NEWSLETTER

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DEPARTMENT OF GENERAL ENGINEERING

University of Illinois · Urbana, Illinois

MORE ALUMNI ATTEND WEEKEND

The General Engineering Constituent Alumni Association held its annual meeting during Homecoming weekend, October 16-17. The total program included a Friday - afternoon session with students, an evening dinner with faculty at Katsinas Restaurant, and an alumni - student panel discussion concluding with award presentations and election of officers.

This year's weekend was the largest ever in terms of attendance and the most spirited in participation and enthusiam looking toward fall '71. A total of 27 alumni (from both far and nearby) attended one or more functions. Other encouraging features included 11 additional responses from alumni who were unable to attend, but expressed interest in the program, and their desire to participate in the near future.

The Friday afternoon action opened at 2:00 with a coffee hour to allow students and alumni to get acquainted. Then three alumni told about their companies and the particular work each is personally doing there. These grads were JEFF WILLETT, '64, Aerosol Techniques, Inc., Danville, G. DICK ARMSTRONG, '64, Olin Brass, E. Alton, and DAVE PORTER, '69, Bell Telephone, Springfield. Discussions brought out pertinent ways in which the curriculum studies are being used in day-by-day work assignments. Of special interest was the brief visit by ART DIXON, '24, Vice Chairman of the Board of Modine Manufacturing Company, Racine, Wisconsin, who was the oldest alumnus to return this fall.

The Friday evening banquet at Katsinas provided fellowship of alumni with faculty. Intentionally no formal program had been arranged so that the time could be spent in visiting. ALVIN BLAKE, '42, and wife ALICE, came from the greatest distance--Long Island, N.Y.--where they have just recently moved so Alvin could become president of Inland Mills, Inc.

The major portion of the Saturday morning program consisted of discussion led by a panel of alumni, students, and a dean. Panel members were: LARRY RZEWSKI, '65, Link-Belt Company, Chicago; RANDALL MORRISON, '66, Bell Telephone, Chicago; BRUCE HUBER, senior in General Engineering; FRANK FRONCZAK, junior and president of I.S.G.E.; and Assistant Dean BOB BOKENKAMP, Assistant Professor. Topics included "Engineering in the Seventies-Where is it Now and Where is it Going?" and "The Necessity and Availability of Continuing Education."

The business meeting involved consideration of plans for next fall, and the advisability of holding the meeting on a non - football weekend. Mid - October or early November seemed the best possible times to be considered. It was agreed that the program be an all - day Saturday affair with a meeting in late morning and then perhaps a speaker could be arranged for the afternoon meeting. A banquet with the wives would be appropriate for the evening, as well as the possibility of an event at the Krannert Center for the Performing Arts. Events will be planned for the ladies during the day. Alumni suggestions for alternatives will be welcome.

The slate of officers elected to serve during the 1970-71 year: President, PHIL DECKOWITZ, '63, Chicago; Vice President, RAY DEPAUW, '66, Collinsville; Secretary, JEFF WILLETT, '66, Danville; Treasurer; LEON LINDLEY, '65, Springfield.

1971 Alumni Officers, from left: DePauw, Lindley, and Deckowitz; Willett not shown

Before the business meeting adjournment for lunch, Lou Liay from the Alumni Association presented outgoing president LEON LINDLEY, '65, with the Alumni Merit Award. Leon, our second president, provided the vigorous leadership needed to develop momentum in the excellent program so well launched by our first president, JIM GAFFNEY, '59. This award recognizes participation and service by an alumnus graduated less than 15 years ago.

FACULTY FEATURES

Dobrovolny's Activities

Professor Dobrovolny has been appointed by President Nixon to serve as a member of the National Advisory Council on Vocational Education. This Council was established in 1968 and is composed of 21 members serving rotating three-year terms. He attended his first meeting on Sept. 25 and 26 in Washington, D. C., where he was sworn in by the Commissioner of Education. The Council was established as a result of the Vocational Education Amendments of 1968. It is to serve in an advisory capacity to the Commissioner on Education and the President in terms of implementing and developing new and meaningful programs in vocational and technical education to meet the manpower needs of our nation.

