GENERAL ENGINEERING NEWSLETTER

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

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FRED HANSEN '28

HANSEN HONORED BY CORPS

The Rock Island District, Corps of Engineers, inducted FREDERICK A. HANSEN (GE '28) former chief of the Construction Division, into the District's Gallery of Distinguished Civilian Employees during the Bicentennial observance of the U.S. Army Corps of Engineering in June.

The gallery of distinguished civilian employees, which consists of photographs and descriptions of the men, is located in a first floor corridor of the Clock Tower Building, the District office.

Mr. Hansen was born and raised in Rock Island. Several years after earning his B.S. in G.E. in 1928, he joined the District as a junior engineer during the period when the Mississippi River navigation locks and dams were under design and construction. In 1940 he became a Resident Engineer supervising major building construction at the Rock Island Arsenal. Following three years of Navy duty during WW II, Hansen served as liaison for the Corps of Engineers between architects and construction contractors for design and construction of V.A. hospitals in Iowa City and Madison. He was promoted to Chief, Construction Branch, and supervised construction of locks and dams within the District.

Subsequent to his retirement two years ago, Mr. Hansen and his wife continued to live in Rock Island.

FREDERICK A. HANSEN

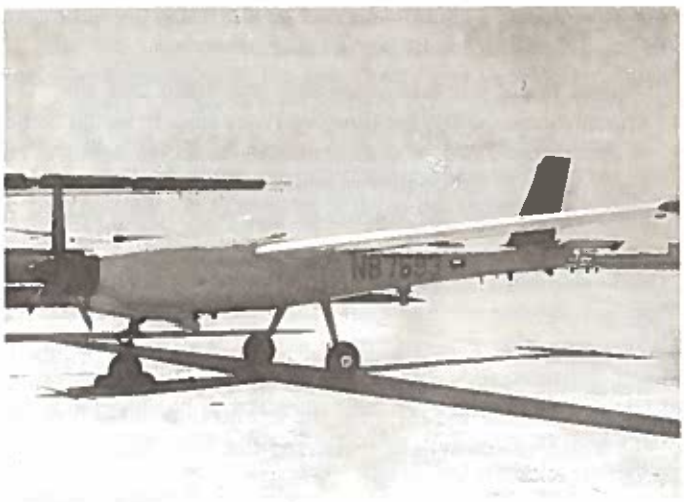
THOMAS E. DOW

TOM DOW '63

THOMAS E. DOW (GE '63) was promoted last spring to assistant marketing manager in the Kelly-Springfield Tire Company, Cumberland, Maryland.

Tom began his career in the research and development department of the Goodyear Tire and Rubber Company, Akron, Ohio. He moved up in rank to staff designer and eventually to senior development engineer. In November 1972 joined the subsidiary in Cumberland as a marketing engineer in the development department.

Tom and his wife Sally, live with their son, Jeffery, and daughter, Sheri, in Bel Air near Cumberland.

