



GENERAL ENGINEERING NEWSLETTER

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

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FALL 1988



Students shown at workstations in GE Engineering Design Graphics laboratory.

Design Graphics Program For Engineering Students Meets All Expectations

The Department of General Engineering is in the fourth year of an imaginative approach for freshmen oriented engineering design graphics education which has gained international attention.

The program was initiated in 1984 with the premise that micro-computer and appropriate professional level interactive computer-aided design and "drafting" (CADD) software would become the best tools for both practicing and teaching engineering design graphics.

The project is particularly noteworthy due to its large scale, comprehensive benefits to teaching, grading approaches, easy-to-use computer system environment, innovations, evaluation studies and viability.

The course is co-chaired by Prof. D.C. O'Bryant and Prof. M.H. Pleck with Profs. J.P. Hipskind and T.R. Woodley also participating. Weichen Chow and R.D. Hugelman are lecturers.

Engineering Graphics I (GE 103), has approximately 1,200 students yearly and is a service course for the entire College of Engineering.

Presently there are eight large lectures with five different instructors which meet twice a week.

These are followed the next day by back-to-back, fifty-minute sessions of 24 students each in both traditional classroom and micro-CADD lab settings for scheduled activity.

An additional hour of open micro-computer lab time is made available weekly to each student.

Each lab is supervised by an instructor, with a trained undergraduate assisting in the microcomputer labs.

In the traditional classroom, pencil and paper sketching, some limited introduction to drawing instrument use and the design activity portion of the course take place. Homework and tests are done entirely in pencil and paper mode.

The micro-computer facility has grown in size since its inception. It presently includes three major rooms.

Two rooms each contain 28 fully configured, color-graphics-equipped, IBM PC-AT or Compatible Zenith workstations—24 for student use, three for grading activity and one for instruction use. One plotting-printing and two file servers round each lab room's ensemble.

A third nearby room serves as a lecture auditorium accommodating 96 students. It contains a demonstra-

GE Alumni Board Elects New Officers at Spring Meeting

The board of directors of the General Engineering Constituent Alumni Association named Tom Flock, '78, Carterville, Il., president for 1988-89.

The group met on May 20 at the Transportation building, Urbana, for its annual Spring Meeting.

Flock is a faculty member in the School of Technical Careers at Southern Illinois University, Carbondale.

The group heard a report from Kristine McGuire of the College Development Office. The 1988-89 drive is to be headed by George R. "Dick" Amrstrong, '64, Elk Grove.

A sub-committee to be headed by Richard Reynolds, '53, Rockford, was named to establish an award for a student graphics design contest.

The directors also have voted to have a student representative on the board as an ex officio member. It was proposed that the representative be the student president of the Illinois Society of General Engineers.

Louis Wozniak, a junior in GE, appeared before the board as incoming ISGE president to discuss student concerns. He pointed to problems at the Placement Office where GE students were not permitted to interview with certain companies and asked for alumni intervention.

He also suggested a "Career Night" for GE students where alumni would attend to advise and counsel students as to business and industrial operations.

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(Continued on page 2)

From the Department Head



As many of you who live in Illinois have heard, the State Legislature did not vote on a tax increase which would have provided more support for education at all levels in the state of Illinois. The funding bill for the University of Illinois provided enough for a five and one-half percent average salary increase for our faculty and staff; internal reallocations had to be used to bring the average salary increase for faculty and staff to seven percent. The fiscal constraints on the University over the past eighteen months have permitted our peer schools to move past us in salaries and have severely restricted state money for repair and remodeling of our facilities.

The College of Engineering Advisory Board met during the last week of September to consult with the College Administration and Departments on issues of importance to the College; this year Continuing Engineering Education and Corporate support of, and involvement with, the research enterprise were the major topics covered. Each Department had a subgroup of this Board assigned to meet with the Head to discuss future plans and directions. Members of the Advisory Group for General Engineering are Messrs. William A. Chittenden, Senior Partner of Sargent and Lundy; Patrick J. Fortune, President of Baxter Travenol Parenterals Division; R. Mark Schreck, General Manager of Product Design at General Electric Appliance Park; Allan Wennerberg, Director of University Relations of Whirlpool Corporation; and Robert D. Wismer, Director of Research and Advanced Technology of Deere and Company. The advice provided by this Board has been most helpful to the College and the Department and is very much appreciated.

A discussion of the quality of undergraduate education at Illinois has been in process for the past two years. This Fall a proposal will be made in the Senate, which could signal the first change in Campus general education requirements in over twenty years. What is unknown at this time is how extensive these changes will be and what effect they will have on the undergraduate curricula of the College of Engineering. Our faculty agree on the need for four year curricula, so we foresee the need to adjust our curricula to accommodate changes in general education requirements and to plan for the needs of the profession as we approach the year 2000.

Later this year the faculty of General Engineering will undertake a thorough review of our curriculum. We would appreciate your comments about any aspect of the curriculum (e.g. technical courses, liberal arts re-

Design Graphics . . . (Continued from page 1)

tion workstation featuring a large-screen projection monitor. All the micro-computers are linked by IBM PC-NET.

The educational impact of the project has been assessed both qualitatively and quantitatively and results have been highly favorable. The studies have shown the use of micro-CADD to positively affect test scores and work efficiency.

"Staff members observing student performance and attitudes have concluded that students in the micro-CADD groups seem to be learning more, learning better and learning faster than by former methods," Prof. Pleck said.