In June, Professor Dobrovolny was awarded the Arthur L. Williston Award in recognition of the publication of a highly significant article, pamphlet or book in the field of technical education. This is an award presented by the American Society of Engineering Education at the annual banquet at Ohio State University, Columbus, Ohio.

1970 was the tenth summer in which Professor Dobrovolny served as Director of the Summer Institute funded by the National Science Foundation. The purpose of this institute is to update teachers in the field of engineering technology.

Departmental Achievements

MICHAEL H. PLECK, who has been teaching in the Department since 1963, has been advanced to the rank of Assistant Professor after receiving his Doctorate in Mechanical Engineering. Previous to this Mike earned his B.S. and M.S. degrees, also in M.E., from the University of Illinois in 1964 and 1966 respectively.

The title of Mike's thesis, "Dynamics of Orthogonal Chip Formation with Constant-Energy Input," has to do with metal cutting problems involving brass, copper, and aluminum.

In addition to his teaching duties in the Design Courses of G.E. 103, Mike is developing a new course, "Introduction to Computer Graphics."

Congratulations to DAVID C. O'BRYANT for his promotion to Assistant Professor after completing his Ed.D. in Vocational-Technical Education. Dave received his B.S. 1958 and M.S. 1961 in Mechanical Engineering, all degrees are from the University of Illinois.

State Director of JETS, and an Instructor in the Department since 1958, Dave chose for his thesis topic, "Evaluation of a Two-Weeks Summer Orientation Program in Engineering for Inner-City Black High School Students." This study showed that such two-week programs could change stated career goals and aspirations of black participants.

Fred L. Spalding Retires

FRED L. SPALDING, retiring Associate Prof. from the G.E. Department was honored at a dinner banquet on May 20, 1970. Fred has been with our Department since 1953. Before this he taught at Rose Polytech and Michigan State University and has been active in consulting work in Industrial Engineering in this country and in England.

After serving in both World War I and II, he received his B.S. in Mechanical Engineering from Illinois 1935, and his M.S. from Stout Institute in 1951.

Fred is presently chairman of the American National Standards Committee Y-14. MARCELLA and Fred reside in Champaign. Their daughter Susan lives in Watertown, New York.

From left, Dobrovolny, Spalding, and Pearson

FRESHMAN ENROLLMENT RISING

Enrollment of new freshman in the College of Engineering is at last beginning to show an upward trend. In the fall of 1966 only 881 new freshmen enrolled. In 1967 this figure increased by 39 to 920, but in 1968 dropped 38 to 882. In 1969 there was an increase of 80 students for a total of 962, this fall a still larger increase of 156, for a total 1110 new freshmen.

Of these, 181 are in G.E., the next-to-largest group of incoming freshmen in our curriculum for the past five years. In 1969 our share of freshmen climbed to a high of 202. Before that time the number had varied from 137 in 1968 to 157 in 1967 and 149 in 1966. We hope this recent trend of increases will continue.

Also, this fall's group of engineers is the largest ever. Of the College's 59 total, 11 are in G.E.; a welcome addition to the Department.

G. E. GRADUATING CLASSES

1970 has the next-to-largest senior class of the past ten years in the Department--42 in all. Only two classes have been larger, those of 1969 and 1963; 53 graduates in each of these years. The smallest recent group was in 1965, when only 21 seniors were graduated. On the average, there have been between 32 and 37 students receiving degrees in G.E. each year.

NEWS OF GAMMA EPSILON

The chapter held its spring banquet April 21. Four new members, all from Ill., were initiated: JOHN R. CRAWFORD, '70, Anna; DONALD M. FIELD, '71, Hazelcrest; WILLIAM T. MURPHY, '71, Delavan; and NOEL L. POTTS, '71, Effingham. JOHN T. PFEFFER, Professor of Sanitary Engineering, presented a thought-provoking talk on the meaning and challenge of the pollution problem.

Officers for 1970-71 are: President, BRUCE A. HUBER, '71, Fairbury; Vice President, DANIEL T. GALLAGHER, '71, Kankakee; TERRY L. STOLTZ, '71, Beardstown, Treasurer: and Secretary, TERRENCE R. PHELAN, '71, Chicago. We wish them well in their responsibilities.

