

NSF SUMMER SCHOOLS BIG SUCCESS

Both summer institutes conducted last summer by the G.E. Department, under the sponsorship of the National Science Foundation, were considered resounding successes by all who were connected with them.

The second 6 week Summer Science Institute, attended by 41 outstanding high school students, was again very rewarding to all the participants, both staff and students. Student enthusiasm was well directed into further exploration into science and engineering areas. It is interesting to note that all 39 of the students in the 1960 Summer Institute are now in college and 24 of them are at Illinois. Sixteen are enrolled in engineering and 7 of those are in G.E. There are 5 who enrolled in engineering at other universities.

These results are, of course, very gratifying to the G. E. Department and to all those connected with the institute. It is hoped such science institutes may become an annual offering of the Department.

The 8 week Summer Institute in Engineering Technology for teachers in high schools, junior colleges, and technical institutes was also considered by all to be very successful. Total enrollment was 30, divided evenly between courses in Electronics Technology and Mechanical Technology. All enrollees also took Engineering Mathematics and participated in twice-weekly seminars dealing with various problems in the field of technician training. This area or level of technical education is becoming increasingly vital with growing demands for engineering aides and engineering technicians. World tensions, and expansions of automation, research, testing, and development all are increasing the need for technically trained men at a post high school level.

The state of Illinois has no publicly supported technical institutes as such, although 20 or 30 high schools, especially in the Chicago area, have evening courses for adults in various technical areas.

For this reason the 30 summer institute students included 11 from within the state. The selection was found to be very successful since one of the greatest values for the teacher-student was the formal and informal exchanges of ideas, information, and experiences among themselves. The enrollees were an especially dedicated and spirited group, and their excellent attitudes and enthusiasm left a lasting impression on the staff who conducted the institute. Under the direction of Prof. J. S. Dobrovolny, the staff included R. J. Placek and T. C. Hartley of G.E., E.L. Broghamer of M.E., D. S. Babb of E. E., and M. R. Karnes of the College of Education, who served as Associate Director.

It is hoped that another program of this nature may be offered next summer, perhaps with an increased number of students.

ENGINEERING ENROLLMENT DIPS SLIGHTLY

Enrollment figures are down slightly this fall for both new freshmen in engineering and total students in the college. This fall new freshmen in engineering number 992 compared with 1105 last fall. Total College of Engineering enrollment this fall reached 3664, somewhat lower than last year's total of 3827.

Enrollments in G. E. fell accordingly, the new freshmen enrollees numbering 160 last year and 133 this year. Total enrollment in G. E. last year was 348 and this fall is 298. Since G. E. annually enrolls a sizeable number of transfers from other schools, these figures reflect some drop in numbers of transfers.

Overall University enrollment at Urbana rose from 21,955 in the fall of 1960 to approximately 23,100 this year. The largest increase in enrollment occurred in the College of Liberal Arts and Sciences.

It is still predicted that future enrollments will be larger in the whole University, the College of Engineering, and the G. E. Department. Generally increasing numbers are expected until at least 1970, with the biggest single bulge anticipated for 1965.

U. OF ILL. HOSTS DRAWING GROUP

The 28th Annual Meeting of the Technical Drawing Associates was held this fall at the University's conference facilities at Allerton House, near Monticello, on October 5, 6, and 7. TDA includes in its membership men who are interested in commercial drafting in all its aspects, and numbers many chief engineers, design supervisors, and chief draftsmen.

Professors Hall, Dobrovolny, Springer, Hoelscher, Shick, and Martin attended the conclave and each took some part in the program. Professor Dobrovolny gave a paper entitled "The Role of the Technical Institute in the Teaching of Engineering Drawing." Professor Dobrovolny is chairman of the College of Engineering Committee on Technical Institutes.

Speakers at the conference were men from Westinghouse Electric, Crane Company, Western Electric, Bell Telephone Laboratories, and Eastman Kodak. Professor of Marketing, Frank Beach, gave a talk at the Thursday evening dinner.

