companies and corporations throughout the United States have a Matching Gift Program for donations made by employees to their alma maters.

If you work for any of the companies listed below your employer will match your gift by two or three dollars for each one dollar given to the GE Development Fund.

It is very easy to participate. Simply get a matching gift form from your employer. Complete the donor portion and send to General Engineering, 117 Transportation Building, 104 S. Matthews, Urbana, Il. 61801, along with your donation. GE will complete the form and return it to your employer's corporate office.

If you don't know if your employer has a Matching Gift Program and your company's name does not appear on the following list, contact your personnel officer.

Firms that do offer a Matching Gift Program include:

Abbott Laboratories
A.B. Dick Co.
American Can Co.
Ameritech
Amoco Foundation, Inc.
Anheuser-Busch Foundation
Arthur Andersen & Co.
AT&T
Barber-Colman Foundation
Bechtel
Bell Communications
Beliot Group
Boeing Co.
Borg-Warner Foundation
Brown Group—Brunswick Foundation
Burlington Northern Foundation
Burrroughs Corp.
Caterpillar Foundation
CBI Foundation
Chrysler Foundation
Clark Equipment Co.
Combustion Engineering
Continental Can Co. Inc.
Corning Glass Works Foundation
Crane Co.
Cummins Engine Foundation
R.R. Donnelley & Sons Co.
Dravo
Eli Lilly and Co.
Emerson Electric Co.
Ernst & Whinney
Exxon Education Foundation
FMC Foundation
Firestone Tire & Rubber Co.
Ford Motor Co.
General Cable Fund, Inc.
General Dynamics
General Electric Foundation
General Foods Corporation
General Mills Foundation
GTE
Gould Inc.
Hewlett-Packard Co.
IBM Corporation
I.C. Industries

Changes in Tax Law Should Be Studied Before End of Year

Changes in the 1986 tax law will have an impact on giving patterns of alumni constituents. As a result it will benefit donors planning gifts to make them by Dec. 31, 1986.

Consideration also should be given to prepaying any 1987 gifts which are contemplated.

Gifts made during the 1986 calendar year will provide greater opportunities for reductions in income tax than those which will be allowed in subsequent years.

The following gift opportunities are particularly important between now and Dec. 31, 1986:

—Tax savings up to a marginal rate of 50 percent are available for cash gifts this year. The maximum marginal rates will be reduced to 38.5 percent in 1987 and 28 percent in 1988. Payment of annual pledge commitments and other planned gifts should be accelerated so that they are received by Dec. 31, 1986.

—Taxes on capital gains rise from 20 percent to 28 percent in 1987. If any alumni are considering gifts which involve appreciated capital gains, it is to their benefit that these gifts be given prior to Dec. 31, 1986.

ITW Foundation
Illinois Bell
Ingersoll-Rand Co.
John Deere Foundation
Johnson Controls Foundation
Johnson & Johnson
Lilly Endowment, Inc.
Marathon Oil Foundation, Inc.
Masonite Corporation
Maytag Company Foundation, Inc.
Monsanto Co.
Motorola Foundation
National Gypsum Co.
Navistar Foundation
Northern Illinois Gas
Ouboard Marine Corporation
Peat Marwick
PPG Industries Foundation
Price Waterhouse Foundation
Proctor & Gamble Fund
Quaker Oats Foundation
RCA Corporation
Reliance Electric Co.
Rockwell International
A.E. Staley Mfg. Co.
Standard Oil Co.
Sundstrand Foundation
Tenneco Inc.
Trane Foundation, Inc.
TRW Foundation
Union Electric Co.
United States Steel Corporation
United State Gypsum FDN., Inc.
United Technologies Carrier
UOP Foundation
United Technologies Co.
Western Electric
Westinghouse
Whirlpool Corporation
Xerox Corporation

ALUMNI NOTES

1948 Richard G. Love who retired in 1982 from Richard G. Love, Inc, now resides at 100 Bluffview Drive, Apt. 401-C, Belleair Bluffs, Florida.

1949 Gerald V. Sheffer has retired as President of Page Enterprises and now lives at 4510 North Lauding Drive, Marietta, Georgia. He says he has purchased a 35-foot Avia Travel Trailer and plans to tour the USA with his wife "while we're still healthy."

1950 Robert R. Melone, MSME '51, retired in March '86 after 35 years in industry, primarily in product design and development. Now residing at 34 Hickory Hills Circle, Lake Placid, Florida. Melone holds 20 patents. He writes, "My background in General Engineering has provided a solid foundation throughout my career."