The project required both new approaches and methods for the grading of micro-CADD assignments. This task has been made relatively effective and efficient by the use of locally written software, termed "grading programs."

Realizing that much yet needs to be done, significant additions to the project are underway.

Under study are:

- Improvements in the grading programs;
- An experimental link to an IBM mainframe to provide fast recovery of archived files;
- A gateway to an IBM mainframe to provide a link to advanced CAE capability; and
- The CADD Menu and Security System expansions provide access to other programs.

Prof. Pleck points out that new developments in micro-computer hardware and software, especially those advancing the state of the art in three-dimensional CADD, are expected to cause changes in the project.

"These will affect both 'what' needs to be taught in a modern Engineering Design Graphics course and 'how' the course can best be taught from intellectual and cognitive viewpoints," Pleck said.

Alumni Board . . . (Continued from page 1)

Further contributions to the Jerry S. Dobrovolny Leadership Scholarship Award were encouraged by the board. The fund remains short of the goal for a \$10,000 endowment.

Before adjourning the board set May 19, 1989, as the date for the next Spring Meeting.

Officers of the Association as elected include:

President—**Flock**; First Vice President—**Reynolds**; Second Vice President—**Bradley O. Motier**, '79, Rockford; Secretary-Treasurer—**Bob Roads**, '71, Springfield; Alumni Board Representative—**Armstrong**; Relations with Industry—**LeRoy Kendricks**, '78, Urbana; Immediate Past President—**Gary Allie**, '69, Chicago; Board Members—**David Burge**, '69, Cleveland, O., **Ron Hausch**, '64, Des Plaines; **Jim D'Orazio**, '75, Highland, IN; **Armstrong**, and **Jerry S. Dobrovolny**, '43, Champaign.

Ex Officio members include: **Tom Conry**, head, GE department; **Prof. David O'Bryant**, GE faculty liaison; and **Wozniak**, ISGE.

quirements, communication skills, etc.) that you wish to share with us. Please write. We want to hear from you.

Sincerely yours,
Thomas F. Conry
Professor and Head

College of Engineering Chooses Schowalter Dean

William Raymond Schowalter, presently chairman of the Department of Chemical Engineering and Class of 1950 Professor of Engineering and Applied Science at Princeton University, has accepted the position of dean of the College of Engineering at the University of Illinois at Urbana-Champaign, replacing Mac E. Van Valkenburg, who has retired. He will assume his duties in February, 1989.

Schowalter received a BS in chemical engineering from the University of Wisconsin, Madison, and his MS and PhD in the same field from UIUC.

Schowalter is a member of the National Academy of Engineering, American Institute of Chemical Engineers, American Chemical Society, and Society of Rheology; his research interests are in fluid mechanics, especially as it relates to polymers and to its effect on the tendency of colloidal dispersions to form aggregates or remain dispersed as single particles.

A prominent industrial consultant, he has been recognized for his activities in promoting engineering education. His awards include the Lectureship Award of the Chemical Engineering Division of the American Society for Engineering Education, the William H. Walker Award of the American Institute of Chemical Engineers, and the Distinguished Service Citation from the College of Engineering at the University of Wisconsin. He has been a Sherman Fairchild Distinguished Scholar at the California Institute of Technology and a Guggenheim Fellow.

Gardner Named Acting Dean

Chester S. Gardner, associate dean for academic affairs and professor of electrical and computer engineering, is acting dean of the college. He will continue in that position until William Schowalter takes up his duties in February 1989.

ISGE Launches New Activities, Shows Gains in Membership

A theme of "Something for Everyone" is given credit for a revitalization of ISGE.

Chapter President Louis Wozniak says a computerized sign-up and a lowering of dues to three dollars (two dollars for freshmen) has resulted in a record 260 members.

Committees have been named to develop leadership and foster activities for social events, sports, curriculum, placement, campus affairs and alumni relations.

"We're offering helpful curriculum and career information for underclassmen," Wozniak says. "All in all, it takes as much time as a five-hour course but its working!!"

To date ISGE has held a number of sporting events, one rained-out picnic and two informational lecture-dinners for freshmen. Supplies for the dinners were paid for by the GE department while ISGE members prepared and delivered both the lecture and the dinner.

Technology Audit, Assessment Program Available to Industry

The Technology Audit and Assessment Program is continuing with a technical assessment in microcomputer intelligent hydraulic motion control, according to Prof. Roland Ruhl.

Hydro-Line Manufacturing of Rockford, Ill., is the industrial sponsor. Researchers Prof. Rodney Hugelmann, Prof. Tom Woodley, Prof. Ruhl, Graduate Student Jose Lopez and Programmer Ed Grabner.

Development work includes not only prototype system development but research into how to make microcomputer based control easy to use by those who can benefit from it but who are usually unfamiliar with cutting edge microcomputer and control system technology.

Ruhl states "the enormous increases in performance and reduction in price of microcomputer hardware is allowing computer intelligence to be cost effectively applied to broad areas of industry and is no longer limited to military/aerospace and other high end, high value added markets."

The leadership role played by the Department of General Engineering in its industry programs (GE 242 Senior Project Design and Technology Audit and Assessment Program) provides a conduit to midsized Illinois Industry to learn about cutting edge techniques that affect their plant, product and personnel.

The wide ranging computer based design capabilities of the department's faculty and their students can provide assistance to much of Illinois industry.