Saturday morning the group visited the new Assembly Hall under construction, the Aeronautical Engineering Research Laboratory, and the Electrical Engineering Laboratory. Some of the hardier souls also attended the Northwestern-Illinois football game Saturday afternoon.

I.S.G.E. WILL PUBLISH MAGAZINE

The student society has decided to go ahead with plans to publish an annual magazine reviewing events in the department and college. A committee has started work on this project. An explanatory outline of the format is enclosed with this Newsletter.

We would like to plug the magazine and solicit your interest in placing advertising in it. Rates have been set at \$100 per full page, \$60 per half page, and \$40 per quarter page. We would appreciate your discussing it in your firms, and any help will be appreciated. Please address inquiries to the I.S.G.E., c/o D.R. Reyes-Guerra, 117 Transportation Building, or to the department office.

NEW G. E. DESIGN SEQUENCE STARTS

The first course is now being offered in the new design sequence for G. E. students. It is G. E. 231, Engineering Analysis I, applications of statics and dynamics to the analysis of fundamental problems of simple structures and mechanisms. The first section numbers 20 volunteers, as the sequence is not required for students who enrolled prior to this fall.

Principles of statics and dynamics used in varied areas of engineering design are being presented in a variety of problems. Reception by the class is very good, and considerable enthusiasm exists for the success of the new sequence.

The second course will be G. E. 232, Engineering Analysis II, a study of stress conditions in various engineering materials and configurations as applied to the development of design criteria. It will be offered next spring, along with the first course which will start another group of volunteers into the sequence.

G. E. GETS JOE-BLOCKS

The G.E. Department has recently received a gift of precision gauging equipment from C.E. Johansson, Inc., of Eskilstuna, Sweden. The gift consists of a 35 piece set of gauge blocks, a supporting stand, and a "mikrokator" or sensing dial indicator, which will read to the nearest hundred-thousandth of an inch.

These Johansson Gauge Blocks, which are affectionately called Joe-Blocks in American workshops, are widely accepted as standard equipment for highly precise measurement work in industries in which precision manufacture, stringent quality control, and interchangeability are important. G. E.'s Joe-Block set and the philosophy of manufacturing which led to its conception will be subject matter for study by students in the course on standardization and in the new design courses.

The gift was received as a result of the association of G. E. Professor William F. Berkow with the Johansson Company's American subsidiary, Swedish Gage Co., Inc., of Dearborn, Michigan.

INTRODUCING NEW STAFF MEMBERS

Maurice G. Porter

Our departmental legal staff has doubled in size with the addition of Assistant Professor Maurice G. Porter, who is with G.E. on a 1/3 basis and C.E. on 2/3 time. Mr. Porter is an honor graduate of the U. of I. Law School and spent 20 years in the practice of law. Three of these years were in Army Counter Intelligence and criminal investigation work. He was awarded a Doctor of Laws degree after completing graduate study at this University last June. He has also done graduate work and has taught in the political science field. He formerly was on a part time basis in the Agricultural Law Department of the University.

Mr. Porter comes to Urbana from Clinton, Illinois. He, his wife, and son Steve, a sophomore at University High School, now reside at 602 Harding Drive, Urbana. In addition to a wealth of background and experience, Maurice has an excellent repertoire of stories, anecdotes and jokes with which to amuse staff and students alike. He has a special interest in the legal history field and includes among his hobbies the cooking of gourmet dishes.

Arik Aldus

Mr. Arik Aldus, a new instructor on the G. E. staff this fall, is a native of Holland, having come to this country in 1947, following service in the Dutch Army during World War II. He attended the University of Southern California, receiving a B. S. degree in Mechanical Engineering in 1957 and an M. S. in Civil Engineering in 1961.

While attending Southern Cal., Mr. Aldus worked for Douglas Aircraft Company in El Segundo for five years, spending one year in mechanical design work and four years as a structural test engineer. He then was a member for four years of the General Engineering staff at USC, teaching courses in graphics, statics, dynamics, and other areas of mechanics.