ILLINOIS SOCIETY OF GENERAL ENGINEERS

The I.S.G.E. held elections last spring to choose officers for 1970-71. The new leaders are: President, FRANK FRONCZAK, JR.; Vice President, AL AIKUS; Secretary, JIM BLANDFORD; Treasurer, TERRY PHELAN; and Engineering Council Representatives, JIM ORR and DAN GALLAGHER.

Two new faculty members, DR. ROLAND L. RUHL and DR. L. DAN METZ, have agreed to be advisors. Both are from Cornell University and are very enthusiastic about proposed I.S.G.E. activities. Professor D. C. O'BRYANT has been serving as interim advisor.

Several activities have been planned for the coming year, starting with a football game against A.S.C.E. on the weekend of October 24. A field trip is tentatively planned to a brewery or an industrial plant in or near the St. Louis area. In addition to the usual meeting , discussion sessions were held on homecoming weekend with the G.E. Alumni Association. This turned out to be a very interesting weekend for both Alumni and I.S.G.E. members. On Nov. 18 a meeting with the Society of Women Engineers is scheduled with a speaker from the Women's Lib Movement. Faculty and students are invited to attend all of the events.

NEW FACULTY MEMBERS

R. L. Ruhl

ROLAND L. RUHL, Assistant Professor received his B.M.E. in 1965, M.B.A. in 1966 and his Ph.D. in 1970, all from Cornell. Before joining the G. E. Department here, he was an Asst. Prof. of Engineering at Cornell with focus on the Freshman Engineering Program.

Dr. Ruhl's major area of graduate study was Mechanical Engineering, with minors in computer

science and thermal power. His doctoral thesis title "Dynamics of Distributed Parameter Rotor Systems: Transfer Matrix and Finite-Element Techniques."

His teaching and research interests include system simulation and computer-aided design. In 1968 he participated in an NSF advanced science seminar on computer-aided design. Rolly is presently instructing G.E. 241 and 242 design courses as well as 104, first year honors section.

L. D. Metz

L. DANIEL METZ, graduated from Roger Bacon High School in St. Bernard, Ohio. He entered the School of Mechanical Engineering at the University of Cincinnati in the fall of 1960. His B. S. in M.E. was received in June, 1965, after working as a cooperative engineering student. His two principal sponsors were R. A. Jones Co., Covington, Kentucky, manufacturers of automatic packaging machinery, and the centrifugal pump division of Allis-Chalmers Co., Norwood, Ohio.

In July 1965, Dan accepted a position as Product Design Engineer with the Ford Motor Company Livonia, Mich. While with Ford, he designed and developed the power rack-and-pinion steering systems and power-steering pump assemblies. After a year, he returned to school in advanced training in the graduate program and was awarded his M. S. in May, 1967.

From September 1967 until Sept. 1970, he was a doctoral candidate in the Mechanical Engineering Department, Cornell University, Ithaca, New York. He will receive his Doctor of Philosophy degree in January 1971. His thesis research, done with Cornell Aeronautical Laboratory in Buffalo, New York, was on modeling the behavior of automobile occupants during car crashes. He has received numerous fellowships and assistantships, including several for teaching, a Ford Foundation grant, and a New York State Board of Regents Fellowship.

W. W. Happ

Born in Inovrazlaw, Poland, WILLIAM W. HAPP received his B.S. in 1945 from McGill University, Montreal, Canada; the M.S. from M.I.T. followed in 1947, with the Ph.D. from Boston U. in 1949.

From 1955-58 he worked under William Shockley, Nobel Laureate in Physics, as one of a team of four semiconductor scientists who founded Shockley Semiconductor Laboratory, Mountain View, Calif. a Beckman subsidiary. In 1957 Dr. Happ developed an experimental type of silicon transistor, now commercially produced by several major companies. He joined the Lockheed Missile and Space Company, Sunnyvale, Calif., to lead a major development team responsible for fabricating the first solar-cell power source for satellites. In 1966 he transferred to NASA at Cambridge, Mass., and in 1970 came to the Corps of Engineers Construction Research Laboratory, Champaign.

