

GENERAL ENGINEERING NEWSLETTER

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

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New CAE Laboratory To Offer More Computer Access to Students

Work is progressing on a new computer aided Engineering Laboratory in the Department of General Engineering.

There will be limited access to the new facility located in Room 302 of the Transporation Bldg. this spring. It will be ready for full use for the fall semester.

The CAE Laboratory under the direction of **Prof.** Scott Burns will feature 30 MacIntosh II work stations. They will be ethernet networked with a file server and print spooler driving two laser writers.

"The new facility will provide an open laboratory for upper level and graduate students," **Prof. Burns** said. "This facility will greatly increase the accessibility of computers to students."

He also said the laboratory makes it possible to offer new courses in the future.

Funding for the laboratory came from student computer access fees, donations from Apple and college and department funds (much of which came from alumni and corporate gifts).

Prof. Burns pointed out that using the computers during class will enhance feedback and understanding between student and instructor.

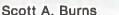
The Apple laboratory which formerly occupied Room 302 has been moved to remodeled space on the fourth floor.



A \$10,000 gift from General Electric Co., Appliance Park, Louisville, Ky., has been awarded to the General Engineering Department for its Engineering Curriculum Expansion Project. Shown receiving the check is (L to R) Prof. Thomas F. Conry, head, GE dept.; R.M. Schreck, General Manager, Product Design Dept., General Electric; and Dean W.R. Schowalter, College of Engineering.

National Science Foundation Honors Two GE Professors







Deborah L. Thurston

Two members of the General Engineering faculty, **Prof. Scott A. Burns** and **Prof. Deborah L. Thurston**, have been selected as 1989 Presidential Young Investigators by the National Science Foundation.

The prestigious awards are among the maximum of 200 awarded each Spring to attract and encourage the nation's most outstanding and promising young scientists and engineers to an academic career of research and teaching.

Providing a minimum of \$25,000 and up to \$100,000 annually for the next five years, the awards recognize research and teaching accomplishments as well as academic potential.

Prof. Burns received his B.S. degree in General Engineering in 1980, M.S. in 1982 and Ph.D. in 1985 in Civil Engineering all from UIUC. A registered Professional Engineer in Illinois, he was appointed an assistant professor on the GE faculty in 1985.

Prof. Thurston received a B.S. in 1978 from University of Minnesota and a S.M. in 1984 and Ph.D. in 1987 both from the Massachusetts Institute of Technology. She was named to the GE faculty as an assistant professor in 1987 and is a registered Professional Engineer in Minnesota.

Prof. Thomas F. Conry, head, department of general engineering, upon receiving word of the awards, said: "This recognition is a signal honor to the recipients, to the Department, to the College of Engineering and to the University of Illinois. I extend my heartiest congratulations."

From the Department Head



Our new dean, William R. Schowalter, arrived on February 1, to lead the college for what we hope will be a period of excitement and change. Many challenges and opportunities face the college: in curriculum, facilities development, research, and faculty development. We welcome him back to the University of Illinois.

Professor John P. Hipskind will be retiring in May after thirty-five (35) years of service on our faculty. John has been active in the instructional programs in engineering design graphics and has served as an advisor for a number of senior project design groups. We wish him continued good health so that he may enjoy retirement with his family. We are conducting a national search to find a replacement for John.

Our students continue to excel. Vipin Gupta from DeKalb, Illinois has won the prestigious Marshall Scholarship for two years of study at a British University. Vipin will pursue study in arms control and remote sensing at universities in London. Very few Marshall Scholarships are awarded and to receive one is a great honor indeed.

General Engineers continue to be active in our student societies. As a measure of the collective leadership embodied in our students, we had three Knights of St. Pat winners this year: Carol Casada, Troy Pawelko and Sharon Ward. Their combination of good grades, activities, and leadership ability place them in that select group of student leaders who are presented as a Knight of St. Patrick at the annual St. Pat's Ball.

We are making staff changes in the Department. Ms. Sue Goudy, who has been our computer utilization analyst for the last year and a half, is moving to New Mexico to embark on a new career. We will be replacing her with two people in order to better service our computer laboratories and other facilities in the department. We are conducting a national search for a Manager of Systems Services, who will be in charge of the administration, computer systems programming, and student workers in our laboratories. We just hired a new electronics technician, Dale Anderson, who will be in charge of hardware maintenance and repair for our computers and other laboratory equipment. These are significant changes in our department support staff and underscore the attention that must be paid to the teaching and research facilities in the department.

We are remodeling to install a new Computer Aided Engineering (CAE) laboratory that will have thirty (30) MacIntosh II workstations. This laboratory is being set up so that lectures may be given or students may use it as an open laboratory. The department had to remodel space on the fourth floor to move our existing micro-

Lincoln Arc Welding Honors 9 GE Students

A total of nine graduating seniors in General Engineering have received recognition and cash awards in the 1988 Student Engineering Design Competition of the Lincoln Arc Welding Foundation.

Kent A. Miller, Geneseo, Il.; Vivian M. Klick, Chicago, Il.; and Michael J. Chica, Palos Heights, Il.; won the Silver Award and will split a \$750 cash award for their GE 242 Project, "Software Development for Nondestructive Testing and Evaluation of Wood Products." Prof. Henrique Reis was faculty advisor and Weyerhaeuser Co. was corporate sponsor.

A merit award of \$250 will be divided by Karin B. Ulstrup, Glenview, Il.; Maura A. Curry, Naperville, Il.; and Dwight E. Krahn, Antioch, Il.; for their project, "A Redesign of Steel Members in Stackable Files." The faculty advisor was Prof. Weichien Chow and Fellowes Manufacturing was the corporate sponsor.

A second merit award of \$250 is shared by Robert C. Kosberg, Urbana, Il.; Jeffrey M. Stokes, Fox Lake, Il.; and Margaret A. Schneller, Lake Zurich, Il. for a project, "Mathematical Modeling and Dynamic Analysis of the Rolling Piston Rotary Vane Compressor." Prof. T.F. Conry is faculty advisor and General Electric is corporate sponsor.