For the past year, Mr. Aldus was a C. E. design engineer with the United States Department of Agriculture, serving with the forest service on construction of flood control structures and roads in

Angeles National Forest in southern California. He is currently doing work in soil mechanics, toward the Ph.D. degree in Civil Engineering. He is married and has one child, a boy of seven.

John R. Cain

Another new G. E. instructor this semester is Mr. John R. Cain, a native of Gillespie, Illinois. A veteran of World War II and the Korean War, Mr. Cain was employed with Shell Oil Company for a number of years in administrative work. He then attended the University of Illinois, receiving a B.S. in Chemical Engineering in 1959. Following graduation, he was again employed by Shell at their plant in Wood River, Illinois, doing catalytic hydrogenation work in their experimental laboratory.

Mr. Cain, unmarried, is taking graduate work toward a Master's degree in Education. From all indications his parents did a good job of raising Cain, and he is very able.

Uffe Hindhede

The G. E. staff has another new member who is a European native, Mr. Uffe Hindhede, instructor, hails from Jutland, Denmark, and first came to the United States in 1952 as an exchange visitor. Apparently he liked what he saw because he returned in 1953, and is now naturalized, having received his citizenship in 1960.

Mr. Hindhede's education culminated in an M. S. degree in Mechanical Engineering, from the Technical University of Denmark, in Copenhagen. This program, 5 1/2 years in length, includes the requirement of 12 months experience as a machinist. Following graduation he worked for 2 1/2 years in the Danish Army Arsenal in Copenhagen.

Since coming to America Mr. Hindhede has been employed in design, development, and production work with manufacturers of heavy equipment and high speed machinery. For 2 years he was with Manitowoc Engineering Corp., Manitowoc, Wisconsin, manufacturers of heavy cranes, following which he moved to the Machine Tool Division of Barber-Colman, in Rockford, Illinois for 2 years. Next he spent 2 years with Kennedy-Van Saun Corp., New York City, heavy equipment manufacturers.

New Staff (cont.)

His most recent position was 2 years with Worthington Corporation in East Orange, New Jersey, working with high speed compressors.

With this experience in design and development Mr. Hindhede can contribute greatly to the sequence of new integrated design courses initiated this fall. His experience typifies the G. E. contention that design work necessarily crosses many fields of engineering.

A single man, Mr. Hindhede claims interest in pursuing the stock market as one of his principal hobbies. He is currently taking graduate work with a view towards an ultimate Ph. D. in Mechanical Engineering.

PEARSON STUDIES (GASP) AIR (SHUDDER!)

Professor John Pearson of the G. E. Department has been awarded an \$88,000 research grant from the National Institute of Health of the U.S. Department of Health, Education and Welfare for atmospheric research. Beginning last June the fourth floor of the Transportation Building became the scene of considerable activity in preparing space to accommodate Professor Pearson's project. The former print shop and the blueprint room are now an attractive office and laboratory space with a total floor space of 700 square feet, and various items of equipment have been arriving almost daily for the past several weeks. Most of the first year will be occupied with assembling and calibrating the equipment needed.

The research will investigate the transfer of natural Radon (Rn^{222}) into the atmosphere. Radon is a decay product of Uranium, which is present in all of the earth's natural soil to some degree. The Uranium slowly decays to Radium²²⁶ and this decay is particulate in every case. But, in the next step the decay product is gaseous Rn^{222} , which escapes from the soil. A study will be made of the rate of escape through the air-soil interface. It is hoped that the Radon can be used as a tracer in the study of the movement of materials through the atmosphere. If it is found that the emission from soil to air is uniform, the rate of diffusion of the Radon will

show how effective the atmosphere is in a particular area in riding the space of waste. The information so obtained would be a valuable tool in the study of polluting materials in the atmosphere.