Donald H. Rimbey, PhD '67, is President of Rimbey, Howell and Rimbey, Inc., Tampa, Florida. His address is 213 Bannockburn Avenue, Temple Terrace, Florida.

1958 Leon Walter Florschuetz, MS '59, PhD '64, of 1272 E. Manhattan Drive, Tempe, Arizona, is Professor of Mechanical and Aerospace Engineering. He was co-recipient of the Best Paper of Conference Award at the ASME/AICHE National Heat Transfer Conference.

1961 David A. Weaver, MBA '78, has been named Superintendent of Highways, Stephenson County, Illinois. He lives at 706 Quail Ridge Drive, Freeport.

1965 Charles Wesley Rowley, MS (Nuclear Engineering) '67, resides at 13 Silver Slip Falls, P.O. Box 998, Cashiers, North Carolina. He was recently promoted to Captain, U.S. Naval Reserve. He went on active duty from August 1985 to June 1986 to attend the Naval War College in Newport, Rhode Island. Rowley has since returned to his management consulting business for nuclear electric utilities.

1966 Robert Benjamin Beers, MEd '66, 38 Washington Street, Trumansburg, New York, retired in 1981 as a professor from Broome Community College at Binghamton, New York. Sufferer of a severe hearing problem, Beers since his retirement has been very active in The Self Help for Hard of Hearing People organization.

1967 Richard J. Colver, MBA '70, MSME '80, is Deputy Director of Informtion Management, U.S. Army Corps of Engineering, Washington, D.C. He is the senior civilian responsible for policy, plans and operations world-wide for all Corps automation, communications, records management, libraries, visual information services and printing, and publications. Colver lives with his 14-year-old son at 6304 Tall Tree Lane #T2, Springfield, Virginia.

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ARTICLE IV

Meetings of the Association

Section 1. MEETINGS. Meetings of the Association shall be held at least once a year at such times and places as the Board of Directors may designate. Proper notice of meetings shall be given to all members.

Section 2. NOMINATING COMMITTEE. The President shall each year, prior to the election, appoint a nominating committee.

Section 3. PARLIMENTARY PROCEDURES. *Robert's Rules of Order, Revised*, shall govern meetings of the Association, its Board and Committees.

Section 4. QUORUM. All actions of the Association shall be decided by majority vote of those voting members present at any regular or duly-called meeting.

ARTICLE V

Dues

Section 1. DUES. The dues of the Association shall be established by the University of Illinois Alumni Association. No additional dues may be charged.

ARTICLE VI

Amendments and By-Laws

Section 1. AMENDMENTS. The by-laws may be amended by a two-thirds vote of those attending an annual or special meeting of the Association.

1968 Charles W. Mahan, JD '70, Ohio State University, lives at 4028 Butterwood Court, Dayton, Ohio. A specialist in federal procurement law, he was a founding partner in Dunlevey, Mahan and Furry legal firm in Dayton, May 1, 1985. The firm now has four attorneys, one paralegal and 70 other staff personnel. It represents corporations, executives, proprietors and other business oriented clients.

1970 Bruce A. McIntosh has a new position as Senior Exhibits Coordinator, Honeywell Information Systems, Waltham, Maryland. He resides at 26 Profile Circle, Nashua, New Hampshire. McIntosh is active as a Christian volunteer working with inmates of Middlesex County House of Correction at Billerica, Maryland.

1972 Richard A. Doty, MBA '76, Drexel University, has moved from St. Louis to 1503 Piney Woods, Friendship, Texas. He was named Engineering Manager for Mallinckrodt, Inc., in Angelton, Texas. On December 14, 1985, Doty and his wife, Louise, became parents of twin sons. They have two other sons, ages 9 and 7.

Dale L. Durfey, Jr., Village Engineer of Oak Brook, Illinois, has moved to 6541 Terrace, Downers Grove, Illinois.

1973 Daniel M. Burke, MBA '79, Washington University, has become District Sales Manager, Square D. Company, Phoenix, Arizona. He has moved to 8031 E. Del Joya Drive, Scottsdale, Arizona.

Richard A. Jerch has moved to 515 E. Scranton, Lake Bluff, Illinois.

Michael S. Meronek has accepted a position as Supervisor-Production Purchasing of Bendix Electronics, Newport News, Virginia.