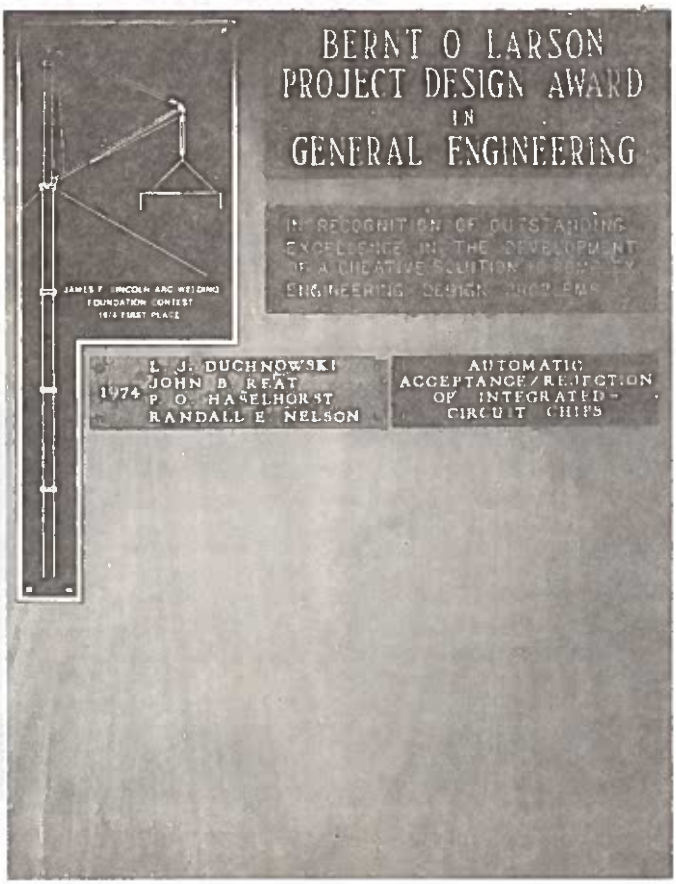


BULLOCK AIDS IN THUNDERSTORM RESEARCH

J. WILLIAM BULLOCK (GE '50) is a twentieth century Ben Franklin doing research concerning lightning in thunderstorms. Whereas the original Ben flew a kite, our modern Bill flies a special aircraft into the storm clouds.

The aircraft, originally an Air Force radio controlled craft, was enlarged to accommodate a pilot and equipped with special electronic instruments. These modifications were done this spring by AIRO, Inc., of Colorado Springs, owned and operated by Bill Bullock. Bill has been a pilot for more than 30 years. The small craft has a 60 foot wing span, can climb to 40,000 feet and remain aloft for 29 hours.

Continuing thunderstorm research funded by the National Science Foundation is centered at the New Mexico Institute of Mining and Technology, Socorro, New Mexico.



FIRST PRESENTATION OF LARSON AWARD AT SPRING SYMPOSIUM

The Bernt O. Larson Project Design Award in General Engineering was presented for the first time at the luncheon of the Fourth Annual Design Symposium held during May 1975.

The presentations were made by Margaret Larson (Mr. Bernt O.) to the members of the award-winning project team. Each member received a fifty-dollar check and a certificate. A plaque, which will be permanently displayed in the Department, was unveiled. The Larson Award was established at the time of Professor Larson's retirement shortly before his death.

The winning project for the calendar year 1974 was "Automatic Acceptance/Rejection of Integrated–Circuit Chips," sponsored by the Micro Switch Division of Honeywell, Inc., Freeport. The students were Lenard J. Duchnowski, *Pekin*, Peter O. Haselhorst, *Elmhurst*, Randall E. Nelson, *Moline*, and John B. Reat, *Charleston*. Arnold B. Ness was the G.E. faculty advisor for the project.

Abstract: "Micro Switch is a large producer of switching devices and related items. One primary product is a solid-state electronic keyboard, in which large numbers of very small (0.044" x 0.040" x 0.014") integrated circuits in silicon-wafer form (LSI chips) are used. Currently these arrive in Freeport with defective units marked red or green. Inked chips are then visually and manually separated from good ones.

Goals of the project are design and prototype development of a mechanism to identify and reject LSI chips automatically. The working model produced by the team detects and discards all chips with ink spots, and also any units with defective solder contacts."

A SENIOR PROJECT AGAIN WINS NATIONAL RECOGNITION

For the seventh time in eight years, one of our General Engineering senior design projects has achieved national recognition in the James F. Lincoln Arc Welding Foundation Contest.

The design teams of David E. Olson, Oak Lawn, Robert M. Burns, Oak Lawn, and Perry C. Hendrickson, Joliet won a fourth place award in the structural division competition. The project, "Differential Settlement Compensating Pipe Anchor," was sponsored by the consulting firm Sargent and Lundy Engineers, Chicago. Professors Morris Scheinman and Thomas F. Conry were the G.E. faculty advisors.