In the past 18 years, GE students have received 23 awards from Lincoln Arc Welding.

processor laboratories that are used to support the General Engineering Laboratory course and the Digital Control of Dynamic Systems course. Contributions from our alumni and corporate friends have been used for the development of these facilities. Without such support we would find it difficult, if not impossible, to provide these new and upgraded facilities for our students.

Last, but not least, we are evaluating our curriculum; we have much to do over these next few years to integrate our undergraduate and graduate programs. The campus is about to change the general education requirements, which in many ways will provide a better education of our students. Proposals now before the Campus Senate, but not yet approved at the time of this writing, include an expansion of the writing requirement to two courses and the addition of a foreign language requirement that may be satisfied in part by a course of study in high school. This reflects the general feeling of the faculty, and I would hope a majority of students too, about the central importance of excellent communication skills and knowledge of our language. We see the need to be conversant in a second, and maybe even a third, language as our economy becomes more international and the economic strength of the country becomes more and more dependent on selling our goods and services to countries off-shore.

These are exciting times. They are times of change but also times when we can take advantage of opportunities that are placed in our path. The student that we educate today will be spending most of his or her professional life in the twenty-first century. We owe them nothing less than the best education that we can provide so that they may face the future with confidence and assume a leadership role in our society.

Thomas F. Conry Professor and Head

GE Alumni Board To Elect Officers

The annual Spring meeting of the board of directors of the General Engineering Constitutent Alumni Association will be held on Friday, May 12.

The meeting will be in conjunction with the Annual Design Symposium Day when GE 242 students will present their projects to corporate sponsors.

Directors will have a business meeting during the morning before joining students, faculty and industrial representatives for lunch in the Illini Union.

On the agenda for board consideration are election of officers, plans for the Alumni Fall Meeting/Football Outing and other matters relating to General Engineering Alumni and students.

During the afternoon GE students will make their final reports of their projects.

Current officers of the association are:

President, Tom Fiock, '78, Carterville, II.; First Vice President, Richard Reynolds, '53, Rockford, II.; Second Vice President, Bradley O. Motier, '79, Rockford, II.; Secretary-Treasurer, Bob Roads, '71, Springfield, II.; Alumni Board Representative, G.R. "Dick" Armstrong, '64, Elk Grove, II.; Relations with Industry, LeRoy Kendricks, '78, Urbana, II.; Immediate Past President, Gary Allie, '69, Chicago; Board Members, David Burge, '69, Cleveland, Oh.; Ron Hausch, '64, Des Plaines, II.; Jim D'Orazio, '75, Highland, In.; Armstrong and Jerry S. Dobrovolny, '43, Champaign, II.

Ex Officio members include: Tom Conry, head, G.E. Department; Prof. David O'Bryant, GE faculty liaison; and Louis J. Wozniak, student member for ISGE.

GE Freshman Honored

Tau Beta Pi has cited Joseph Macro of Schaumburg, Il., as an honorable mention for its Outstanding Freshman Engineer Award. This award recognizes students who excel in both academics and extracurricular involvement and who exhibit promising leadership potential in the profession of engineering.

Honored As Advisors

Three faculty members from the Department of General Engineering have been designated Outstanding Advisors by the College Dean's Student Advisory Committee. The honorees are Profs. Harrison Streeter, Thomas R. Woodley and Louis Wozniak. They were guests at an Advisor Award Banquet on March 7.



Four GE faculty members have been awarded College of Engineering honors. Shown (left to right) are Prof. Harrison Streeter, Prof. Thomas R. Woodley, and Prof. Louis Wozniak, all named recipients of the Outstanding Advisor Award; and Prof. James V. Carnahan, winner of the Dean Williams R. Everett Award.



Student award winners announced at the honors banquet included Matt King (L), William A. Chittenden Award; Elizabeth Auer (center), Elizabeth Huff Award; and Louis Wozniak (R), Jerry S. Dobrovolny Leadership, the Stanley H. Pierce Award and Ingersoll-Rand Award.

Faculty Notes

Prof. Thomas F. Conry

Thomas F. Conry, professor and head of the Department of General Engineering, was named a fellow of the American Society of Mechanical Engineers. The fellow grade is conferred on members with at least 10 years active engineering practice who have made significant contributions to the field.

Prof. Roland Ruhl

Prof. Roland Ruhl served as vice chair for the Surface Inspection and Gauging Sessions of the Society of Manufacturing Engineers VISION '89 C Conference April 24-27 at Rosemont, II.

Prof. Scott Burns

Three new papers have been published by Prof. Scott Burns:

- "The Newton Transform: An Operational Method for Constructing Integrals of Dynamical Systems," in *Physica D*, co-authored with Prof. Julian Palmore:
- "A Move Coordination Method for Alternative Loads in Structural Optimization," in *International Journal for Numerical Methods in Engineering*, coauthored with L. Chibani and Prof. Narbey Khachaturian;
- "Ecology Models and Newton Vectorfields," in *Mathematical Biosciences*, co-authored with Prof. Julian Palmore and Prof. H. Benzinger.

Prof. Burns also received a \$5,590 grant from the UIUC Research Board to supplement his recent National Science Foundation Grant.

Development of the "Computer-Aided Engineering Laboratory" is progressing rapidly. To date, **Prof. Burns** has raised over \$200,000 in support of this facility. The expected opening date is late in the Spring Semester of 1989. The CAE Lab will comprise 30 MacIntosh II computers, and will support the computing activities in many of the General Engineering design sequence courses.

Prof. Burns has become a registered Professional Engineer in the State of Illinois. He has also been appointed the publicity chairman for the American Society of Civil Engineers' 10th Conference on Electronic Computation to be held in Miami in January, 1991.

Faculty Notes

Prof. Mark Strauss

Prof. Mark Strauss has presented a paper, "Non-invasively Quantifying Fracture Healing—A Finite Modeled and In-Vivo Correlations," at the Northeast Bioengineering conference. He also is co-author of another paper presented by GE graduate student Dean Brusnighan. It is entitled "Development of the GPS Satellite Orientation System for the Blind."

Prof. Mark Strauss was advisor for the project which won the fourth place award for Engineering Open

House Central Exhibit.