Paul Newhagen has moved from Cupertino to 577 Van Buren Street, Los Altos, California. He is Vice-President, Finance and Chief Financial Officer of the Altera Corporation, Santa Clara, California. The company is a 3-year-old startup semiconductor, specializing in large scale CMOS Programmable logic integrated circuits.

1974 Kathryn A. Davis, MSCE '75, has joined the project management and consulting firm, Fogel and Associates, New York City, as Senior Vice President. She spent five years as project manager and geotechnical engineer with CHZM Hill, Inc. in Portland and Seattle and one and a half years as manager of technical services with the American Society of Civil Engineers, New York. Ms. Davis holds a professional engineer's license from Washington State and will receive an MBA in 1986 from Harvard University.

Thomas Keel Fleming is owner of Flemco Construction, Inc. and T. K. Fleming Construction, Inc. in Danville, Illinois. The combined volume of the two companies is about \$4 million in all phases of construction. They do work in a 100-mile radius of Danville.

Michael E. Kerr has been named Product Manager—Helium, Union Carbide Corporation, Somerset, New Jersey.

Stewart L. Storm, MBA '83, Keller Graduate School of Management, has been appointed Internal Audit Senior II of Lockheed Corporation, Marietta, Georgia.

1975 Perry C. Hendrickson, MSCE '77, has returned to the United States after a one and a half year assignment in New Malden, England on loan to Esso Engineering (Europe) as a marine terminal engineer doing design and consulting for Essoris European refinery, chemicals and marketing affiliates. He now resides at 23 Allentown Road, Parsippany, New Jersey and serves as a staff engineer-marine terminal specialist with Exxon Research and Engineering Co., Florham Park, New Jersey. Since 1978, Hendrickson has been married to the former Linda Tracz, BS (Horticulture) '78.

James (Tom) Hardin, 207 W. Garfield, Mt. Horeb, Wisconsin, is manufacturing engineering group leader for Carnes Company, Verona, Wisconsin. Father of three children, Hardin is working on an MBA at the University of Wisconsin.

Gregory P. Konneker is a financial systems specialist for General Foods, White Plains, New York. The Konnekers, who reside at 6 Westwood Drive, Danbury, Connecticut, had their first child, a son, on February 7, 1986.

1976 Bruce R. Bartholomew, 3644 Longfellow Trail, Marietta, Georgia, has been named Assistant Vice President for Citizens and Southern Georgia Cor-

poration, Atlanta. In his new position he has property management responsibilities for six major buildings in Atlanta. The Bartholomews became parents of their second child in December.

Michael John Cardoni MBA '78, has moved from Columbus, Indiana to 10437 Eastgate Drive South, Mt. Vernon, Indiana. He has been named engineering account systems engineer with IBM in Evansville, Indiana.

John B. Holz, MS '81, has been promoted to Manager of application selection and support at IBM Engineering Systems Products, Milford, Connecticut. Since leaving Illinois, Holz has been an IBM Marketing specialist. His present responsibility is management of a team of marketing and support specialists who help software vendors write engineering, scientific and CAD/CAM software for IBM's new RT/PC. Holz lives at 67 Dawn Street, Fairfield, Connecticut.

Neal Dean Siegel, 6147 N. Claremont, Chicago, has accepted a position as sales manager for SMS Publications, Evanston, Illinois. Siegel writes, "sales, management and board of directors responsibilities have demanded use of skills learned while a G.E. student."

1977 Jeffrey Scott Carlson, M. Divinity, Fuller Seminary is residing at 262 N. Los Robles, Apt. 111, Pasadena, California.

James H. Christensen has moved from Buffalo Grove, Illinois to 852 Stonebridge Ct., Palatine, Illinois. He is senior principal analyst-CAD/CAM/CAE Services, Travenol Labs, Inc., Round Lake, Illinois.

Daniel Donahoe, MSME '79 announces the birth of a third child, July 23. The Donahoes live at 15004 E. Mustang Drive, Fountain Hills, Arizona.

1978 Jeffrey C. Albrecht is a manufacturing engineer for Andrew Corporation, Orland Park, Illinois. The Albrechts (Julie Buckingham BS Ag. '77) who live at 2220 Maple, Homewood, Illinois, became parents of a son on September 20, 1985.

Randall W. Kramer has moved from Deerfield, Illinois to 1004 Hilldale Lane, Buffalo Grove, Illinois.

1979 James Ernest Broom who is employed by Hewlett Packard Company, Bridgeton, Missouri, lives at 195 Lewis Street, #4, Troy, Missouri.

