

C. I. T. NEWS

PUBLIC RELATIONS OFFICE IN OPERATION

ESTABLISHMENT of a Public Relations office has been completed at the Institute and is now functioning under the direction of George H. Hall, Administrative Assistant. The office is temporarily located in 361 Arms building.

The office was established to give the Institute a central clearing point for dissemination of all information concerning CalTech to the public; to handle requests from the press, radio, magazines, etc., for information or stories; to work closely with the faculty in preparation of material for release to the public and to develop and suggest methods and procedures whereby a closer relationship between the Institute and the public can not only be established but maintained.

The public relations office will also work closely with Alumni groups in assisting them in obtaining information they may wish and giving any other assistance requested.

Plans are now in the formative stage for publication of bulletins and other booklets to supplement other publications and which will be designed to give broader coverage of what the Institute is doing and what its future plans are.

Procurement of speakers for civic and other groups is also being handled by this office along with the campus student guide service which is again functioning.

Hall came to the Institute from the North American Aviation, Inc. Public Relations department and prior to that was Resident Director of Public Relations for Consolidated Vultee Aircraft Corporation at its Tucson, Arizona, modification center at which time he was employed by the New York public relations firm of Hill and Knowlton. Prior to that he did newspaper and public relations work in both New York and Arizona. He is a native of Indiana and a graduate of the University of Arizona.

INSTITUTE BIOCHEMISTS GET FIVE-YEAR GRANT FOR POLIO RESEARCH

SCIENTISTS at the California Institute will study the fundamental structure and organization of proteins and related compounds as a basis for further knowledge of how the virus of poliomyelitis destroys nerve cells. The five-year study financed with \$300,000 March of Dimes funds from the National Foundation for Infantile Paralysis was announced recently by Basil O'Connor, president of the Foundation and Dr. Lee A. DuBridge, CalTech president.

It is the plan of the Institute's biologists and chemists, under the direction of Drs. Linus Pauling and G. W. Beadle, chairmen of the chemistry and biology divisions, respectively, to determine the complex structure and organization of the polio virus and how it produces its characteristic effects by studying first the physical, chemical and biological properties of proteins, amino acids and nucleoproteins.

There is reason to believe that these compounds, often referred to as the "building blocks" of the body, may also be the building blocks of the polio virus, important in its reproduction, or have many structural characteristics common with the polio virus itself. Knowledge gained from the protein studies may lead to understanding the characteristics of the virus, how it reproduces and how it causes injury.

"Modern medicine," said Drs. Pauling and Beadle in setting forth their aims, "is not and cannot be content with cures that are not based on an understanding of the nature of both the agent which produces the disease and the subject which it attacks."

The Institute researchers will bring to bear on this problem, which lies in a comparatively new field of investigation, many of science's latest weapons and techniques—electron microscopy, electrophoresis, ultracentrifugation and chemical and X-ray diffraction analyses.

BATEMAN FELLOW NAMED

DR. SAMUEL KARLEN of Princeton University has been appointed to the Harry Bateman Research Fellowship in pure mathematics by the Board of Trustees, President Lee A. DuBridge announced recently.

The Bateman Fellowship, established this year by the Institute in honor of the late Harry Bateman, professor of mathematics, physics and aeronautics, is made for one year but may be renewed for a second year. Dr. Karlen is the first to receive the appointment.

A native of Chicago, Dr. Karlen obtained his B.S. and M.S. degrees at Illinois Institute of Technology in 1944 and 1945 respectively, and his Ph.D. at Princeton this year, all in the general field of mathematics.

He will join the CalTech mathematics department as a research fellow in September of this year, and in addition to research work will teach one upper class course in mathematics.

Dr. Karlen is a member of Sigma Xi, national scientific honorary society.

FOUR SENIORS WIN METALS AWARD

THE FEDERATED METALS Division of the American Smelting and Refining Company has made awards to four senior students. These are known as the Federated Metals Non-ferrous awards. The recipients of the awards were selected by Professor D. S. Clark, director of placement, upon recommendation by heads of the departments of chemical engineering, electrical engineering, and mechanical engineering.