The following research awards and grants have been

received by Prof. Mark Strauss:

—\$43,250 jointly with **Prof. Manssour Moeinzadeh** from the Veterans Administration Rehabilitation Research and Development for development of an instrumented wheelchair to aid in the kinetic analysis of wheelchair propulsion:

—\$10,000 National Science Foundation Research Experience for undergraduates in Rehabilitation Engineer-

ing Research;

—\$6,262 from UIUC Research Board; —\$4,280 from UIUC Bioengineering; and

-\$20,000 from Rockwell International for the development of a system which would use military satellites to assist blind travelers in navigating.

Prof. Mark Spong

A new textbook, "Robot Dynamics and Control," by **Prof. Mark Spong** has been published by John Wiley Publishers.

Prof. Mark Spong presented a short course in robotics from his textbook at the National Autonomous

University of Mexico in January 1989.

GE graduate student Robert Anderson, a Ph.D. candidate, won the IEEE Student Paper Competition at the IEEE Conference on Decision and Control in Austin, Tx., in December, 1988, for a paper, "Bilateral Control of Teleoperators with Time Delay," co-authored by Anderson and Prof. Spong, Anderson's advisor.

It was announced recently that **Prof. Mark Spong's** paper, "Feedback Linearization Control of Flexible Joint Robots," received the best paper award at the Robotics and Expert Systems Symposium in Pittsburgh,

Pa.

Prof. Mark Spong will be a plenary speaker at the 1989 Workshop on Nonlinear and Adaptive Control of Robots to be held in Merida, Mexico, in May 1989.

Prof. Mark Spong was co-author of three papers that were featured at the IEEE Conference on Robotics and Automation, in May at Phoenix, Az.

-"Adaptive Control of Flexible Joint Robots," co-

authored with F. Ghorbel and J. Hung;

—Observer-Based Feedback Linearization of Flexible Joint Robots," co-authored with S. Bortoff; and

-"Control of Teleoperators," co-authored with R.

Anderson.

Prof. Mark Spong will present an invited paper, "A Comparison of Feedback Linearization and Singular Perturbation Methods for the Control of Flexible Joint Robots," co-authored with F. Ghorbel, J. Hung and S. Bortoff, at the American Control Conference, Pittsburgh, Pa., in June.



Prof. Scott Burns (center) was recipient of the Outstanding GE Faculty Award presented by Gamma Epsilon. Shown are James Cox (L), Naperville, II., president, and Linda Gogola (R), Oak Forest, II., secretary of the honorary.

Prof. James V. Carnahan

Prof. James V. Carnahan has recently presented the

following papers:

—"Parameter Estimation for the Beta Distribution," at the ORSA/Tims Joint Meeting Oct. 25-28, in St. Louis, Mo.

-"Beta Distribution Tails via Maximum Likelihood," April 25-27, at the TIMS/ORSA Joint Na-

tional Meeting, in Washington, D.C. and

—"Does PERT Need the Beta Assumption?" at the ORSA/TIMS Joint National Meeting, Oct. 23-26, in Denver, Co.

He also authored the article, "Maximum Likelihood Estimation for the Four-parameter Beta Distribution," which appeared in Communications in Statistics—Simulation and Computation.

Prof. Louis Wozniak

At the annual '89 Winter Meeting of IEEE Jan. 30-Feb. 3 in New York City, **Prof. Louis Wozniak** presented two papers:

—"Output Error Identification of Hydrogenerators Conduit Dynamics" (collaborators were Graduate Student M.A. Vogt, and T.R. Whittemore, Head, Controls Section Bureau of Reclamation, US Dept. of Interior, Denver, Co.);

—"Optimal PID Gain Schedule for Hydrogenerators
—Design and Application" (collaborators were GE Prof.
Jurai Medanic, ME Graduate Student G. Oreland and

T.R. Whittemore).



GE Student Bradley Bauman of Naperville, II., received the Amstead Award at the fall meeting of the Illinois Society of Professional Engineers, Oct. 29 in Decatur. Shown presenting the plaque which also includes a \$900 cash award is Richard T. Berning (R), Springfield, II., President of ISPE. Bauman received his degree in January, 1989.

Faculty Notes

Prof. Manssour H. Moeinzadeh

Prof. Moeinzadeh presented an invited paper entitled "Dynamic Modelling of the Human Knee Joint" at the 1988 Winter Annual Meeting of the American Society of Mechanical Engineers, Chicago, Il., Nov. 27-Dec. 2.

A presentation, "New Advances and Trends in the Biomechanics Research," was given by **Prof. Moeinzadeh** at the Mechanical Engineering and Engineering Science Department at the University of North Carolina at Charlotte.

Prof. Moeinzadeh and his former graduate student, Mary Ann Bitz Widing had a paper presented at the Pan American Congress of Applied Mechanics, held at the Catholic University of Rio de Janeiro, Brazil, Jan. 3-6. Their paper was entitled "The Application of Finite Element Analysis to Tennis Racquet Design."

A joint-research grant from the Veterans Administration Research and Development Center, Hines, Il., has been awarded to **Prof. Moeinzadeh** and **Prof. Mark** Strauss.

A paper, "Nonlinear Finite Element Analysis of a Frame Stiffened with Tension Members," by **Prof.** Manssour Moeinzadeh has been accepted for publication in the Journal of Computers and Structures. The paper is co-authored with Mary Ann Bitz Widing.

Prof. Michael Pleck

Prof. Michael Pleck is active in the development of instructional modes for computer-based engineering graphics. He has received a grant from the Association for Computing Machinery's SIGGRAPH Education Committee for the "Development of a Curriculum Model for Engineering Graphics." This effort will be shared with colleagues from the Colorado School of Mines, The Ohio State University and Arizona State University. In addition to this, Pleck has been appointed to a national advisory panel to exercise oversight on an NSF Undergraduate Engineering Curriculum Development Project entitled "Development of a Modern Curriculum in Engineering Design Graphics" awarded to the University of Texas at Austin.

Prof. Juraj V. Medanic

Prof. Juraj Medanic has received a \$64,000 two-year grant from Wright-Patterson Air Force Base for research on Robust Multivariable Control of Dynamic Systems. Prof. W.R. Perkins of Electrical and Computer Engineering is co-principal investigator.