The technical assistance provided is without commercial slant. Ruhl states, "we are there to help dispense appropriate and measured technology, not to sell anything. After a technology audit or assessment or a GE 242 project, the sponsoring company is often much better equipped to seek further help from commercial sources."

Finally, GE students and faculty get to see over an extended period of time an industry research and development program bring to their attention practical design activity in industry.

Engineering Open House To Be Held on March 3-4

The theme for this year's Engineering Open House is "Reviving the Dream." This annual event will be held March 3-4, 1989, and promises to be interesting to the engineer as well as the general public.

General Engineering has had a respectable showing in E.O.H. competition since its inception. Last year, General Engineering exhibits received one first place award for the "Walk of Life with AutoCAD" display, as well as four second place awards, ranging from Prof. Burns' "Chaotic Dynamics" display on CAEDS to wheelchair exercise machines.

The General Engineering Department's E.O.H. effort is headed by Lisa Dullum for the Illinois Society of General Engineering and Sheila Manion for Gamma Epsilon. They promise to make the department's showing better than ever and invite everyone to attend and learn what the department and the College of Engineering are doing.

List GE Teaching, Research Assistants

There are 32 student teaching or research assistants in the Department of General Engineering for the fall semester.

They are:

Teaching Assistants—Jacquelyn Beller, Pontiac; Brian Blackburn, Decatur; Christopher Crawford, Libertyville; Spiro Deligiannis, Aurora; Dale Ellingson, Marengo; Robert Erickson, Park Forest; Robert Flanigan, Downers Grove; Ethan Franklin, Barrington; Julie Furmanek, Arlington Heights; Christopher Hoyle, Glenwood; Matthew King, Bloomington; Jose Lopez, Freeport; Kent Miller, Urbana; Shelley Morgan, Buda; Mike Safoutin, Heavener, Ok; Richard Sesek, So. Holland; Robert Sesek, So. Holland; Joel Storckman, Decatur; Thomas Tirpak, Glenview; and David Watanabe, Mt. Prospect.

Research Assistants—Dean Brusnighan, Gardner; William Chapin (undergraduate), Chatham; Michael Chica, Chicago Ridge; Eric Hedlund, Mt. Prospect; Fred Jewell, Rolling Meadow; Kurt Koenig, Oak Park; Andre Pavkovic, Glenview; Margaret Schneller, Naperville; David Slowinski, Chicago; Shawn Sowers, Lerna; David Wears, Urbana; and Peter Webster, Potomac, Md.

In addition, Phyllis Keys, Tupelo, Ms., is a fellowship student.

Engineering Council Officers

Three General Engineering students have been elected officers on the College of Engineering Council for 1988-89. They are: Troy Pawelko, McHenry, President; Dianne Ott, Chicago, administrative vice president; and Kim Duckett, LaGrange, publicity vice president.

Receives Promotion

Associate Professor Wayne J. Davis was promoted effective Aug. 21, 1988, to professor.

Davis teaches "Introduction Engineering Economy and Operation Research" (GE 288) and "Advance Techniques for Planning of Engineering Projects" (GE 495).

His research centers on "Decision and Control of Advanced Manufacturing Systems" with special emphasis on real time decision-making techniques.

Grant Benefits CAE Lab

A \$87,581 grant in computer equipment from Apple Computer has been awarded as a result of a proposal by Prof. Scott Burns. The equipment will provide 13 MacIntosh II workstations to be used in a CAE laboratory. Another 17 workstations were obtained through campus funding, totalling 30 workstations in all for the facility.

Reviewer Recommends Streeter's New Book

A new book, "Professional Liability by Architects and Engineers," by Prof. Harrison Streeter has been praised for providing the practitioner "with a concise overview of the rules governing liability issues, coupled with case digests to further illuminate the point."

Published by Wiley Interscience, the book contains 73 pages of text with 32 case digests of actual court decisions. It sells for \$39.95.

The reviewer, Milton F. Lunch, former general counsel of the National Society of Professional Engineers, is a liability consultant for several organizations.

He advises engineers who want to get a "feel" of the basic legal principles that govern their practice "to read Streeter's book."

The volume contains the legal principles that arise during liability allegations in such areas as warranties, strict liability, principles of negligence, cost limitations, change orders, service during the construction phase, certifications, indemnification, arbitration, professional liability insurance, tort-reform efforts of recent years, and a number of other subjects that may arise in a liability claim.

Prof. Streeter has degrees in both engineering and law and is a member of NSPE among other professional societies.

GE Graduate Hits Gold With Own Invention

A spilled cup of coffee has lead GE graduate Jeffrey Morris, '70, to form a highly successful company, Telephone Products, Inc., to merchandise his invention.

When Patent Attorney Morris turned over his coffee cup onto his desk with a knotted telephone cord, he got an idea for a new product he calls the UnTangler. It is a swivel device that fits on the phone to keep the cord from knotting.

It is a hot item and the company has signed contracts with Radio Shack, GTE Corp., and K-Mart. It also has been picked up by mail order catalogs.

Morris and his two partners put in \$250,000 to start the company. Last year's sales topped \$750,000 and this year sales are expected to hit \$1 million.

A patent attorney in Rolling Meadows, Morris lives in Buffalo Grove with his family.

GE Short Course Was Well Attended

Forty persons from throughout the nation attended an intensive short course for engineering and engineering technology faculty June 6-8 at UIUC.

More than 120 person applied for admission.