The award consists of an inspection trip of the Los Angeles and San Francisco plants of the Federated Metals Division, with all expenses paid. The inspection trip started on Monday, March 24, with a two-day visit to the Los Angeles plant and consultations with technical personnel of that organization. The following two days were devoted to a visit to operations of the Federated Metals Division in San Francisco.

Selected on the basis of combined scholarship attainment and personality were:

C. B. Crumly—senior in electrical engineering
S. G. Stiles—senior in mechanical engineering
P. A. Linam—senior in applied chemistry
H. J. Lawrence—senior in applied chemistry

The Federated Metals Division of the American Smelting and Refining Company is a large producer of secondary non-ferrous metals and alloys, operating plants throughout the United States. The company purchases all kinds of non-ferrous scrap metals of commercial quality suitable for the metal fabricating industry. The general headquarters of the company is located in New York City.

FACULTY NOTES

Additions

Dr. Max Delbrück, associate professor of physics at Vanderbilt University, has accepted an appointment, effective 1 July 1947, as professor of biology at the Institute. Dr. Delbrück is a native of Germany, having received his Ph.D. from the University of Göttingen in 1930. Subsequently he was a Rockefeller Foundation fellow in physics at Copenhagen and Zurich, and an assistant in the Kaiser Wilhelm Institute for Chemistry. From 1937 to 1939 he was a Rockefeller Foundation fellow in biology at the California Institute. Since 1940 Dr. Delbrück has been with the physics department at Vanderbilt.

Professor Delbrück's research in recent years has been on bacterial viruses. In this field he has made outstanding contributions and is without doubt one of the world's outstanding workers in this field. Dr. Delbrück should do a great deal to strengthen the field of biophysics at the Institute.

Dr. C. K. Gloyd of Occidental College is here as visiting lecturer in philosophy for the spring term.

Dr. D. F. Jones, Connecticut Agricultural Experiment station associate, is now a visiting lecturer in biology.

Dr. Ralph W. Lewis, on leave of absence from Michigan State College, has been appointed research fellow in biology.

Dr. Arthur C. Giese, now of Stanford University, has accepted an appointment as visiting professor of biology for the school year 1947-48.

Dr. J. S. Webb of the University of Minnesota has been appointed research fellow in electrical engineering.

Two new Trustees have been added to the board, James G. Boswell and John A. McCone.

Resignations

Dr. J. J. Lund, director of the Institute Libraries, will resign as of 1 July to enter the foreign service. Dr. Lund came to the Institute from Duke University in 1945.

Philip S. Fogg, associate professor of business economics and former registrar, now on leave of absence, has resigned from the Institute staff. Mr. Fogg is now president of the Consolidated Engineering Company of Pasadena.

Promotions

President Lee A. DuBridge has replaced Dr. Richard C. Tolman on the executive committee. Dr. Tolman has resigned from the committee in order to devote more time to research and new duties as technical adviser on the United Nations Atomic

Energy Commission. Dr. Tolman, former dean of the graduate school, remains as professor of physical chemistry and mathematical physics at the Institute.

Leaves of Absence

Dr. J. E. Wallace Sterling, Edward S. Harkness Professor of History and Government and member of the Executive Committee, has been granted leave of absence for the school year 1947-48.

DUBRIDGE SPOKE AT RICE INSTITUTE

PRESIDENT LEE A. DuBridge was one of the speakers at the April inauguration of Dr. William V. Houston as president of Rice Institute in Houston, Texas. Dr. Houston was professor of physics at Cal-Tech before accepting the presidency of the Texas Institute.

Dr. DuBridge was accompanied to Houston by Dr. Karl T. Compton, president of M.I.T., another participant in the program, who had just returned from a trip to Honolulu.

Speaking on "Men Wanted," President DuBridge dealt with problems faced by this country because it does not have the scientific manpower to push forward adequately on such vital fronts as national defense and security, national health and welfare, industrial development and basic science and education.