Abstract: "Nuclear power plants are founded on bedrock whereas pipes leading into the plant are placed in backfill. Differential settlement between the backfill and the building causes the pipes to become overstressed at the location of the rigid wall anchor.

"This project involved designing a pipe anchor which will relieve the stresses in the pipe at the wall, and will also contain a water seal. The proposed design will allow the pipe a specified amount of freedom and will act as a rigid support after the freedom has been utilized."

I.S.G.E. BEGINS AN ACTIVE YEAR

The Illinois Society of General Engineers met on September 17th to hear Professor L. Dan Metz speak about the technology of bicycles and ways to increase cycling efficiency by reducing cycling drag. Also speaking that night was Professor Jerry S. Dobrovolny, who explained the history of the department and the changes that have occurred over the years.

Several I.S.G.E. members were elected to departmental and engineering council committees and offices. George G. Dewey, '76, Crystal Lake, and Maureen Madden, '79, Western Springs, were selected to be representatives on the Everitt and Pierce Awards Committee; and Pat Metz, '76, Springfield, and Brad Dickson, '77, Dixon, were elected the student representatives on the department advisory committee. Neil Compton, '76, Springfield, was elected the new I.S.G.E. engineering council representative.

An engineer from Caterpillar Tractor Company spoke at the October 29th meeting. His topic was the design and testing of road-building equipment, and he illustrated his lecture with both slides and films of actual tests.

An important announcement was made that the "third Annual 'Strike' O'Bryant Bowling Tournament" would be held on November 22nd. The tournament, named in honor of Professor Dave C. O'Bryant, promises to be an exciting affair as the students attempt to avenge last year's close loss to the faculty.

QUOTE — "Someday, after mastering the winds, the waves, the tides and gravity, we shall harness for God the energies of love and then, for the second time in the history of the world, man will have discovered fire."

Teilhard DeChardin

GAMMA EPSILON ACTIVITIES

In the past year, Gamma Epsilon has had many activities ranging from social to professional. This fall, Gamma Epsilon members took a canoe trip down scenic Sugar Creek at Turkey Run State Park in Indiana. The group is continuing its work as technical advisors to the Urbana Junior High School design classes.

Last spring, in conjunction with the General Engineering department, Gamma Epsilon held its annual banquet at which time various faculty and students were honored, and new Gamma Epsilon members were initiated. We also welcomed Roy S. Carver, G.E. '34, Muscatine, Iowa, as distinguished alumnus and honorary member of Gamma Epsilon.

The future promises to be busy for Gamma Epsilon. Activities will include field trips, the fall banquet, and continuing evaluation of the G.E. curriculum.

The officers of Gamma Epsilon for 1975—1976 are: President-Cathy Struss, '77, Arlington Heights; Vice-President-John Metz, '77, Momence; Secretary-Reno Maurer, '76, Murphysboro; Treasurer-Bruce Bartholomew, '76, Momence. Prof. Harrison Streeter is the faculty advisor for Gamma Epsilon.

JETS PARTICIPANTS IN 1974 ENROLL AT UIUC

A large segment of the high schoolers in the JETS six-weeks program during the summer of 1974 have returned to the UIUC campus College of Engineering.

The following freshmen are from this JETS group: Paul C. Chow, Park Forest, Stanley J. Czuba, Chicago, and David M. Green, Ellery, are in mechanical engineering; Mary Dunden, Glenview, and Gary S. Fischman, Skokie, are in civil engineering; Paul J. Krc, Oak Lawn, in general engineering; Richard D. Robbins, Freeport, in computer science; James L. Seiver, Freeport, in electrical engineering; Eric T. Streicher, Elizabeth, in engineering physics.