Prof. Juraj Medanic has obtained an Industrial Research Assistantship Grant from Sundstrand Corporation to study Design of Multivariable Controllers, including adaptive gain scheduling and switching controllers. Billy Diong, doctoral student in electrical and computer engineering, is recipient and will complete the work in three years.

Prof. Juraj Medanic has been named co-chairman of the Annual UIUC Allerton Conference on Computers, Communications and Control to be held at Allerton Park, Sept. 28-29, 1989.

The following papers co-authored by **Prof. Juraj** Medanic have been accepted for publication in various journals:

-"Parametrization of Frequency Weighting for a Two-Stage Linear-Quadratic Regular Based Design," with H.S. Tharp, and W.R. Perkins in Automatic;

-"Design of Coupled Decentralized Output Regulators," with Z. Uskokovic, in International Journal of Control;

— "Pole-Placement by Performance Criterion Modification," with W.S. Tharp and W.R. Perkins, in IEEE Transactions on Automatic Control; and

—"Strictly Proper Projective Controllers for Disturbance Attenuation," with R. Ramaker and W.R. Perkins in International Journal of Control.

Engineering Open House Exhibit Places Fourth

The 1989 Engineering Open House was held on the UIUC campus March 3-4.

The theme was "Reviving the Dream."

A GE exhibit won fourth place in the central exhibit. It involved a stress analysis of a wheelchair wheel based on research by **Prof. Mark Strauss**.

Shelia Manion of Gamma Epsilon served as student director and Prof. Brent Hall and Dan Thompson were faculty advisors.

Engineering Open House Exhibits





Gamma Epsilon Names Richard W. Reynolds Distinguished Alum

The 16th annual Gamma Epsilon Distinguished Alumni Award has been awarded to Richard W. Reynolds, Chief Research Engineer, Mechanical, Sunstrand Advanced Technology Group, Rockford, Il.

The plaque was presented by James M. Cox, president of Gamma Epsilon, at the Annual General Engi-

neering Honors Banquet on April 13.

The recipient of the honor each year is selected for both outstanding accomplishments in one's profession and continuing contributions to the Department and/or College of Engineering.

Reynolds was graduated from the U. of I. with a B.S. in General Engineering in 1953. He received his MSGE

in 1958.

Following his graduation in 1953, he went on active duty with the US Naval Reserve as a lieutenant junior grade. He served as a main propulsion assistant, Damage Control Assistant, engineering officer. He is presently a Commander, USNR, Retired.

Reynolds returned to the U. of I. after his naval ser-

vice and served as an instructor, 1955-58.

He was employed by Sunstrand Aviation as a research

project engineer in 1958.

Since that time Reynolds has advanced in the company to group engineer, advisory engineer, control systems manager, chief engineer and chief research engineer.

In his present position, he is responsible for research and new product investigation of mechanical and hydraulic aircraft accessories and their controls, control systems analysis, and advanced composite materials

design and applications.

Reynolds has submitted approximately 40 patent disclosures, a total of 15 patents have been issued and 11

others are in process.

His University of Illinois activities include member of the Executive Board, College of Engineering Advisory Board (chairman for Aeronautical Astronautical Engineering); Vice President, GE Constituent Alumni Assoc.; member, President's Council, UI Foundation; member, National Network Committee, UI Foundation; Life Member, Alumni Assoc.; and Life Member, Varsity "I" Assoc.



Shown with Prof. Thomas F. Conry (L), head, GE department, is Vipin P. Gupta (R), DeKalb, II. The graduating senior has been awarded two major honors: Marshall Scholarship and the Lisle Abbot Rose Memorial Award.



Richard W. Reynolds (L), Rockford engineer, received the Distinguished Alumni Award from James Cox (R), Naperville, II., president of Gamma Epsilon.

Receives Everitt Award

Prof. James V. Carnahan of the GE department has been cited as one of the two recipients of the prestigious Everitt Award for Teaching Excellence.

The award which consists of a plaque and a check for \$1,000 was established in 1968 upon the retirement of Dean William L. Everitt from contributions by his personal and corporate friends.

Carnahan's citation follows:

"An assistant professor in general engineering, James Carnahan has proven to be an inspiring teacher. One of his students comments that he 'radiates enthusiasm' in the classroom. His peers consider his methods excellent and his results superb. He requires that 'Cs' be earned and 'As' are only given for excellence. He emphasizes what is central to the theme and presents what is supportive in undertone. Carnahan is actively involved with student societies and curriculum. He consistently tries innovative projects and methods of learning to challenge students and has interested many of his students in continuing their educations, either at the graduate level or through electives. He was one of the first faculty members asked to serve as a student mentor by the Campus Honors Program."

GE Senior Receives \$20,000 Scholarship

Vipin P. Gupta of DeKalb, Il. who will receive degrees from General Engineering and from Liberal Arts and Sciences in June, 1989, has been awarded two major honor awards.

He was named for one of the 30 Marshall Scholarships awarded nationally and allows three years of study in Great Britain. The \$20,000 scholarship covers tuition,

books, travel and a stipend.

Gupta also won the Lisle Abbot Rose Memorial Award from the College of Engineering. It is based on his scholarship accomplishments (4.9 GPA) and activities, particularly in cultural and nontechnical areas.

During his freshman year, Gupta co-founded SMART (Students for Mutual Arms Reduction Today), a 200-member group that provides a forum for debate

on nuclear weapons issues.

He is currently employed in the Office of the UI's program in arms control, disarmament and international security. As one of its functions, the office helps students and faculty develop new degree programs and courses.

Students, Faculty Honored at Annual G.E. Awards Banquet

Awards were presented to faculty and students at the annual G.E. Honors and Recognition Banquet April 13 at the University Inn.

Also cited at the event sponsored by Gamma Epsilon was Richard W. Reynolds as Distinguished Alumnus.

(Details appear in a separate story.)

Sharon Lee Ward, Chicago, received the Edward S. Fraser Award as the outstanding senior scholar in G.E. The award includes \$200 in cash and a plaque. The student's name also is added to a permanent wall plaque in the Transportation Building.

The Randolph P. Hoelscher Award was presented to Stephanie A. Connolly, Deerfield, Il. The \$100 grant and certificate annually given to the outstanding junior student is based on exceptional scholarship, leadership,

and cultural development.