GOLDSWORTHY RECEIVES LEGION OF MERIT AWARD

L. T. COL. E. C. Goldsworthy, assistant professor of mathematics and master of student houses, has received the Legion of Merit award for his wartime service with the Army Air Forces.

Col. Goldsworthy, now on retired status, was unable to receive the award at ceremonies held at Hamilton Field, but it was subsequently delivered to him at this home. The decoration was for his work as director of training at the Air Forces School of Applied Tactics at Orlando, Florida, from November 1942 to December 1945.

AERONAUTICS MEN WRITE TEXTBOOK

TWO members of the Aeronautical Engineering staff, Hans W. Liepmann and Allen E. Puckett, have collaborated on a textbook, *Introduction to Aerodynamics of a Compressible Fluid*. This volume, out early this year, covers compressibility phenomena under simplified and actual conditions. It is divided into two parts, the first giving fundamentals and mathematical background. The second part discusses two and three dimensional equations and some of the approximate methods of solving them. A few exact solutions are also given. Some features covered are Schlieren, shadowgraph and interferometer techniques; theory of limiting lines; linear perturbation theory; method of characteristics; shock-wave theories; hodograph equations; Karman-Tsien theory; and most of the classical elementary problems in compressible fluids.

Associate Professor Liepmann received his Ph.D. from the University of Zurich in 1938. Since 1939 he has been at the California Institute.

Allen E. Puckett, instructor in aeronautics and

chief of the Wind Tunnel Section of the Jet Propulsion Laboratory, has been connected with the Institute since 1941. He received his B.S. and M.S. degrees from Harvard University in 1939 and 1941. During the war he directed the design of the supersonic wind tunnel at the Army Ordnance Department's Aberdeen Proving Grounds.

GEOLOGY PROFESSOR APPOINTED

DR. JAMES A. Noble has been appointed professor of metalliferous geology at the Institute for the coming year. Dr. Noble is chief geologist of the Homestake Mining Corporation at Lead, South Dakota, and has been granted a nine month leave of absence by his company to fill the post left vacant here by the resignation of Dr. H. J. Fraser, now general manager of the Falconbridge Nickel Mining Company in Ontario.

Dr. Noble received a B.S. degree in mining engineering at Harvard in 1922 and his Ph.D. in economic geology from the same university in 1937. From 1922 to 1924 Dr. Noble served as geologist with the American Zinc Corporation, Mascot, Tennessee; from 1924 to 1931 he was geologist for the Cerro de Pasco Copper Company, Oroya, Peru; since 1931 he has been chief geologist for the Homestake Mining Corporation. The Homestake mine is the ranking gold mine in the Western Hemisphere. Since its discovery in the late seventies, it has been credited with the production of more than \$375,000,000. Furthermore, unlike most mines, its reserves have been steadily increased as a result of intensive work by the Corporation's geological and engineering departments.

He is a member of the American Institute of Mining and Metallurgical Engineers and a fellow of the Mineralogical Society and the Geological Society of America. Dr. Noble is also a member of the Advisory Council on Geological Engineering for Princeton University.

GEOLOGY MEETING HERE NEXT YEAR

THE CORDILLERAN Section of the Geological Society of America and associated societies, of which Dr. Ian Campbell, associate chairman of the division of geology, was recently elected vice-president, will hold its 1948 meeting in Pasadena. This will be the first postwar meeting of the society to be held in Southern California.

SCHOLARSHIPS AND FELLOWSHIPS ANNOUNCED New Fund Established

THE establishment of the David Lindley Murray Education Fund, which, it is estimated, will provide scholarships for approximately 15 students, was announced recently by President DuBridge. This fund will be available from a \$500,000 endowment made to the California Institute by the late Mrs. Katherine Murray, who with her husband for whom the fund is named had been a visitor to Pasadena from Illinois for many years prior to her death in 1944.