The course, "Computer-Aided Design Drafting Instructional Approaches," was presented by Profs. Michael H. Pleck, Thomas R. Woodley and David C. O'Bryant.

It was co-sponsored by National Science Foundation, UIUC College of Engineering, Office of Continuing Engineering Education, Office of Continuing Education and Public Service and Division of Conferences and Institutes.

THE STUDENTS' VIEW

From The Illinois Society of General Engineers

Summary Issue No. 88-1

November, 1988

President's Corner

ISGE is rolling! When I took office in April, I had no idea of the enthusiasm ISGE would be generating this year. We are getting support from the department, the professors, and most importantly, from the members. I would like to thank everyone for helping set a record membership and many for devoting time to committees. I have met with all the committee chairpersons and they are formulating plans and starting various projects. We have an ambitious program this year and with everyone's help, we'll get it all done with ease. "Something for Everyone" is our theme. From formulation of academic ethics to organization structure to sports and Friday's Happy Hours, we will fulfill our promise.

Louis Wozniak

Engineering Placement Committee News

President Louis Wozniak and Engineering Placement Committee Co-Chairman Sharon Ward and Brian Emery met to discuss immediate goals. The committee will find out how Engineering Placement Office functions, who contributes to EPO policies, and what action can be taken by GE students to improve employment opportunities. Because this is a critical issue that affects every GE, it is extremely important that GE's pool efforts, ideas and time to gain their "fair share" at employment interviews.

Campus Affairs Committee

The newly formed Campus Affairs Committee, chaired by Bill Tyburk, is examining the effect of administrative and student government decisions on GEs. It is a link between ISGE, other campus societies and committees, and U of I governing bodies. To help CAC better serve GEs, short surveys will soon be placed at the ISGE bulletin board location. These surveys will help us find our common concerns and voice our collective opinions. Students' input will be our guide.

ISGE's Informative Events

ISGE is planning to hold a series of four informative social events this year directed specifically at freshmen and sophomores. The topics were selected to help underclassmen make informed decisions about curriculum as well as careers. They are:

1. Survival in the University Environment.
2. The Advisor System and the Student.
3. The General Engineering Curriculum.
4. Professional Opportunities for General Engineers.

ISGE Holds Survival Kit on First Sunday of Semester

This function is one in a series of four designed to help freshmen in GE become acquainted with General Engineering and to give them some helpful hints on academics. The president spoke on ISGE and what we try to do. After this, Professor Wozniak spoke about "The Warning Signs of Academic Disaster (and what to do about it)." An informal gathering followed with subs, pop, ice cream, chips, and apple crisp, all prepared by the student helpers in ISGE. The event was successful and resulted in recruiting members into the organization. Many questions were answered about General Engineering during the meal when servers got the chance to mingle with the students. The attendees expressed appreciation for the department and ISGE's concern for their academic welfare. The event was funded by the GE department.

ISGE Scheduled Speakers

ISGE is scheduling a four-session speakers' series for the 88-89 academic year. W. Chittenden, a G.E. graduate and a partner with Sargent and Lundy, will be presenting experienced advice on "Preparing Oneself for an Engineering Career."

"Elements of Computer Modeling" will be presented by T. Prickett, President of Prickett and Associates of Urbana and "The Entrepreneur Sets up Shop" by Leroy Kendricks, President of ICCS of Champaign. Both speakers are G.E. graduates knowledgeable in these areas.

The concluding presentation of the series has not been set to date. The general topic will be "The Corporation and the Engineer."

Free Pizza and More

The October general meeting of ISGE was held on Tuesday, October 11 in 103 T.B. The first order of business was the selection of a vice president, Bart Helmick, a junior, was elected. Sandwiched between elections and pizza was "Opening Shop — A Career Option." Mr. Leroy Kendricks (BS, GE 1977), President of Integrated Controls and Computer Systems, shared his experience in starting and managing his 19 month old company. Our own student entrepreneurs also talked about their bid for success. The second order of business was announcing the winner of the ISGE Logo Contest. As always — Short Meetings and Free Pizza! And a big THANKS to the GE Constituent Alumni for sponsoring the event.

Curriculum Committee Report

Is the GE curriculum maximizing the student's professional potential? Is the time here well spent? The ISGE curriculum committee is addressing these issues. Brian Steck needs members' help and time to make this an effective project.

Membership Drive

Welcome ISGE members! Sharon Ward, in charge of the membership drive, is delighted that so many (263 at last count) decided to join ISGE. This year is off to a great start and there's a lot more in store. Thanks so much to all the people who helped recruit and operate the computer recruiter.

From the Treasurer

Financially, ISGE is off to a flying start. We have made money from disks sales to students in GE 103, GE 222, and GE 324. Membership drive added over \$500 more, bringing our net total to \$1050. Future projects include balsa wood sales to GE 232 students, T-shirt sales, and donut sales on Fridays. If anyone has ideas for fund-raising events, drop a note to John Kozel in the ISGE mailbox.

A Plea from ISGE to Our Alumns

If you read issues of *The Students' View*, you know that ISGE is very active in several areas. The obvious has just occurred to us: Most GEs who have completed the undergraduate curriculum are no longer here! We have a dynamic organization this year, and our officers have pledged the time and effort necessary to promote curricular and career goals to benefit all our students. To achieve these goals we need your input and guidance. We plan to use our newsletter as a means of obtaining this guidance through timely questionnaires. Will you help? Join us as an ISGE Adjunct. You will receive all our newsletters (and questionnaires), and you will help us in making those curriculum and placement decisions which are so important to students. Please fill out the form below and return it with five dollars to pay for a year's mailings.