The Jerry S. Dobrovolny Award went to Louis J. Wozniak, Mahomet, Il. The \$500 award and certificate is given for demonstrated outstanding leadership qualities and academic scholarship.

Professor Scott A. Burns was recipient of the Outstanding Professor Award. The honoree is selected by Gamma Epsilon to recognize excellence in undergraduate instruction, and receives \$500 and a plaque.

The Elizabeth Ruff Award of \$500 was awarded to Elizabeth A. Auer, Park Ridge, Il. The prize goes to a sophomore or junior female student who has earned a minimum 3.75 grade point average and shows sincerity, unpretentiousness, consideration, and supportiveness.

Matthew A. King, Bloomington, Il., received the William A. Chittenden Award as the most outstanding Master of Science graduate student in General Engineering. It includes a certificate and \$1,000 in cash.

The Stanley H. Pierce Award was awarded to Louis J. Wozniak, Mahomet, Il. The honor is for the student who is judged to have done the most to develop empathetic student-faculty cooperation.

Other awards included:

-Bernt O. Larson Project Design Award (for 1988) calendar year): \$150 each to Michael J. Chica, Chicago Ridge, Il.; Vivian M. Klick, Chicago; and Kent A. Miller, Savoy, Il. for their project, "Software Development for Non-Destructive Testing and Evaluation of Wood Products." It was sponsored by Weyerhaeuser Corp. and Prof. Henrique L. M. dos Reis was the advisor.

—Herbert J. Sprengel Award: \$100 prize for the best design by a junior in G.E. goes to Hyung N. Raphael, Oak Park, Il. It was awarded for a balsa wood structure. Prof. Scott A. Burns was faculty advisor.

-Ingersoll-Rand Awards: \$500 cash awarded to two students, Shelia J. Manion, Hoopeston, Il., and Louis J. Wozniak, Mahomet, Il. for leadership potential, academic excellence, and professional promise.

-Knights of St. Pat's Awards: Three G.E. students, Carol L. Casada, Mt. Vernon, Il., Troy R. Paweldo, McHenry, Il., and Sharon L. Ward, Chicago, were cited for outstanding involvement in student activities.

Other honors for G.E. faculty and students appear elsewhere in this issue.

A special feature of the banquet was the gift of a GE Camcorder video camera to the GE department from the 1988-89 Illinois Society of General Engineers. The surprise presentation was made by ISGE President Louis J. Wozniak to Prof. Thomas F. Conry, GE department head.

MicroSwitch Sponsoring **Technology Assessment**

MicroSwitch, a Honeywell Division, Freeport, Il., is providing multi-faceted support to the Department of

General Engineering this term.

A technology assessment is being conducted under the direction of Prof. Roland Ruhl to develop ways to more effectively utilize the HVS256 Vision Sensor for inspection and control in manufacturing operations.

A GE 242 Project is utilizing this inspection technology by coupling the vision system with standard microcomputer based Statistical Control Software. Students R.S. Chi, A.M. Nogal, J.C. Stamatopoulos and K.A. Warmann are evaluating the software and "coupling" the camera to the software in a prototype environment.

"This is just an ideal student project," Prof. Ruhl notes "Our students can work first hand with an exciting changing technology and the sponsor gets a competent unbiased analysis of available software."

But it doesn't end there. MicroSwitch also has donated to the department equipment necessary to complete three other GE 242 projects.

Two projects deal with skid tests for car braking and anti-lock braking studies under Prof. Dan Metz.

A complete sensor interface device (SIS-2000) complete with five fiber optic sensors will allow these projects to individually measure individual wheel lock up during panic braking.

The third project is people presence detection for Deere and Company with Prof. Michael Pleck as advisor. A complete optical regulation system (ORS 950) will allow the student to determine if this is a feasible technology.

GE Initiates

Spring initiates to Gamma Epsilon, honor society for General Engineering students, have been announced.

They are: Anton W. Benzinger, Genoa, Il.; Daniel Jerome Block, Dorsey, Il.; Neal A. Coordes, Havana,

Scott K. Essington, Morton, Il.; Eric W. Gallender, Morton Grove, Il.; Keith Goldbert, Highwood, Il.; Elizabeth Ann Hausler, Plano, Il.; Gregory R. Kopp, Morton, Il.;

Daniel Lee Laird, Urbana, Il.; Stephen L. Lesniak, Mt. Prospect, Il.; Peter J. Magnabosco, Burbank, Il.; Darren Ray Plattner, Morton, Il.; and Mark Alan Raschke, Naperville, Il.

ALUMNI NOTES

- Clarence "Neb" Burnam, '81, died November 18, 1988, at Fairfax, VA. He was editor and publisher of Heating-Piping-Air Conditioning, a Chicago-based publication for 40 years until his retirement in 1969. Burnam was a past president of the Chicago Business Papers Association and a past president of the Chicago Chapter of the American Society of Heating and Ventilating Engineers.
- 1945 LaVerne F. Johnson has retired as District Manager of Fossil and Nuclear Sales after 35 years with Combustion Engineering, Inc. He resides in West Chester, PA. where he enjoys restoring antiques.
- Floyd L. Brown has moved to Urbana, IL. after retiring as chief engineer for the Mechanical Contractors Assoc., Chicago. He still serves as Consultant to the Association and is a frequent guest lecturer for Professional Development Seminars for ASHRAE.
- John L. Niebrzydoski, M.A. (Bus. Adm.) '77, Webster University, St. Louis, MO., has been named Director of Engineering of Orbital Walbro Corp., Cass City, MI. The firm is a joint venture between Orbital Engine Co. of Perth, Australia and Walbro Corp. of Cass City. Their purpose is to produce an electronic fuel injection system for an innovative 2-cycle engine combustion process for automotive and marine engines. Previously Niebrozydoski was chief engineer for Electro Mechanical Products, Holley Automotive Division of Colt Industries.
- Jerry H. Hogan is Vice President of Operations, MCI Telecommunications, Inc., Dallas, TX., responsible for 19 states. Hogan, who resides in Dallas, retired from the U.S. Army after 20 years service. He recently was on campus interviewing for MCI.
- 1963 Champ W. Davis, LLB '66, of Oak Brook, IL., is a member of the law firm, Chadwell and Kayser, Chicago.