G.E. ENROLLMENT STRONG

The fall term undergraduate enrollment in the College of Engineering declined in the late 1960's and early 1970's until it reached a low of 3,027 in 1973. Since than it has been increasing and is now back up to 3,507. There are now 231 women in the College of Engineering. These figures do not include students in Computer Science but do include those in Computer Engineering.

In General Engineering the number of fall term undergraduate students also declined for about the same period, but hit a low of 314 in 1972. There are now 475 in General Engineering with 54 of these women. The enrollment in General Engineering has increased by over 51% since 1972 while the enrollment for the college increased by less than 15%. There will be 17 General Engineering students receiving their degree in January 1976 and about 53 in May 1976.

WILLIAM W. CHOW

WAYNE J. DAVIS

Dr. WILLIAM W. CHOW is an Assistant Professor of General Engineering. He joined the faculty in 1975. Prior to coming to the University he was employed by the Kenner Products Co., a division of General Mills.

Dr. Chow graduated from the University of Wisconsin in 1971 with a B.S. in Mechanical Engineering. He received his M.S. and Ph.D. degrees in Mechanical Engineering from the University of Michigan in 1972 and 1974.

While at the University of Wisconsin, he worked for Professor Otis in setting up an impact tester for energy absorption in closed cell foams, an experiment exhibited at the 1971 Engineering Exposition. At Michigan, he worked on a computer simulation of stacker crane, sponsored by the Silent Hoist and Crane Fellowship. He did his doctoral thesis on Medical Seat Cushions for handicapped people. The research, sponsored by the Easter Seal Foundation, improved cushions so that they can better help prevent decubitus ulcers and bed sores. From September 1974 to August 1975, he was a project engineer in Kenner Products. One of the projects, the redesign of TTP pump and launch pad, resulted in large cost reduction and quality improvement of the product. His current research interest lies in biomechanics and manufacturing oriented machine design. He is investigating the substitution of metals by plastics in the design of consumer products.

Dr. WAYNE J. DAVIS is an Assistant Professor of General Engineering, having joined the faculty in 1975.

Dr. Davis received his B.S. in Engineering Sciences from Purdue University in 1970. Granted a three-year NSF Traineeship, he continued his graduate work at Purdue University receiving his M.S. in Engineering in 1971 and Ph.D. in 1975.

While at Purdue University, Dr. Davis worked as a research assistant for the Center of Large Scale Systems and later the Department of Industrial Engineering as a member of the Purdue Cadmium Project. This work included the modification of the accepted Air Quality Display Model to predict atmospheric dispersion of particulate and a preliminary investigation of models to trace the flow of trace metals in an urban environment. His dissertation involved the application of decomposition theories of mathematical programming to decision-making in multi-level organizations. His current research involves the extension of his dissertation effort.

ALUMNI NEWS

'49 GEORGE P. TAYLOR has been promoted to vice president/general manager of the Ophthalmic Lens Division of Bausch & Lomb located in Rochester, N.Y.

'53 DONALD C. RACKHOLM works as engineering group leader for the Underwriters' Laboratories in Northbrook, Illinois.

'53 WILLIAM E. HAMRICK has become the director, Budget Division, Chicago Operations Office, of the U.S. Energy Research and Development Administration located in Argonne, Illinois.

'53 ROBERT H. ANDERSON earned his advanced degrees in Civil Engineering at UIUC, the master's in 1956 and the doctor's in 1963. Bob is president and chairman of the board of directors, Mechanics Research, Inc. M.R.I. is presently completing its second year as the Environmental and Safety "Watchdog" for the U.S. Department of Interior on the Trans-Alaska Pipeline. The 18-million-dollar contract awarded to M.R.I. constitutes the first environmental control effort on a major privately financed construction project.

'57 CHARLES J. KUSTNER is now the general manager, Logic Device & Systems Division for Cutler-Hammer, Inc., located in Milwaukee, Wisconsin.