Louis

New Electronic Bulletin Board?

ISGE, with yet unsecured support would like to purchase and install an electronic bulletin board. The display would increase communications and visibility of the society. The ISGE officers would like the electronic board to be placed in the front entrance corridor of the Transportation Building.

Engineering Open House

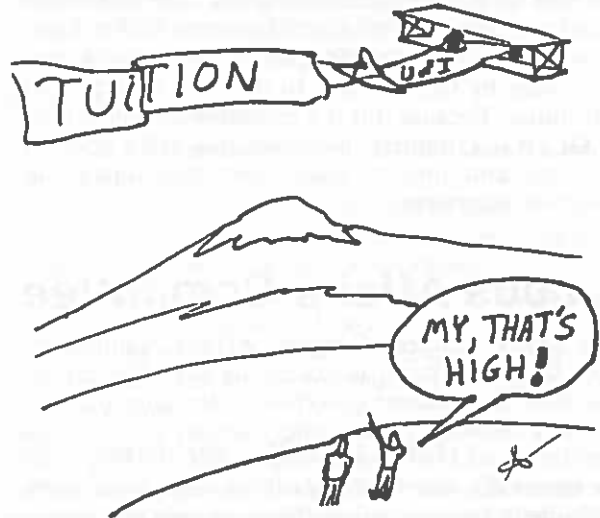
Engineering Open House will be on March 3 and 4. The abilities of GEs will be on display to the general public, prospective students, and potential employers. ISGE's EOH chairperson, Lisa Dullum, encourages all students with project ideas to leave a message in the EOH mailbox. Alums are welcome to join the fun.

Engineers' Society Night

Twenty-four new members signed up at the solicitation of Karen Sheinflug and Eric Smith, who manned the ISGE booth at the Illini Union on Wednesday, August 30.

ISGE Picnic

The turnout of 30 for the picnic was great considering the weather on Sunday, September 18. After eating, ISGEs played volleyball and tug-of-war. A special thanks goes to Paul Hartweck, Dawn Stanlake and Jane Tucci who coordinated the event.



Yes, I want to become an

ISGE ADJUNCT

I am enclosing \$5.00 for '88-'89 mailings.

Send ISGE's *The Students' View* to

Name _____

Company _____

Address _____

City _____ State _____ Zip _____

Phone () _____

Please detach and mail to:

ISGE

Department of General Engineering

104 S. Mathews

Urbana, IL 61801

Faculty Notes

Prof. Manssour H. Moeinzadeh

Prof. Manssour H. Moeinzadeh and Prof. Mark Strauss have received a \$43,240 research contract from the Veterans Administration Rehabilitation Research and Development Center, Hines, Ill., for their research proposal, "Biomechanics of Shoulder Injuries in Wheelchair Propulsion." Prof. Marlene Adrian of the kinesiology department is also a collaborator on the project.

Prof. Moeinzadeh was a session chairman for the Biomedical Engineering Division of the 1988 annual meeting of the American Society for Engineering Education, June 19-23 at the University of Portland, O. At the conference, he and Prof. Rodney Hugelmann presented a paper, "Maintaining a Viable Industry Sponsors Base and Its Long Term Effects." Moeinzadeh also was elected to a 3-year term as a member-at-large of the ASEE Biomedical Engineering Division.

The 12th annual meeting of the American Society of Biomechanics had the largest attendance in its history Sept. 28-30 at the University of Illinois. Prof. Moeinzadeh served as meeting chairman and host to the 247 scientists and scholars from the U.S. and abroad who attended. At the meeting, Prof. Moeinzadeh and Mary Ann Widing presented a paper, "Three Dimensional Nonlinear Finite Element Analysis of a Tennis Racket."

Prof. Moeinzadeh was an invited speaker at the Amir Kabir University, Sharif University and Tehran Rehabilitation Institute in Tehran, Iran. In these seminar series, he presented various topics in biomechanics, biomedical engineering and rehabilitation research.

A paper, "Ground Reaction Forces During Baseball Pitching," coauthored by Prof. Moeinzadeh, Matt Fonck and Marlene Adrian was presented by Adrian at the 1988 Olympic Scientific Congress, Dankook University Cheonan Campus, Seoul, South Korea, Sept. 9-15.

Prof. Moeinzadeh has received a supplemental grant from the U.I. Bioengineering program for continued research and development of "A Novel Propulsion System for Human Powered Hydrofoil."

Prof. Scott Burns

Prof. Scott Burns has received a \$61,264 grant from the National Science Foundation for research in Engineering Design Methodology.

Computer graphics resulting from research in chaotic dynamics by Prof. Burns and J. Palmore were displayed at the Lawrence Hall of Science, Berkeley, Ca., from June 18 to Sept. 18.

Prof. Burns authored a paper, "Graphical Representation of Design Optimization Processes" that recently appeared in *Computer-Aided Design*.

The *Journal of Color Research and Application* has reprinted a paper, "Multiple Metamers; Preserving Color Matches Under Diverse Illuminants" by Prof. Burns, Prof. Edward Kuznetsov and J. Cohen.

Prof. Osman Coskunoglu will spend the 1988-89 academic year at the Universita Degli Studi di Milano in Milan, Italy.