John G. Laurenson is President of American Bio Tech, Inc., Jacksonville, FL.

- Robert D. Leonard, Jr. has accepted the position of Product Manager, Heliax Products, Andrew Corp., Orland Park, IL. The firm is a leading manufacturer of antenna systems. Robert's responsibility is in the area of Heliax Coaxial Cable.
- Robert A. Giles, MBA '68, has been named Projects Manager, Aquametrics, Inc., San Diego, CA. The company is a manufacturer of moisture sensor-based irrigation systems.
- Terry L. Bradley of South Barrington, IL., Ph.D. (M.E.) '72, MIT, is President, FIMAG, Graphics, Inc., Des Plaines, IL. The newly formed company is a subsidiary of the FIMAG SRL group of Italy. The group's products include sheet-fed and web offset

- presses and bindery equipment for the printing industry.

 Gary L. Marcucci, MBA '69, has accepted a position as Manager-Human Resources, Sherman, TX.
- Joel G. Herning, Downers Grove, IL., has transferred to process/project design engineering department of Universal Oil Products. Previously he had spent 19 years with the company's service/marketing department.
- 1970 James S. Schlifke of Northbrook, IL. has been named Senior Vice President/General Counsel of Robbins Trading Co., Chicago.
- Rodney J. Baudino, MBA, Western Illinois U., has accepted the position of Director of Engineering, Bell Helmets, Inc., Rantoul, IL. He makes his home in Champaign, IL.
- Michael S. Meronek, Romeo, MI., has assumed the position of Manager of Purchasing and Traffic, Altair International, Inc., Mt. Clemens, MI. Altair produces automotive interconnection devices for items such as the Ford Super Radio and the spark conductor assembly for the new Quad-4 engine.
- John B. Reat, MBA '76, Manchester, MO., is National Electronic Data Interchange Product Manager for McDonnell Douglas Information Systems Co., St. Louis, MO. The Reats recently adopted a Brazilian baby as a brother to Bryan, age 7.
- 1976 George G. Dewey, MSME '79, has formed Campbellson, Inc., an Illinois company promoting engineering design and consultation services. The focus is new product research, design, and development.
- 1977 John Baruch, Arlington Heights, IL., has a new position as business manager-plastics/paperboard, PCA Ekco/Kaiser, Northbrook, IL. The Baruchs recently welcomed their fourth child.

Tom Zych recently moved to Plano, TX., from LaCrosse, WI. to accept a new position. He is now Vice President of Sales for Titus Products, a division of Philips Industries, Richardson, TX. Titus is a leading manufacturer of commercial and industrial air distribution products.

1978 Dan Honeman, Glenview, IL., MBA '84, DePaul, is Project Engineer, Economy Mechanical Industries, Wheeling, IL. The firm does mechanical contracting which installs HVAC plumbing and fire protection systems in large CII projects. The Honemans recently had their first child.

Daniel J. Mendelson, Vice President of Albert Stanley Co., Evanston, IL., recently moved to Skokie, IL.

1979 Jay R. Goldberg, Northbrook, IL., was recently issued a patent for "Ureteral Stent Guidewire System."

Todd C. Green has been promoted to Quality Assurance Manager, Cobe Laboratories, Inc., Arvada,

CO. He is a resident of Lafayette, CO.

Daniel K. Mankivsky, Naperville, IL. has accepted a new position as Business Development Manager-Midwest, RJN Environmental Associates, Inc., Wheaton, IL. He had spent the previous nine and one-half years with Chicago Bridge and Iron Co.

Capt. David O. Reip has been assigned as Rescue Coordination Center Controller at Scott Air Force Base, IL after a 3-year assignment in northern Spain. The Center receives information from satellites as to where emergency locator transmitters are transmitting distress signals. Controllers track down each signal and coordinate search and rescue efforts through the agencies that actually perform the searches and rescues.

Jeffrey R. Wallace, field applications engineer, Liquid Carbonic Corp., North Aurora, IL., has recently moved

to Naperville, IL.

1980 Jessica Dilworth Geary has moved from Madison, AL. to Killeen, TX. She is Assistant Office Manager for SAIC, Killeen, TX.

Edward J. Jaselskis, Ph.D. (C.E.) '88, U. of Texas, has been appointed Assistant Professor of Civil and Construction Engineering at Iowa State University.

Susan E. Kenney, Austin, TX., has started her own business, The Human Excellence ENTERPRISE. She had spent the previous eight years with IBM.

Robert L. Schultz, MSCS '86, IIT; MBA '89, Keller Graduate School of Management, has moved to Schaumburg, IL. He is with AT&T.

1981 Larry F. Holmes, Taylors, S.C., is a Sales Engineer with General Electric, Greenville, S.C. The Holmes are announcing the birth of their first child, a daughter.

Michael A. Kimutis, Aurora, IL., has been named a flight officer with Delta Airlines, Inc., out of Hartsfield

International Airport, Atlanta, GA.

Joseph P. Pasini, Libertyville, IL., has been named Technical Support Manager, Abbott Laboratories, N. Chicago, IL. A son has been born to Joseph and his wife, Susan Miller Pasini, LAS '82, a freelance editor.

Michael Schavietello is a Project Engineer at Hughes Aircraft Co., Los Angeles, CA. He recently moved to

Hermosa Beach, CA.

Richard K. Sykes, Riverdale, IL., has taken leave of absence from Eli Lilly Co. to pursue an MBA from the University of Chicago.

David R. Vergara, MBA '86, Northwestern U., has accepted a position as financial analyst, Hewlett Packard, Palo Alto, CA. He resides in Belmont, CA.

Beth M. Swanborg Williams has been promoted to manager of supplier quality engineering with Apple Computer, Fremont, CA.

1982 Bruce A. Heimerich has accepted the position of Manufacturing Engineering Manager, Datacon, Chatsworth, CA. He resides in Thousand Oaks, CA.

David P. McGinnis, M.S. (Physics) '83, and M.S. (EE) '84, and Ph.D. '87, U. of Wisconsin, has joined Fermilab National Accelerator Laboratory, Batavia, IL. He resides in Carol Stream, IL.