He is author or co-author of over 300 technical publications. His areas of teaching and research include system modeling and design, and computer-aided design. He has been Professor of Electrical Engineering at Arizona State University and Visiting Professor at the University of Buenos Aires, Argentina.

DEPARTMENT GETS NEW COMPUTER

As one of the major equipment advances of 1970, an EAI-580 Analog-Hybrid computer system has been purchased from Electronic Associates, Inc., of Princeton, N. J. and has been installed on the fourth floor for use by G.E. students and faculty. Components began arriving in June, were assembled during the summer, and have been used in exploratory shake-down and familiarization runs this fall.

Only one-third expanded at this point, the unit gives the Department its own analog capability and provides a valuable training and tran-

sitional medium to the University's IBM 360 system. The hybrid approach is especially useful for problems solvable by differential equations, or for ones which can be mathematically modeled in that realm.

Examples are senior design projects in the man-machine relations of driver-seats for large earth-moving equipment, and Professor SPRENGEL'S studies in variable - capacity anaesthesia equipment for use in veterinary medicine. The machine has application also in designing dies for pressing machine parts, where complex predictions are required for "spring-back" in various steels after bending through and beyond the elastic stress range.

The new computer also has sufficient logic capability to solve control problems such as those posed by planning light - change cycles for automobile traffic intersections. In fact, the system is useful for modeling servo problems generally, including hydraulic, and hydro - electric controls.

Instructionally, the equipment is now already supplying four weeks of analog computation in G.E. 221 design, is in use for faculty investigation of further applications, and is leading to curricular revisions toward inclusion of dynamic analysis and system modeling topics at all levels. The center is under the direction of the Department's computer committee, staffed by Professors WOZNIAK (who this summer spent a week in Princeton learning how to exploit system possibilities), PLECK, RUHL, and METZ.

G. E. 242

G.E. 242 TEAM GIVEN UNUSUAL RECOGNITION

On July 17, the American Society of Civil Engineers at its Boston National Transportation Engineering meeting heard a live presentation by ANDRIS MANEKS, on behalf of himself and JAMES H. HARRIS. Their senior design project for a high speed tunnel - train five to 15-minute link for Chicago's airports was the only undergraduate invited paper of the meeting. Professor BERNT O. LARSON, chairman of the 242 design-course committee, served as faculty sponsor for the pair, and Mr. E. S. FRASER served as the industrial advisor.

A full half - hour videotape presentation of design details for their proposal had already been shown to Mayor DALEY and his staff in Chicago. Arrangements for this practical consideration of student solutions to real-life technical problems were made by E. S. FRASER, of Chicago Bridge and Iron Company, who serves as visiting consultant to 242. Videotape recording and playback of their presentations are offered all project teams in 242, thus preparing them for the demands of engineering practice following graduation.

FIELD TRIP TO CATERPILLAR RESEARCH CENTER

Twenty-two senior and freshman students, with faculty team - members in 242 project design, on November 12 spent the day at the Peoria Research Center of Caterpillar Tractor Corporation. The engine production plant was also visited, as were various stations in the extensive field-test and proving-ground area.

Both students and staff found the expedition well worth while, with many favorable comments on the interesting technical quality of the projects and facilities observed. Arrangements for the visit were made by Mr. CHARLES GEBHARD, visiting industry-consultant to 242 from the Decatur plant of Caterpillar.

G.E. 242 DESIGN WINS SECOND NATIONAL PRIZE

Just as the Newsletter was going to press, notification has been received that the G.E. 242 Design Project "High Speed Mass Transportation Between O'Hare Field and Midway" has won second place for structures in the undergraduate national contest conducted by the James F. Lincoln Arc Welding Foundation of Cleveland, Ohio. Cash prize of $1,000 will be divided between designer-authors ANDRIS MANEKS of Northlake and JAMES H. HARRIS of Ottawa. Prof. BERNT O. LARSON, chairman of 242 course committee, was principal consultant, with E. S. FRASER, Vice President, Research, of Chicago Bridge and Iron Company, as visiting adviser. The Department will also receive an award of $300 to assist the design courses.

This is the second national Lincoln Arc Welding competition prize won by 242 projects: a proposed quadriplegic highway - vehicle design took first place two years ago in the 1968 contest.