Prof. Deborah L. Thurston

Prof. Deborah L. Thurston has received three research grants. A \$93,349 award from the Chrysler Motor Corp. is for "Competitive Companies Resource Allocation and Process Definition." The research will include a model which may be used to determine the effect of investment in engineering research and development on productivity. A National Science Foundation, Research Initiation Award for \$66,388 will cover a study, "Integration of Utility Analysis and Rule Based Computer Aids to Design". The research will be the foundations of a methodology which makes explicit the distinction between subjective and objective design and decision making rules. U.S. Army Corps of Engineers, Construction Engineering Research Laboratory, will fund, "Knowledge Worker System." This research will be a task management tool for use by military personnel.

A paper, "A Materials Selection Tool for Automotive Structural and Body Skin Systems," by Prof. Deborah Thurston has been published in *Design and Manufacturing of Off-Highway Equipment: Computer Applications*, Society of Automotive Engineers. The paper also was presented at the SAE International Off-Highway and Powerplant Congress and Exposition, Sept. 12-15, at Milwaukee, Wi.

Prof. Thurston presented a paper, "A Methodology Towards Optimal Engineering Design of Manufactured Systems," at TIMS/ORSA Joint National Meeting, Washington, D.C., April 25-27. Also she gave, "Multi-attribute Utility Analysis as a Design Tool," at ORSA/TIMS Joint National Meeting, Oct. 23-26, Denver, Co.

Prof. Thurston is serving as faculty advisor to the Society of Women Engineers (student chapter). She was principal speaker at the Mom's Day Banquet last spring and at the Little Sister banquet this fall.

Prof. Mark Strauss

Prof. Mark Strauss has received four research grants totalling \$170,039. They are:

- Tektronix Inc., \$27,315 equipment grant;
- National Science Foundation, \$109,060, engineering student projects for the disabled;
- Autodesk, Inc., \$8,710, Computer Automated Design for the Disabled; and
- National Science Foundation, \$24,954, research experiences for undergraduates in rehabilitation engineering.

Prof. Henrique L.M. dos Reis

Prof. Henrique L.M. dos Reis was chairman and organizer of an International Conference on Non-Destructive Testing and Evaluation for Manufacturing and Construction Aug. 9-12 at UIUC. The 120 participants came from 12 different countries.

Prof. Reis also has received a \$7,200 equipment grant from the National Science Foundation for the Non-Destructive Testing Research Laboratory.

Prof. S.D. Thompson

The Engineering Foundation has awarded a \$20,000 Research Initiation Grant to Prof. S.D. Thompson. His research is entitled, "Development of Design Methodologies for Sizing Segregation Bunkers in Conveyor Belt Networks."

Faculty Notes

Prof. Dan Metz

It's been an active year for Professor Dan Metz. Last Spring, he and Professor Bob White in Mechanical and Industrial Engineering co-taught ME336, Vehicle Dynamics, and simultaneously videotaped it. The course is now being taken on an extramural basis throughout the United States.

Metz, and his graduate students, recently completed a number of papers. "Near Time-Optimal Control of Racing Vehicles," with graduate student Dan Williams, will soon appear in *Automatica*. Williams has accepted a position with Moog Controls, Inc., in Stuart, Florida, and is currently working on active suspension systems for both racing and passenger car vehicles. "Aerodynamic Behavior of 1/12-Scale Open Wheel Racing Cars in Drafting Situations," written with Todd Springer of Mechanical Engineering, will appear soon. Finally, several undergraduate students (Cheryl Akouris, Craig Agney and Mark Clark) in General Engineering, working with Metz, performed a series of experiments which are reported in "Moments of Inertia of Mounted and Unmounted Passenger Car and Motorcycle Tires," which will appear in *Tire Science and Technology* in the near future. A paper entitled "Controllability and Stability Aspects of Actively Controlled 3WS Vehciles," with Akira Ohnuma of Mechanical and Industrial Engineering, will probably appear at the 1989 SAE Congress in Detroit.

Metz is enjoying several good undergraduate handball players, though he reports he doesn't beat them very often, and is pretty active athletically in both cycling and handball all year around. He hopes former students who are in town will give him a call.

Prof. Mark Spong

Prof. Mark Spong has received a \$18,000 grant from the Illinois Space Institute for a proposal entitled, "Telerobotics in Space Applications." Also the National Science Foundation, Research Experience for Undergraduates program has awarded a \$4,000 grant to Spong. Carol Casada, a GE student, was employed during the summer in the Robotics laboratory under the grant to investigate networking and computer graphics simulation aspects of robotics.

Prof. Spong will serve as organizer for a session, "Where are we in Adaptive Control of Robots?" at the 27th IEEE Conference on Decision and Control at Austin, Tx., in December. He also will present two papers: "Adaptive Motion Control of Rigid Robots: A Tutorial," coauthored with Romeo Ortega, Universidad Nacional de Mexico; and "Bilateral Control of Teleoperators with Time Delay," coauthored with Robert Anderson, UIUC.

Another paper, "A Network Representation for Robots," coauthored by Spong and Robert Anderson, UIUC, will be presented in December at the 1988 ASME Winter Annual Meeting in Chicago.

Prof. Spong served as program chairman for the 26th annual Allerton Conference on Communication Control and Computing held Sept. 28-30 at Allerton House, Monticello. He has also been named associate editor of the IEEE Transactions on Automatic Control.

Prof. Harrison Streeter has been appointed to a three-year term on the Board of Ethical Review of the National Society of Professional Engineers. His term will expire in July, 1991.