Gregory Reynolds, MBA '88; M.S. '86, U. of Dayton, has been named an engineer with Car Product Development, Ford Motor Co., Dearborn, MI.

1983 Martha L. Anderson is employed by CAD/ CAM Engineering, Indianapolis, IN. She has

Send us *your* personal items. Keep your *address* current. recently moved to Indianapolis from Pendelton, IN.

Timothy Q. Delaney, JD '88, George Washington U., has been named an Associate, William, Brinks, Olds, Hofer, Gilson, and Lione, Chicago. He resides in Wheaton, IL.

Tim L. Filbert, Sunnydale, CA., MS '85, has been named a Technical Marketing Engineer with Applied Materials, Santa Clara, CA. Applied Materials is a supplier of semiconductor manufacturing equipment.

Mark R. Rosenberger recently moved to Troy, MI. He is an engineer in charge of installation of proteon network with Chrysler Motors Corp., Highland Park, MI.

Marc A. Spoor has accepted a position as engineering specialist with Boeing Aerospace, Seattle. His wife, Sarah Spencer Spoor, LAS '84, is west coast representative for Scholarship Research Service, a database of scholarship information for those interested in higher/continuing education.

Daniel J. Sylwestrak, Wheaton, IL., is a member of the technical staff, AT&T Bell Laboratories, Naperville,

IL.

Toni Tegtmeier Baumann has been named Distribution Marketing Specialist with John Fluke Mfg. Co., Palatine, IL. A resident of Carpentersville, IL., she is in charge of advertising, product training and marketing programs. She is studying for an MBA at Keller Graduate School.

Michael J. Gust, Southfield, MI., is Automotive Ac-

count Manager for ITW Deltar, Troy, MI.

Kevin W. Krak has been appointed Director of Energy Management, May Co., O'Fallon, MO. He resides at Grover, MO.

Andrew P. Karas received a promotion to Manager, Management, Information, & Consulting, at Arthur Andersen & Co. He is currently living in England with his wife three children where he is an information systems consultant for the British Department of Social Services.

Gregory D. Morf is now Maintenance Analyst Supervisor for Mobile Oil Corp., Fairfax, VA. He makes his home at Centreville, VA.

Jim G. Pietrzak, MS (management) '89, Northwestern University, is an Industrial Engineer with Joseph T. Ryerson & Son, Inc., Chicago.

Gary M. Welk has been named a Software Engineer with Motorola Cellular Infrastructure Division, Arlington Heights, IL. He makes his home in Addison, IL.

1985 Beth Yeager Ahern, Arlington, VA., is Computer Liaison Officer, Defense Communications Agency, U.S. Navy. She recently gave birth to twin sons.

Howard L. Danzyger, MS (I.E.) '87, Georgia Tech, Covington, KY., is an Integration Engineer with Litton Integrated Systems.

Henry C. Query, Jr., JD '88, Loyola University, has become associated with Laff, Whitesel, Conte and Saret, Chicago. The firm specializes in patent, trademark, copyright, and related areas of law.

Cynthia M. Schur, Glendale, CA., has been named Product Engineer, TRW Technar, Irwindale, CA. She is involved with designing crash sensors for automobile

airbag systems.

Laura A. Shaffer Smith, Urbana, IL., has been promoted to Project Engineer, Refrigeration, at Bohn Heat Transfer, Danville, IL. She recently gave birth to a son.

1986 Daniel T. Dal Degan has accepted the position of Accounts Manager for Oracle Corp., Chicago. He is studying for an MBA at Northwestern University.

Stephen M. Dowd, who resides in Naperville, IL., is Computer Applications Engineer with R.R. Donnelley

& Sons, Lisle, IL.

Leslie A. Grever has been promoted to Engineering Consultant for Aetna Life & Casualty, Hartford, CT. Her responsibilities include coordinating and monitoring Engineering Field Office Operations for part of the country. She resides in Manchester, CT.

Karen Heselbarth has accepted a position as technical writer with Clean Air Engineering, Inc., Palatine, IL. The firm is engaged in environmental consulting.

1987 Susan L. Howicz Amunn has moved recently to Oak Forest, IL. She is Auditor/Department LAN Administrator-Technical Support with the Federal Reserve Bank of Chicago.

John J. Glynn, Washington, IL., is now a Development Technician with Caterpillar Technical Center, Mossville, IL.

John F. Godfrey is Associate Engineer with Colonial Pipeline Co., Woodbury, N.J. He makes his home in Mt. Royal, N.J.

James A. Haack has taken a position as procurement engineer with McDonnell Douglas, St. Louis, MO. He has moved to Creve Coeur, MO.

Stacey E. Klein recently moved to Clarendon Hills, IL. He is with Andersen Consulting, Chicago.

1988 Kristin L. Hausler has accepted a position as Loss Prevention Consultant with Factory Mutual Engineering, Hoffman Estates, IL. She now resides in Bloomingdale, IL.

Timothy J. Patno is a member of the technical staff, Spacecraft Systems Engineering Laboratory, Hughes Aircraft Co., Space and Communications Group, Los Angeles, CA. He makes his home in El Segundo, CA.

Hans Roderich has been working in Osterode Am Harz, West Germany, as an engineering intern with Piller K.G., a producer of electrical equipment. He is scheduled to take a one-year internship with Hoechst AG in Frankfurt.

Jennifer L. Waggoner is a staff consultant with Andersen Consulting, Chicago.

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THE STUDENTS' VIEW

From The Illinois Society of General Engineers

Summary Issue No. 88-2

May, 1989

National Academy of Engineering Member Speaks to ISGEs

W.A. Chittenden, Senior Partner of Sargent and Lundy, addressed 125 ISGEs at the Nov. 8 Speaker Series. He advised against the lock-step pursuit of academics and the near-sighted view of one's company. "Know your company," he warned. It is easy to shrug social responsibility and leave management decisions to others.

Engineers are emerging as prime movers for economic growth. More importantly, their technologies are real enforcers of social change. It is the engineer and his product that are among the first to enter a foreign land. The practical application of advancing technology also contributes to social upheaval in our own land.