'58 JON L. PEACY received his master's degree in C.E., 1971, from the University of Washington, Seattle. For the past two years Jon has been working for Flour Pioneer, Inc., in Chicago, and has been busy reading technical papers before society meetings. One such presentation was entitled "Humidity in Flue Gas by Desiccants," given to the ASME Incinerator Division, in Miami Beach.

'60 LEO L. SULDA is a sales manager in Ohio for the California based company Greer Hydraulics.

'64 DONALD E. WILKINSON received his Juris Doctor from John Marshall Law School in February, 1970, and is self-employed in private practice of law. He has recently moved to a larger office in Wheaton, Illinois, because business is so good. Don also said that he and the family have moved to a larger home.

'64 JAMES R. SACHTSCHALE and his wife spent two weeks last fall sailing among the Greek islands in the Aegean Sea. As a photography buff Jim has about 500 slides that he took in and around the various ruins.

'66 MYRON G. ODELL received his MBA in 1968 from UIUC. This summer he was promoted to manager, Administrative Services Division, for Arthur Anderson & Company, Chicago. For a hobby Myron built and started racing a 1969 AMX in SCCA amateur road racing.

'67 MICHAEL D. DINITZ has become the senior distribution system analyst for Abbott Laboratories in North Chicago.

'69 JOHN M. McKINNEY is project engineer for the Hawaiian Dredging and Construction Company. The current job is the 50,000 seat Aloha Stadium.

'69 ARDELL WILLIAM NEASE received his MSE from California State University, Long Beach, with his field of study fluid dynamics. His thesis was concerned with the solution of the Navier-Stokes equations in the entry length of a tube on channel using boundary layer theory. He works as a hydraulic system analysis engineer, Space Shuttle Program, for Rockwell International in Downey, California.

'69 RONALD C. MORRISON earned his MBA in January, 1972, at UIUC. He has become a management analyst in the Chicago office of the U.S. government's Department of Health, Education and Welfare.

'69 DOUGLAS G. MEDLEY has been at several locations in the Western U.S. Currently he is at Vancouver, British Columbia.

'71 CHARLES S. STAHL, JR., earned his Juris Doctor from the John Marshall Law School in Chicago this past June. He has now embarked on a two-year clerkship under the Honorable John J. Stamos, Justice of the Illinois Appellate Court, First District in Chicago. While at law school Charlie found his technical background extremely helpful. His lack of confidence in his writing ability was immediately overshadowed by his analytical approach derived from the G.E. curriculum. He hopes to teach an evening course at John Marshall in legal research and writing beginning in the spring.

'71 RICHARD N. WIAND was released from active duty with the U.S. Marine Corps after serving three years as Aviation Supply Officer. He is now a project engineer with the Quaker Oats Company in Cedar Rapids, Iowa.

'72 FRANK J. FRONCZAK has completed his course work for the Doctor of Engineering degree at the University of Kansas, Lawrence, Kansas. Under the auspices of the University of Kansas Center for Research, Frank is involved with a research/design project at NASA, Langley Research Center in Hampton, Virginia. The project is designing equipment for the measurement of vibrating, rotating helicopter blades in a vacuum. Frank anticipates that this work will be completed in about a year and a half, at which time he plans to return to the Midwest to work.

'72 LOUIS J. MANCINI has just completed his doctor's degree in operations research at Stanford University. He has become a research engineer in the Department of Mathematics and Computer Science, Shell Development Company, in Houston, Texas. Louie is looking forward to acquiring practical experience in industry.

'73 ROBERT B. BURNS, JR., is enrolled in the Law School at the University of Texas where he has completed his first year. In April, he qualified for the Geary Brice Freshman Moot Court competition. In the oral rounds, he and his partner were semifinalists. In the written brief competition, they took first place. For their efforts, they won a $125 team award and their names will be inscribed on a plaque that hangs in the Law School.

His wife, Marlee-Jo, will be starting in pursuit of an MBA. Since moving to Austin, husband and wife have become avid bridge players and won their first Master Points in the Austin Sectional Tournament last June.