U. S. Rubber Company Offers Chemistry Fellowships

The United States Rubber Company has established several graduate fellowships in chemistry at the In-

stitute, the University of California at Berkeley, and U.C.L.A. These fellowships will provide \$1200 per year to single men and \$1800 for married students. The educational institution at which the studies are taken will receive \$1000 to cover each student's tuition and other costs. Students will be accepted for fellowships by the school at which they plan their graduate work, and will be unrestricted in choice of position after completion of their studies under the fellowship.

CAMPBELL OF GEOLOGY ELECTED TO SOCIETY OFFICE

DR. IAN CAMPBELL, professor of petrology at CalTech, was elected vice-chairman of the Industrial Minerals division of the American Institute of Mining Engineers at its 75th anniversary meeting in New York. Chairman of the division is Dr. J. L. Gillson, chief geologist for the E. I. DuPont de Nemours Company.

CONVERSE OF CIVIL ENGINEERING WILL GO TO HOLLAND IN 1948

FREDERICK J. CONVERSE, now professor of civil engineering, has accepted appointment to a National Committee on Soil Mechanics to represent the United States at the Second International Conference on Soil Mechanics and Foundation Engineering in Holland next year. Professor Converse is an authority on foundation problems and has been widely sought as a consultant throughout the western states. Large projects in this area on which he served as a consultant include the Navy Dry Dock at Terminal Island and the Kaiser Ship Yards at Richmond, California.

INSTITUTE RESEARCH MEN RECEIVE JEWETT FELLOWSHIPS

TWO OF seven Frank B. Jewett fellowships for research in the physical sciences were awarded to Institute research men by the American Telephone and Telegraph Company which founded the grants three years ago upon the retirement of the Company's eminent vice-president in charge of development and research. Dr. Jewett graduated from Throop Polytechnic Institute, C.I.T.'s predecessor in 1898. Two of the 1947-48 fellowships have been awarded to scientists holding similar grants for 1946-47 to enable them to continue their current research projects.

Among recipients of this year's awards are: Dr. M. G. Ettlenger of the Institute and Austin, Texas, who is also a 1946-47 Fellow, and Wallace D. Hayes, teaching fellow from Palo Alto.

Dr. Martin Ettlenger, 21, is at present investigating the chemistry of cyclopropane and dicyclobutane derivatives as a Jewett Fellow for 1946-47. He received his bachelor's degree from the University of Texas in 1942 and his master's from the same university in 1943. In 1946 he received his doctorate in chemistry from Harvard University. Dr. Ettlenger plans to continue his present research studies.

Wallace D. Hayes, 28, is a graduate student at

the Institute and plans to receive his doctorate in physics this June. In 1941 he received his bachelor's degree and in 1943 his degree as an aeronautical engineer from Caltech. Mr. Hayes plans to carry on an investigation into problems of transonic and supersonic fluid flow.

COLORADO RIVER WATER DISCUSSED BY HYDROLOGY SECTION

PROBLEMS of the division of Colorado River water in the Lower Basin, the quality of water in the Upper Basin and other studies and problems concerned with water, were presented at a meeting of the Hydrology Section of the American Geophysical Union, National Research Council, at the California Institute of Technology in February.

The one-day meeting at which a number of papers were presented concluded with a visit to the Apra, Guam, Harbor Model at Azusa.

At the morning session, Munson J. Dowd '18 of the Imperial Irrigation District discussed problems of division of the Colorado River Lower Basin water, and Charles S. Howard '23, of the United States Geological Survey, discussed the quality of water in the upper Colorado River basin. The "Design of Current Meters" was considered by Robert G. Folsom '28 and M. P. O'Brien of the University of California.

The afternoon session included "New Developments in the Study of Sediment Transportation" by Dr. Hans Albert Einstein, Institute research assistant and member of the Department of Agriculture's Soil Conservation Service, and "Presentation of Problems of Harbor Protection" by Dr. R. T. Knapp '29, associate professor of hydraulic engineering.

Professor of Civil Engineering Franklin Thomas is program chairman of the Hydrology Section.