He stressed that student activities foster social awareness and management skill. Coursework in the humanities and tolerance for other lifestyles also open one's mind.

Engineers cannot relinquish social-political control of their own abilities. They must first understand their impact on society and then commit themselves to controlling that impact. An engineer can become involved or become a puppet.

In answer to Professor Carnahan's question, Mr. Chittenden suggested that the young engineer should select secondary fields in whatever they wished or liked. He added that about half of the young engineers in his company were pursuing MBAs, but he felt that "An MBA, in itself, without a strong technical base means nothing."

He challenged young engineers to love their life's work or get out. This member of the National Academy of Engineering and 1950 graduate of the U. of I., Department of General Engineering, clearly understands that level of dedication. In the middle of a busy work week, he traveled to Champaign just to speak to the engineers of tomorrow. He even paid for the pizza.

Although ISGE could not hope to repay the senior partner of Sargent & Lundy for his efforts and interest, he did receive the highest award ever given by ISGE (that we know of), a 16-inch cookie with ISGE's new logo.

Slippery When Cold

The ISGE/Kappa Phi Kappa skating party was held on Wednesday, March 8 at the U of I Ice Arena. Engineering and Education societies mixed well on the ice and at Garcia's afterwards. Both societies had a great time and are eager to mix again. See the bulletin board for an icy slide show.



Louis J. Wozniak (L), president, Illinois Society of General Engineers, presents a Camcorder to GE department head, Prof. Thomas F. Conry (R). The video camera was given to the department by the 1988-89 ISGE.

ISGE Meeting

One-Man Consulting Firm owner Tom Prickett addressed the ISGE membership at the Feb. 14th meeting. His presentation entitled, "Computer Modeling of Groundwater Systems — Practical Applications" was very enlightening and entertaining. Prickett warned of stumbling blocks in a consulting career, including personality conflicts, litigation issues and the persistent lack of time and money. When solving the problem he stressed that the engineer should not overlook the obvious while pondering too deeply on conventional solution techniques.

"Success in an engineering presentation is largely based on preparation," and "don't be an advocate when attempting to resolve a conflict," were some of his other tips to the soon to be engineers.

A worldwide authority on groundwater systems, Mr. Prickett was preparing to leave for the Soviet Union where he is to conduct a seminar on groundwater modeling at the invitation of the Soviet Government. His work typically involves worldwide travel. In 1987, he won the prestigious Darcy Award for hydrological studies. At our meeting, he was awarded an ISGE logo T-shirt.

ISGE was pleased to have the 1960 GE graduate share his experience with us. After the meeting, Prickett treated all attending to a pizza party at Garcia's, where we also had the pleasure of the company of his wife. Mrs. Prickett works as an artist at the School of Life Sciences here on the U. of I. campus.

ISGE Logo

The ISGE logo is finally done. Thanks to creator MATT DIETRICH, enhancer BILL CHAPIN and drafter DOUG WILCOXON for all their creativity and support. It's a great symbol for our society.

A Treasury Note

ISGE continues to be financially sound. Our net worth as of March 27, 1989 is \$889.17. This does not include about \$400 of EOH funds from the college of engineering.

The semester's fund raising events have netted \$37.57 from donut sales, \$123.17 from disc sales and \$140 from dues. Expenses include \$70 for our skating party, \$68.49 for EOH expenses (to be reimbursed later from the college of engineering) and \$13.77 for advertising.

A special thanks this week goes to Linda Kinsch. Without her help, donut sales (and my sanity, if it ever existed), would not be possible.

John Kozel, Treasurer

Patent Lawyer Speaks

At the last ISGE Meeting, the guest speaker was Charles H. Mottier, a patent lawyer for Leydig, Voit & Mayer of Chicago. Mr. Mottier received his degree in General Engineering from the U of I in 1978 and his law degree from the U of I in 1981. He discussed patent law and law firm organization. Mr. Mottier also offered advice concerning which classes to take and which law schools to try to attend. After the meeting, Mr. Mottier answered questions in the student lounge and everyone enjoyed the free pizza.

Strike O'Bryant Results

This hard-fought tournament was won by the students this year. The students used youth and high intensity to overcome the sure and confident faculty. High scorer for the tournament was no less than Prof. O'Bryant himself who bowled a 174.

Thanks for Organized Evals

Gamma Epsilon, our Sister Society, is doing a great job with teacher evaluations this semester. The operation is well organized and running like clockwork. All GEs appreciate this service very much.

Congratulations GE!

1989 was an outstanding year for General Engineering. Sheila Manion received ISGE's first Member of the Month award. Professors Carnahan and Wozniak were named to ISGE's Professor Feature for their contributions to ISGE. Carol Casada, Troy Pawelko and Sharon Ward were among 13 people chosen for the Knights of St. Pat engineering leadership award. Professors Streeter, Woodley and Wozniak were among the first recipients of Dean Schowalter's engineering-wide Advisors' list. Louis Wozniak received the College of Engineering's Pierce Award for student-faculty relations. Professor Carnahan received the College of Engineering's Everitt Award for excellence in teaching. Congratulations to all.

Engineering Open House

This year's EOH was a very exciting, interesting experience. We had about 10 projects total, some of which were student or society initiated, and others which were faculty initiated. We had a great group of people on the ISGE/Gamma Epsilon Committee, all of whom put in a lot of time and hard work.

Some of the larger exhibits were the robot-run elevator and the digitized bike race, both of which made the local newscasts. Also, the sailboat races (for kids), the robot vision, and the blind's navigation system were all great also. Hopefully the General Engineering Exhibit helped spark some interest in high school students. Hopefully everyone saw the ribbon-winning Central Exhibit in Loomis Lab.

I hope next year's EOH is as organized and fun as this year's was. To make it better, more people should get involved much earlier in the planning process.

Sheila Manion

International Management Styles

An ISGE special event, Thursday, March 30th, will feature Prof. B. Karsh, Director of the Center for Asian Studies and Mr. M. Collins, Senior Manager with Arthur Andersen. This should prove to be an informative and controversial discussion to which we have also invited students from Mechanical Engineering and Labor and Industrial Relations.

Yes, I want to become an

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