The technique employed in the study will be to collect the Rn^{222} in chilled charcoal traps. These devices are about 99% effective in trapping the Radon. In the laboratory the charcoal is heated, and the Radon is driven off and channelled into stainless steel counting bottles. The bottles have quartz glass windows and are lined with a scintillating material. Upon disintegration of the Rn^{222} , alpha particles are released, counted with a photo multiplier tube, and this reading is amplified and read on a counter or scaler.

During the second year a number of simultaneous samples will be taken in one large area containing a variety of geographical types. Also, a number of samples from a particular spot will be taken over the year to discover any variations due to seasonal or weather variations.

The third and last year will see the sampling done over a large area of the U. S., including the Rocky Mountains, and a complete report on the findings will be the final step.

The budget calls for \$15,000 worth of equipment the first year and an additional \$6,500 worth the second. Under the terms of the contract, all equipment will be retained by the U. of I. upon completion of the project.

Professor Pearson continues to teach on a 1/2 time basis, handling the meteorology course for engineers this semester, and sanitary engineering and air pollution courses in Civil Engineering next semester. He has spent considerable time working for Argonne National Laboratories in Lemont, Illinois.

Associated with Professor Pearson on a part time basis are Dr. I. Hayakawa, who has a Ph.D. in Sanitary Engineering from the U. of California; Calvin Poon, who holds an M.S. degree in Sanitary Engineering; David Miller, a graduate student in Nuclear Engineering; Don Rimbey, G.E. 1950 and instructor in the G. E. Department; and Lynda Nicosia, secretary and a freshman in Ceramic Engineering.

SALARIES AFTER 5 YEARS

A recent survey made of the salaries of 1956 engineering graduates from the University of Illinois reveals some interesting facts. Average salary being earned by those replying to the questionnaire was \$747.39 per month. General Engineer graduates were somewhat above this with \$753.70. E. E.'s rated the highest at \$795.28. Highest salary listed was by a G. E., \$1666 per month. The average salary for all of these engineers in 1956 was \$435.80 so that a 71.5% increase has been realized in the average case. Significant is the fact that the average G.E. started at \$414.75 in 1956 but has boosted his salary by 81.72% in 5 years. This percent increase is bettered only by Ceramic Engineers.

Another part of the survey relates to salaries of graduates who have completed work for advanced degrees since graduation in 1956. The average graduate who has gained a Master's degree is earning more than the Bachelor's average, and the Ph.D. average is even higher. It should be pointed out also that those with advanced degrees have been on the job anywhere from one to four years less than those who went directly to a job upon receiving the Bachelor's degree 5 years ago.

Of those who answered the survey 48.5% have remained with the same job since 1956. Of those who changed 5% did so in the first year, 15.1% in the second, 23.1% in the third, 23.5% in the fourth, and 13.4% in the fifth year.

G. E. PUTS SECOND MAN IN SPACE

John Cain is now working 1/3 time with the Central Office on the Use of Space. He joins Don Rimbe, instructor in G.E., who has been associated with this office for the past year and is now devoting 8/10 time to these duties. The office has the responsibility for such things as planning the use of all floor space available to the University, working out classroom schedules, and predicting and planning for the future building space needs of the University.

JETS MOVE ONWARD AND UPWARD

David Reyes-Guerra, G.E. Instructor and State Director of the Junior Engineering Technical Society program in the state of Illinois, was one of the featured speakers at the meeting of the University of Illinois Engineering Alumni Meeting held November 3 and 4. As you may recall from the last issue of the Newsletter, JETS is an organization that works to foster interest and development in the study of engineering and science among high school students. Also present to address the meeting was Dr. R. T. Fallon of New York, Executive Director of JETS, Inc. On November 7 William Everitt, Dean of the U. of I. College of Engineering, presented the first charter to be granted since the founding of the Illinois State Headquarters to Moore High School, Farmer City. As of this writing 10 charters have been granted and numerous schools throughout the state are taking preliminary action to secure charters. The Illinois Society of Professional Engineers has contributed \$100 toward the purchase of frames for the charters.