ALUMNI NOTES

Class:

'42 ALVIN J. BLAKE has recently moved to Long Island where he is president of Inland Mills, Inc. His comment, "Have left our beloved midwest for the land of hustle and bustle which is better expressed as 'To heck with courtesy and service, just get the man's buck and make room for the next one, we're too busy to be nice.'"

'49 JACK A. RIEGERT is in charge of Quality Engineering at Pomona, California Division of General Dynamics. After nineteen years in Quality Control he was able to obtain a transfer to the Ft. Worth Division. This was in order to attend the Braniff Graduate School of Management, University of Dallas (the largest graduate school of management in Texas). The first graduate school in the country to offer a master of science degree in Quality Systems.

'50 S. DEAN ALBRECHT is president Albrecht Well Drilling and Albrecht Farms, Inc. He is conducting an expanding enterprise in water systems, contracting, and farming. Very much concerned about present unrest and violence---enjoying the newsletter when it arrives---thanks to those whose efforts make it possible.

'57 GARY L. NEWTSON has been a patent attorney with Chrysler Corp. in Detroit since 1966. From 1960 to 1966, he was in the private practice of patent law. He highly recommends the study of law for G.E. graduates as he feels this is a challenging field whether in private practice or with a corporation.

'57 STANLEY R. FELDERMAN moved to Calif. in Nov. 1969 to accept a promotion to national sales manager with Informics, a computer software company. He is located in the San Fernando Valley, a part of L. A. County.

'61 RANDAL M. SMITH has been promoted to Senior Production Engineer for the PPG Industries, Inc., in Cumberland, Md.

'61 LEON E. STREMLAU has been with the American National Bank (Chicago) since completing his MBA in Aug. 1967. For the past year he was assigned to the Comptroller's Division to establish a Profit Center Accounting System within the bank. In April the Board of Directors elected Leon to the position of Executive Assistant.

'62 JACK R. FARO is an F.B.I. agent in Niagara Falls, New York.

Class:

'63 JAMES E. BURGESS was commissioned an officer in the U. S. Army in Feb. 1963, served in Germany 2 1/2 years in a floating bridge company; started with General Electric on the Technical Marketing Program in Nov. 1965, became a Market Specialist in July 1967; transferred to L. A. in Aug. 1970; and married JAN A. RUDIG, Logansport, Ind. Aug. 30, 1970. Both are working for General Electric in Los Angeles and enjoy sunny southern Calif.

'64 GEORGE (DICK) ARMSTRONG is Market Development Engineer with Olin (Brass Division) in E. Alton, Ill. He provides technical assistance for salesmen in the Rockford, Indianapolis and Philadelphia territories, concerning marked development of proprietary alloys.

'64 ROBERT E. SEYLER moved to Mexico in late '69 to become manager, exportation and source planning for Chrysler/Fabricas Automes. He invites any G. E. visiting Mexico City to stop in for a shot of Tequila.

'64 JAMES R. SACHTSCHALE has been working in automotive air pollution for the past year, with air pollution instrumentation. James announces the arrival of daughter, ANDREA ELIZABETH, Mar. 28, 1970.

'64 DONALD E. WILKENSON will be the first graduate engineer to become the Assistant State's Attorney for the county of DuPage. His work will involve prosecution, both misedemeanor and felony, eventually working into areas of Civil Engineering such as zoning, sewer systems, transportation, and the legal aspects of these areas with respect to county and state. Don feels he will gain more personal satisfaction and be able to contribute more to the community by accepting this position. The Wilkenson's have a new daughter, Christen Lynn born July 1, 1970.

'68 PHILLIP M. KASIK completed his OCS in May, 1970, and is an Ensign, U.S. Navy (Engineer) with the Atomic Energy Commission, Division of Naval Reactors.

'69 ANDREW KARGACOS joined the "Graduate Student Training Program" at Westinghouse. After about five different locations he has settled in Philadelphia, where he is the capital equipment buyer for the Transfer Division of Westinghouse. Andy finds his job interesting and feels G. E. is the perfect education. He is also using his knowledge of C.E., Law, M.E., and Business.