THE SPORTS PICTURE

Track

C.I.T. TRACK MEN have been winning a fair proportion of events, but not of track meets. In a triangular meet against U.C.L.A. and Santa Barbara, the Beavers came out on the low end of a 115 $\frac{1}{4}$ -27 $\frac{3}{4}$ -20 score. Two first places were annexed by Shauer in the 440 in 49.3s. and the relay team in 3:27.6. Don Tillman, most consistent winner in Tech's field crew, took third in the shot put. Computed as dual meets, the Beavers lost to U.C.L.A. 109 2/3 - 21 1/2, and to Santa Barbara 79 - 51.

A close one was the loss to Whittier the next week with the Beavers on the short side of a 67 2/3 - 63 1/3 score. Responsible for this was Whittier's performance in field events, the Poets having a better than two to one superiority in this department. Brightest spot in Tech's afternoon was the clean sweep of the 880, led by Stan Barnes, son of Manton M. Barnes '21, winning in 1:59.5.

At the close of the season CalTech nosed out Redlands for third place in the Conference Meet, below Occidental and Pomona.

Baseball

Having three league losses and one practice win—

against Chapman, the baseball players are improving with every game. Two of the misfortunes besetting the team were very close.

The game against the Tigers was within one strike of being a Beaver victory. In Oxy's last ups, pitcher Hedrick had two men on base, two outs, and two strikes on the batter with a score of 7-6 in the Engineers' favor. A right field fly, missed, accounted for a triple, bringing in the winning run. Demoralized, the Techmen found themselves, after another hit and numerous errors, on the short side of a 12-7 score.

Against Redlands, the Beavers lost a 10-inning game 6-5.

BASEBALL SCHEDULE

Saturday	3 May	2:15 p.m.	*Caltech	at Redlands
Tuesday	6 May	4:15 p.m.	Pepperdine	at Caltech
Saturday	10 May	2:15 p.m.	*Pomona	at Caltech
Tuesday	13 May	4:15 p.m.	Cal Poly	at Caltech
Saturday	17 May	2:15 p.m.	*Whittier	at Caltech
Saturday	24 May	2:15 p.m.	*Caltech	at Occidental

*. Conference Games

Tennis

The tennis team has also had its share of bad luck, losing to Redlands 5-9, Occidental 6-2, and Whittier 9-0. Players John Holmgren and Ray Palmer entered the Intercollegiate Division of the Ojai Valley Tournament late in April, representing CalTech in Southern California's biggest school tourney.

VARSIITY TENNIS MATCHES

Saturday	3 May	Pomona	at Caltech
Wednesday	7 May	Occidental	at Caltech
Saturday	10 May	Caltech	at Redlands
Tuesday	13 May	Whittier	at Caltech
Saturday	17 May	Caltech	at Pomona
Friday	23 May		
&	&	Conference	at Caltech
Saturday	24 May	Meet	

Swimming

Beaver swimmers have also been dropping close ones, losing to Redlands 43-32, Occidental 46-29, and Pomona 40-35.

VARSIITY SWIMMING SCHEDULE

Friday	2 May	4:00 p.m.	Caltech	at Pomona
Wednesday	7 May	4:00 p.m.	Caltech	at Occidental
Friday	10 May	4:00 p.m.	Caltech	at Redlands
Saturday	17 May	1:30 p.m.	Conference	at Occidental

Meet

Golf

The golfers, on the other hand, have been giving a good account of themselves, taking Whittier 14-4, and Redlands 14 $\frac{1}{2}$ -3 $\frac{1}{2}$. Jerry Harrington, number one man on the squad, paced both matches with a 70 against Whittier and a 74 against Redlands. A strong Pomona squad subdued the Beavers 14-4, but a rematch early in May will give Beaver golfers a chance for revenge.

VARSIITY GOLF SCHEDULE

Friday	2 May	1:30 p.m.	Caltech	at Redlands
Friday	9 May	1:30 p.m.	Caltech	at Pomona
Saturday	17 May	9:00 a.m.	Caltech	at U.C.L.A.
Saturday	24 May	9:00 a.m.	Conference	at Pomona

Tournament