

# C. I. T. NEWS

## TOURNAMENT PARK ON MARCH BALLOT

**A**LUMNI living in the city of Pasadena are urged to vote in the municipal election March 13, when the question of selling Tournament Park to the California Institute will be included in the ballot. A two-thirds majority is required to "abandon" the park in order to permit Caltech to purchase the 23 acres sorely needed for expansion.

In 1940, with 900 students, the Institute was in serious need of additional facilities for teaching, research, student housing, athletics and recreation. Today the 1940 needs have not been met and the Institute now has an enrollment of nearly 1400 students, of which 80 per cent are World War II veterans, and its research activities have expanded greatly. A situation that was serious seven years ago has today become critical.

Plans for Tournament Park include a gymnasium, with basketball courts and swimming pool, probably the first construction that will be undertaken when funds become available, and a student union building. The northwest corner of the Park will be converted into a parking lot with facilities for from 500 to 800 automobiles. This will help to alleviate the serious parking problem in the vicinity of the Institute. A baseball diamond and a football field and track will be located in the central portion of the Park. Tennis and badminton courts are slated for early construction. The mound which crosses the Park from east to west will be leveled to accommodate these plans.

As part of the program to improve student facilities on campus, a new dormitory, similar to and opposite the present student houses, is planned as a part of the construction program, which includes the gymnasium and student union.

## HOUSING ASSEMBLED FOR ELECTROSTATIC GENERATOR

**T**HE wartime ramblings of a housing for an electrostatic generator are finally at an end. Designed and installed just before the war, the eight foot cylinder, 22 feet long, proved to be in the way when wartime research projects crammed Kellogg. Besides, another use was found for it.

The tank, which will permit pressure and humidity control for the accumulation of high electrical potentials, was used as a pressure tank for launching aircraft torpedoes behind the San Gabriel Canyon dam during the war. Pressures up to 200 pounds per square inch sent torpedoes down an inclined tube, 300 feet long, into the San Gabriel reservoir behind the dam, under conditions simulating launching from an airplane.

In the spring of 1940 the pressure tank was installed in a third floor laboratory in Kellogg. The wartime research program was inaugurated before the

generating equipment could be completed, and it was moved into a corner of the laboratory out of the way. Later the housing was taken to the research project where it served until shortly before the end of the war when it was replaced by an especially made tank.

Further research on electrostatic generation led to the changes in the design of the vessel made concurrently with its reconditioning by the Navy. Its makers, the Western Pipe and Steel Corporation, completed this work in December, and the tank was hoisted into the Kellogg laboratory in a week-long operation.

Now being filled with generating apparatus, the machine will follow the design of R. G. Herb of the University of Wisconsin. An important feature of this design is controlled atmospheric conditions imposed on the original large-scale static electricity generator developed by R. J. Van de Graaff of M.I.T. Charges are induced on a moving belt and deposited on a metal sphere. A shield around the sphere aids in distributing the accumulating charge, which is expected to exceed the present limit of four million volts, more evenly through the dielectric, in this case air. The potentials developed will accelerate protons and deuterons down a high-vacuum tube where they will attain energy in electron volts equal to the potential of the sphere. Velocities of the order of  $10^8$  centimeters per second will render these capable of disintegrating other nuclei, when they impinge on targets of Lithium, Beryllium, and Carbon. Studies of nuclear fragments resulting from such collisions are expected to expand the knowledge of fundamental physics.

## BATEMAN RESEARCH FELLOWSHIP

**C**REATION of a research fellowship in pure mathematics to be known as the Harry Bateman Research Fellowship was announced recently by the Board of Trustees of the California Institute of Technology.

The fellowship was created in honor of the late Harry Bateman, professor of mathematics, physics and aeronautics at Caltech, whose outstanding work in those fields brought international recognition to both him and the Institute.

Candidates for appointment to the Bateman Fellowship should have obtained a doctorate, or expect to receive it, prior to the beginning of the academic year 1947-48. The appointment will be made on the basis of the promise shown of independent research in any field of pure mathematics.

The recipient will devote the major part of his time to research, but will be expected to teach one upper-class course in mathematics. The appointment, which will carry a stipend of \$3,000 for the academic year, will normally be for one year but may be renewed for a second year.

Application blanks may be obtained from the Dean of the Faculty, California Institute of Technology, Pasadena 4, California, and must be returned to that address before March 15, 1947.

## RED CROSS FUND

ANY ONE who has read Dixon Wecter's recent book entitled *When Johnny Comes Marching Home* has been shocked to find how badly the returned soldier, who has risked his life for his country and often been incapacitated for life through so doing, has been treated in all preceding wars. This must not happen in the case of the men who have risked their lives and been incapacitated in serving us in World War II.