John Dix has moved from Dallas, Texas, to 1338 34th Street South #B, Birmingham, Alabama. He has accepted a position as District Manager-OEM Sales, The Timken Company, Birmingham.

Jay Richard Goldberg, 1903 Big Oak, Northbrook, Illinois, has been promoted to Group Leader R&D, Medical Engineering Corporation, Racine, Wisconsin. Goldberg who is a registered Professional Engineer has R&D responsibilities for all medical devices made by the firm. A group of engineers, technicians and draftsmen compose his group.

Rosemarie Orehek, MBA, University of Minnesota, '85, is Technical and Marketing Support for Northwestern Bell, Minneapolis, Minnesota.

David S. Rosenbaum, 37 Rustil Street, Newton, Massachusetts, is clinical and research fellow in Cardiology, Massachusetts General Hospital, Harvard Medical School, Boston, Massachusetts.

Eileen O'Connell Yahl, 403 N. Cherry Street, O'Fallon, Illinois, has put her career as mechanical

engineer with Monsanto Company on hold since the birth of her daughter on April 16, 1986.

Larry D. Will has recorded a triple play with a new address, new job and a new son. He is now first officer DC-9-80 (Pilot) for American Airlines flying out of O'Hare Airport, Chicago. He lives at 323 S. Harrison, Batavia, Illinois, and his new son was born January 30, 1986.

1980 **Richard Alan Carpenter**, MS (Computer Science) '86, University of Virginia, is a lead software engineer with General Electric Company and has been transferred from Charlottesville, Virginia to Albany, New York. He resides at 20 Payne Court, Clifton Park, New York. He was married to Elizabeth Carol Anderson on September 7, 1985.

Daniel W. Cassens, MBA '85, Warton School of University of Pennsylvania, is an Operations Analyst with Woodward Governor Company, Rockford, Illinois. His address is 5041 Linden Road, #11103, Rockford.

Joan Janice Wagner Erhart of 1 Hobson Court, Woodridge, Illinois, announces the birth of a son on February 10, 1986. She writes, "I rank childbirth right up there with quantum mechanics and fluid dynamics."

Terry L. Fear has been named Vice President-Resource Analyst of Averada Investments Inc., Dallas, Texas. His address is 2929 Big Oaks Drive, Garland, Texas. He became father of a daughter in June 1986.

Edward John Jaselskis, MS '82, MIT, has moved to 1401 Enfield Road, Austin, Texas, to study for his PhD at the University of Texas.

Silvana A. Medina, MBA '84 Harvard Business School, has accepted a position as Network Products Training Manager to coordinate all sales representatives training for Hewlett-Packard Network Products in Cupertino, California. She previously was engaged in introducing three data communications products for the new HP9000 Rise Architecture minicomputer. She resides at 3480 Granada Avenue, #242, Santa Clara, California.

Michael Alan Osowski, MBA '86, University of Denver, lives at 1333 S. Lincoln, Denver.

1981 **David Jacobsen** has been named sales representative for Rockwell International. A resident of Barrington, Ill., Jacobsen was married May 2 to the former Patricia Jensen, a 1983 U.I. graduate.

Kirk W. Langford is a senior field engineer with Dresser Atlas of Beaumont, Texas. He is completing his master's degree in Civil Engineering at McNeese State University, Lake Charles, Louisiana.

Mark R. Pavlat has moved from Westbury, New York, to 1095 Warrick Circle, Hoffman Estates, Illinois. He has accepted a position as regional sales manager for Northern Illinois and Indiana for Pall Industrial Hydraulics Corporation, East Hills, New York.

Susan Jane Polka has accepted a position as civil engineer with the City of Phoenix, Az. She resides at 3726 W. Villa Rita Dr., Glendale, Az.

Mary Swillum is Weapons Controller, E3-A AWACS USAF at Tinker AFB, Oklahoma. She resides at 1516 SW 96th Oklahoma City, Oklahoma.

David R. Vergara, MS (Management) '86, Northwestern University, has become senior financial analyst for Tandem Computers, Cupertino, California. He

resides at 888 Foster City Blvd., K3, Foster City, California.

Sharon Marie West, MS '83, has been promoted to Manager, Network Architecture District, Network Planning, Illinois Bell Telephone, Chicago. She reports she is working with GE Alumni Jim Newman, Scott Jennings and Jim Gerber, all '83. West is working with architecture of the future. She resides at 5300 Benton Avenue, Downers Grove, Illinois.