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ALUMNI NOTES

1954 Robert T. Meyer, Michigan City, IN, has been named assistant chief engineer of the Chicago South Shore and South Bend Railroad. After taking early retirement as a senior industrial engineer from Duluth, Missabe and Iron Range Railway in Duluth, MN, in 1986, he became senior Transportation Supervisor for Tolleston Corp. of Venango River Corp. in charge of its operation center for the Venango River Railroads. Meyer took his present position when the various railroads were realigned in March 1988.

1958 Leon W. Florschuetz, MS '59, Ph.D. (ME) '64, of Tempe, AZ was recipient of Best Paper Award presented at the 21st ASME/AICHE National Heat Transfer Conference in Seattle and for a two-part paper presented at National Heat Transfer Conference in Milwaukee. Florschuetz is a professor in the Department of Mechanical and Aerospace Engineering at Arizona State University.

Wayne A. Hamilton, is director of gas appliance services, a newly-created staff position resulting from an expansion of services to meet the special needs of gas range companies by the Association of Home Appliance Manufacturers of Chicago. He resides in Oswego, IL.

1960 Leo L. Sulda operates a Real Estate Brokerage in Avon, OH.

1963 Norman F. Bosek a mechanical engineer at the Fermi National Accelerator Lab at Batavia, IL, has moved to Wayne, IL from Downers Grove.

Herbert J. Singer, JD '66, Loyola University, practices patent law with his firm Silverman, Cass, Singer and Winburn Ltd. in Chicago. All of the partners are Illinois graduates. Singer and his wife, Rochelle, BS Elem. Ed. '65, Director of Elementary and Early Childhood Education at Barat College, reside in Lake Forest.

1964 Merwin F. Stroup, of Covington, LA, has accepted a position as flight instructor for Delta Airlines in Atlanta.

Donald E. Wilkinson, JD '70, John Marshall, has a law office in Wheaton, IL. His son is a junior in Chemical Engineering at UIUC. The family resides at 275 S. Ellyn, Glen Ellyn, IL.

1965 Thomas S. Snow has accepted a position as plant manager of the Plaster City, CA. plant of The United States Gypsum Co.

1966 Carl E. Jaske, MS '67 TAM, Ph.D. '84, Metall. Engr., Ohio State, is employed by Battelle's Columbus, OH Division. He has been appointed to the Executive Committee of the Pressure Vessel and Piping Division, ASME. Jaske has been active developing methods for life extension and assessment of engineering components. He also is leading a project, funded by the Electric Power Research Institute, to develop methods for assessing the safety of seam-welded steam piping.

1969 Robert A. Lehmann, who is self-employed in network marketing has moved to 4018 Hubbard Ave. N., Robbinsdale, MN.

1972 Richard H. Moburg, Geneseo, IL, is vice president and general manager of the J. F. Edwards Construction Co., Geneseo, IL.

1973 Gregory P. Boysen, MAPA '85, is Director of Public Works for the Village of Buffalo Grove, IL. Boysen and his wife, Nancy, are the parents of a new son, Kevin, born in January. The family, which consists of four other children resides in Arlington Heights, IL.

Neal C. Nealis, DDS '79, has opened a new office in Chicago. He resides in Oak Park, IL.

1974 Mark C. Benton, MS '75, Ph.D., '78 (ME) Univ. of Wisconsin, has accepted a position as engineering manager of British Telecom/DuPont Techniques in Wilmington, DE. He is responsible for advanced electronic packaging technology for fiber optic communications components.

Harold D. Harz has been named Customer Center Manager of IBM-SWME, Greensboro, NC.

1976 Thomas W. Tobin, JD '80, Pace U., is resident Tokyo partner for Wilson, Elser, Moskowitz, Edelman and Dicker Law firm.

1977 Bradford W. Dickson is sales engineer for Dresser-Rand Co., Salt Lake City, UT. He reports that he "sold the pumps and engines that are successfully lowering the level of the Great Salt Lake." The pumps are among the largest in the world—52 feet high, 12 feet in diameter, and moves 550,000 GPM.

Elroy Kendricks is president of a firm he started in Champaign in Feb., 1987. Integrated Controls and Computer Systems, Inc., consists of a group of engineers, programmers and system technicians who integrate custom configured hardware and software into a process control, factory automation, or plant communications systems to meet specific customer application.

William C. Payden has been promoted to Lieutenant in the City of Moline (IL) fire department.

1978 Sharon M. Kelly, MBA '82, Northwestern, is an advertising specialist with Commonwealth Edison Co., Chicago. A resident of Arlington Heights, she is completing a maternity leave after the birth of a son in February.

1979 Daniel K. Mankivsky is a sales engineer at Walker Process Corp., Aurora, IL. He and his wife, Linda, '80, a technical writer and project leader at Resource Information Management Systems, recently had their first child. They reside in Naperville.

Mark R. Menarik, Chicago, is sales manager of Spectragraphics, Des Plaines, IL.

1980 Michael A. Osowski, MBA '86, U. of Denver, has been appointed a senior information systems specialist with Martin Marietta Astronautics Group, Denver, CO.

1981 Jayne (Glemza) Beck has accepted a position as product engineer for Furnas Electric Co., West Chicago, IL. She resides in St. Charles, IL.

Paul N. Garcy, MS '85, GE, has been promoted to consulting manager, Management Information Consulting after five years with Arthur Andersen & Co. He has just returned from an overseas assignment in Jakarta, Indonesia, and Manila, The Philippines.