BOB'S BASS BLOWING BOLSTERS BAND

Bob Jewett, an affable and energetic Associate Professor of G.E., is now promoting harmony within the University Band Department. He plays bass clarinet in the 116 piece concert band, and for those who may not know, only very proficient musicians are privileged to become members. Bob and his son, Tom, form the only father and son team ever to be members of the bands. Tom is a junior majoring in Music Education. Mr. Jewett teaches a Sunday school class for college students at McKinley Foundation on the campus and is in his eighth year of this activity. He also is in demand as a speaker on such subjects as "Science and Religion".

ANY NEWS? ANY VIEWS?

We would appreciate hearing from you on any items of interest that could be published in this Newsletter such as changes in employment, advancements, etc. Simply address such news to G. E. Newsletter, 117 Transportation Building, University of Illinois, Urbana, Illinois.

VARSITY ATHLETES ARE G.E. STUDENTS

G.E. is well represented on this year's Illinois basketball squad by two guard candidates, Sam Leeper and Jay Lovelace. Leeper, a 6-0 senior who comes from Tolono, Illinois, starred at Unity High School. He saw considerable action at guard last year, especially in the latter part of the season. Lovelace is a 6-1 1/2 junior who hails from Carbondale, Illinois, and spent his freshman year at the University of Florida. The Big Ten eligibility rule on failing grades felled Lovelace last year, as he failed an advanced math course although at no time was he ever on probation for grade average. Both men are expected to make strong bids for the unsettled guard posts.

G.E. also claims a member of the football team for two years. Ken Chalcraft, a senior from Maroa, Illinois has been a reserve end. Chalcraft, 6-3 and 195, was a quarterback in high school, but was switched to end by Ray Eliot. He had some probation problems last spring, but maintained his eligibility by attending summer school.

OPEN HOUSE SHAPING UP

Dates for the annual U. of I. Engineering Open House are March 16 and 17, 1962. Student and staff committees for this event are already hard at work and the results of similar effort in the past have been most worthwhile. A series of displays, exhibits and demonstrations by the several engineering departments is the principal attraction and these are handled in such a way that they appeal to the general public as well as those persons who have engineering knowledge. There is every reason to believe that the coming open house will surpass all previous ones in every way. G.E. also maintains a hospitality room where those interested in our curriculum may talk with members of the staff while enjoying a free cup of coffee. If it is within your power to do so, visit Engineering Open House and stop in to see us. Also, encourage attendance by any high school kids of your acquaintance who appear to have interest in engineering.

NEW STUDENT SOCIETY FORMED

As a result of letters from alumni of ISGE inquiring as to the possibility of having a national society, we began to investigate this possibility in 1959. After careful study, we concluded that there already exists a society, national in scope, and with similar interests to ISGE, this society being the N.S.P.E. After some inquiry last year's officers of ISGE presented to their membership a proposal to found on campus a student society of P.E. affiliated with the Illinois Society of P.E. and the N.S.P.E. This was to be an independent group all engineering students on campus could join and which would give them a bond with a group that was not specialized in any one field. The result of this proposal was the founding at Illinois of one of the few student chapters of P.E. in the country. The group was officially approved last May at which time state officers of P.E. came down to campus to charter the new society. The brunt of organizing this group was handled by the ISGE with the enthusiastic cooperation of state and local authorities of the P.E. Though the ISGE was the core and principal mover, the new society is completely independent. It has received encouragement from the other groups on campus and already has in its membership representatives of all the different engineering departments.

INDUSTRIAL SEMINAR IN PLANNING STAGE

Plans are presently being formulated for another Industrial Seminar tentatively scheduled for April, 1962. It is planned to choose topics and speakers of interest and value to many practicing engineers in industry. As details become known, publicity will be issued to the various engineering journals as well as directly to G. E. alumni.