1982 **Marc R. Bussan** has moved to 4429 E. Riverside Drive, Evansville, Indiana, where he is project engineer for Whirlpool Corporation. He was married to UI Alumnus Julie Strauski in April.

David M. Lipari, MBA '84, has been promoted to Supervisor, Bid and Quote Department, Motorola, Inc., Schaumburg, Illinois. His new address is 728 Kristy Lane, Wheeling, Illinois. Lipari was married in June.

David Paul McGinnis, MS (Physics) '83, MSEE '84, University of Wisconsin, is research assistant in electrical engineering, University of Wisconsin. He is completing his work on a PhD in electrical engineering there.

1983 **Martha Anderson Alexander** has been named Technical Recruiter for Wilkris Company, Contract Engineering, Terrace Park, Ohio. Her new address is R.R. 4, Box 185B, Pendleton, Indiana.

Jeffrey R. Aronson is project engineer for Sundstrand Corporation, Aviation Mechanical Division, Rockford, Illinois. He lives at 8351 Mark Drive, Roscoe, Illinois.

Timothy Lee Filbert, MS '86, has moved to Santa Clara, California. He is Guidance, Navigation and Control Systems Engineer, Space Systems Division, Lockheed Missiles and Space Company, Sunnyvale, California. He was married in June to the former Robin Worth, B.S. (Education) '85.

John Giacobelli resides at 624 Rosedale Drive, Roselle, Illinois. He is Applications Engineer for Haumiller Engineering Company, Elgin, Illinois.

Michael H. Gibson is Design/Software Engineer for MCC-Powers.

Jordan A. Greene has been promoted to Nuclear Licensing Engineer and relocated to the White Plains Corporate office of the New York Power Authority. In this position, he writes and coordinates legal documentation to the Federal Nuclear Regulatory Commission in support of the Authority's Fitzpatrick Nuclear Power Plant. Greene makes his home in Brewster, New York.

Robert A. Markgraf has moved from Springfield, Illinois to 3614 N. Bell, Chicago.

James Thomas Prachar, MS '83, has accepted a position as General Supervisor, Wire Mill, Rolling Mill, Dieshop, United Technologies, Essex Group, Fort Wayne, Illinois.

Kelly W. Shoemaker, MBA '85, University of Southern Mississippi, has moved to Columbus, Ohio, to accept a position as Project Construction Sales Engineer for General Electric Company there.

Daniel J. Sylwestrak, MSEE, MBA '86, is a member of the technical staff, International Physical Design Group. AT&T Bell Laboratories, Naperville, Illinois. He lives at 1010 S. Wheaton Avenue, Wheaton, Illinois and announces the birth of his first child in December, '85.

1984 Ervin Scott Eiler resides at 5250 Devonshire, Detroit, Michigan, where he is in the Engineering Systems Development Program for Electronic Data Systems.

Scott C. Farnham is a Design Engineer, Electrical Switchboards Group, Square D Company, Peru, Indiana. Farnham and his wife (a senior in Pharmacy at Purdue) live at R.R. 4, Box 128, Peru, Indiana.

Denise Linsey Flora, MSME '86, University of California, Berkeley, has been named Building Energy Researcher, Lawrence Berkeley Laboratory, Berkeley, California. She was married to Tim Toombs, BS (Computer Science) '82, in March '86 and they reside in Alameda, California.

John S. Romuk is employed as procurement quality engineer with IBM in San Jose, Ca.

Gary Martin Welk has moved to Palatine, Illinois. He is Electrical Development Engineer, Motorola, Inc. (Automotive and Industrial Electronics Group) Schaumburg, Illinois. His wife is the former Joanne Scappaticci, BA (Computer Science) '84.

1985 Robert J. Chrisman, Jr., now resides at 22411 Butterfield Drive, Apt. 207, Richton Park, Illinois. He is a Project Engineer, Illinois Tool Works (Delta Division), Frankfort, Illinois.

Brad Lane has completed his first year of study at the University of Michigan Law School. He spent the summer clerking at Willian, Brinks, Olds, Hofer, Gilson and Lione, an intellectual property law firm in Chicago, along with Tom McDonough, also '85.

Laura A. Shaffer accepted a position as Application Engineer, Bohn Heat Transfer. Her assignment is inside sales for an industrial refrigeration manufacturer.

Lawrence R. Slight has been named Consultant, Management Information Systems, Arthur Andersen, Chicago.

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