Arnold J. Suigussaar, a quality engineer with Prince Corp., Holland, MI, has recently passed the Certified Quality Engineer examination.

Timothy E. Tucker, MS '84, Industrial Engr., has been promoted to manager in Management Information Consulting Division, Arthur Andersen & Co., Chicago, IL.

Sharon M. West, MS '83, Manager, Network Architecture Planning, Illinois Bell Telephone, is starting a 10-month internship program at Bell Northern Research in Raleigh, NC. As a member of the scientific staff, she will be working on research projects in network designs of the future.

1982 Peter J. Furman, MS '85, ME, has been named applications engineer, Modeling Analysis and Design Division, MTS Systems Corp., Minneapolis, MN.

Warren R. Sampson, Bloomington, MN, has started a firm, Big Road Music. The business releases albums and CD's of original music.

1983 Julie (Chalden) Evans, MBA '87, San Francisco State Univ., has received an appointment as research analyst, Planning Department, Pacific Bell, San Ramon, CA. She resides in San Francisco.

Paul V. Fryling, MBA '88, Univ. of Wis.-Madison, has moved to Berkeley, CA.

Cynthia B. Moeller has joined the technical staff in the Data Processing Laboratory, Hughes Aircraft Company, Space and Communications Group, Englewood, CO. She resides in Aurora, CO.

Timothy J. Nolan, Streamwood, IL, has been promoted to Engineering CAD/CAE System Administrator, Ekco Products, Wheeling, IL.

Marc A. Spoor, an engineer with Northrop Defense Systems Division, Rolling Meadows, IL, and his wife, Sarah Spencer Spoor, '84 LAS, are parents of a baby daughter. The family resides in Elgin, IL.

Jeff Williamson has been named software engineering specialist with Northrup, Rolling Meadows, IL. He will lead 5-10 engineers in designing software systems for Advanced Electronic Counter Measures. Prior to his return to the Chicago area, Williamson worked for Rockwell in Southern California. He designed defense software systems for projects including the Trident II submarine, the Air Force Advanced Tactical Fighter and an Advanced Avionics Simulation of the Air Force AC-130U Gunship.

1984 Manfred A. Bischoff, a contract specialist, has been transferred to Offutt Air Force Base, NE. He married Bobbi L. Collins in April 1988.

Ginny M. Carens has accepted a position as account representative for the Digital Equipment Corp., Santa Clara, CA. She services semiconductor accounts in the Silicon Valley.

Paul Estrada, MME '86, Stanford U., has been named product manager, Robot Systems, Adept Technology, Inc., San Jose, CA. He resides in Sunnyvale, CA.

Catherine E. O'Brien was recently appointed Systems Engineer at Sargent & Lundy, Chicago. Her responsibilities include coordinating and performing piping design/calculations for various power plants. A resident of Mt. Prospect, Ms., O'Brien joined the firm in 1984 as an engineer-in-training.

1985 Benjamin T. Adamowski, MBA '88 Northern Ill. U., resides in Michigan City, IN.

Timothy F. Kalafut has a new position as Electrical Manufacturing Engineer with Saturn Car Co., Troy, MI.

Thomas C. McDonough, J.D. '88, U. of Wis.-Madison, has joined the law firm of Vedder, Price, Kaufman and Kammholz, Chicago, specializing in intellectual property law.

1986 Paula (Ghilarducci) Markos has recently moved to Mundelein, IL. She is an associate project engineer with Varco, Inc., Barrington, IL.

Lincoln T. Smith, MS '87, U. of Mich., has accepted a position as senior scientist with Vector Research, Inc., Ann Arbor, MI., an operations research systems analysis consulting firm. He was recently married to Kathleen Martin of Mt. Vernon, IL.

Carol A. (Vician) Feingold was recently married to Mark Feingold, '85 Aero. Engr., and has joined him at Eielson AFB, Fairbanks, AK. She has taken leave of absence from General Electric Co., Louisville, KY to pursue a technical support position at their satellite tracking station in Fairbanks.

1987 Glenn F. Balog has been commissioned an Ensign in the US Navy Civil Engineer Corps and assigned to the Naval Mobile Construction Battalion Seventy-Four. For the next two years he will spend half of his time at his home base of Gulfport, MS, and the balance at overseas locations.

Mark T. Mayszak has accepted a position as system design engineer with Northern Illinois Gas, Aurora, IL. He was recently married to Jean Jacques, '87, Chemistry, who is a chemist with NALCO Chemical Co. The couple resides in Naperville, IL.

David R. Muehling is a naval architect with the Portsmouth Naval Shipyard in Kittery, ME. He is with the hull structure and stability design group. He resides in Hampton, NH, and is taking graduate courses at the University of New Hampshire.

Mary T. Sims, sales engineer with York International, has been transferred to the Detroit office from Phoenix. She resides in Rochester Hills, MI.

Traci L. Urban has been named a systems engineer with IBM in Evansville, IN.

1988 Laurel A. (Taylor) Lundborg has accepted a position as associate engineer with Furnas Electric Co., Batavia, IL. She is in the Furnas' Career Development Program and will have three different job assignments during the first year. Recently married to David J. Lundborg, the couple resides in Glendale Heights, IL.

James E. Michaels is a design engineer with ITW-NIFCO, Inc., Hilliard, OH. His immediate supervisor is Robert J. Chrisman, Jr., '85.

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