The American Red Cross is one officially organized agency through which your contribution and mine helps most effectively in the rehabilitation of the eighty thousand hospital patients who served in both World War II and World War I. The fact that during the year 1945-46 the Red Cross was able to aid in one way or another more than a million veterans and their families who needed assistance is eloquent as to the magnitude of the service which it performs.

I know of no other philanthropic agency which has so strong and immediate an appeal for the support, to the extent of his ability, of every man and woman in America as does the American Red Cross.

Robert A. Millikan

## GUIDE SERVICE INAUGURATED

SPONSORED by the Beavers, undergraduate service organization, a guide service has been inaugurated on the campus. A Beaver member is on duty weekdays and Saturday from 11 A. M. to 12, and weekdays from 3 to 4 P. M. Five Beavers have been detailed to the guide service: Joe Rosener, chairman, George Austin, Bob Dalton, Rube Kachadorian, and Leigh Sheriff. These guides are on duty in the Y.M.C.A. lounge in the basement of Dabney Hall of the Humanities.

The functions of the guides are either to direct visitors to specific places on campus or to conduct general tours of the Institute to such places as the liquid air production equipment in Bridge Laboratory, Guggenheim Aeronautics Laboratory, and the Optics shop where the 200-inch mirror for the Mt. Palomar Observatory is being ground.

Information concerning the service or special tours may be obtained by contacting chairman Joe Rosener through the offices of the Dean or the Y.M.C.A.

## WINTER TERM ENROLLMENT

END of the first term of the 1946-47 school year showed small change in the undergraduate enrollment. The largest drop was among the graduate students, with numbers reduced from 581 to 564. The seniors have added two to their number to a total of 155. Five more men entered the junior class to boost its total enrollment to 212. Sophomore numbers were depleted by 15, from 252 to 237. The freshman class retained the 179 men who started the school year in October.

## INSTITUTE MEN AT AMERICAN PHYSICAL SOCIETY MEETING

INSTITUTE faculty and research workers figured prominently in the recent meeting of the American Physical Society at Los Angeles, January 3 and 4. C.I.T.'s President Lee A. DuBridge, who was vice-president of the Society in 1946, presided at the last of the three sessions held Friday morning and afternoon and Saturday morning.

Robert F. Christy, associate professor of physics, and Sylvan Rubin '39, National Research Council predoctoral fellow, jointly presented a paper on the **Angular Distribution of Alpha-Particles from  $Li^{7}+p$** . Alone Mr. Rubin discussed the **Angular Distribution of Long-range Alpha-particles from Excited  $Ne^{20}$** . Dr. Christy in collaboration with Mark M. Mills '40 of the Jet Propulsion Laboratories, gave **Auger Showers**. Dr. Christy also presented a longer paper on the **Design of a Small Nuclear Reactor**. Dr. Howard S. Seifert of JPL with Mr. Mills told of **Problems in the Application of Nuclear Energy to Rocket Propulsion**.

Charles C. Lauritsen, Ph.D. '29, and Thomas Lauritsen '36 Ph.D. '39, father and son, professor and assistant professor of physics, together with Dr. William A. Fowler Ph.D. '36, also professor in the Physics Department, presented two papers, **A Device for Introducing Short-lived Radioactive Samples into a Cloud Chamber**, and **Gamma-Radiation from  $Be^{9}+H^{1}$** .

Dr. Robert A. Millikan, professor of physics, emeritus, and vice-president of the Board of Trustees, considered **The Interpretation of the East-West Effect**.

The Jet Propulsion Laboratory of the Institute received almost as much representation at the meeting as did the Physics Department, for besides Mr. Mills and Dr. Seifert, Dr. Jacob M. Schmidt presented the **Atomization of Liquids**, and Martin Summerfield, M.S. '37, Ph.D. '41, dealt with **Escape from the Earth by Multiple-Step Rockets**.

## BASKETBALL

VARSITY basketball to date, with 70 per cent of the season passed, shows a middle of the road trend with five wins and five losses. Of the five conference games played, two wins have been registered, over Occidental and Pomona.

Captain Harry Moore in the forward spot, who was on the 1942 and 1943 teams, and center Paul Saltman, who lettered as a freshman in 1946, are the outstanding players on the squad. As the scores registered to date show, most of the games played this year have been hotly contested.

There are three league games yet to be played; with Occidental, Redlands and Whittier, followed by a contest March 1 with the San Diego NTC in San Diego.

Here are the season's scores:

Caltech 32	La Verne 27
Caltech 43	Chapman 35
Loyola 40	Caltech 39
Pomona 47	Caltech 35
Chapman 48	Caltech 46
Caltech 39	Occidental 33
Redlands 46	Caltech 42
Caltech 40	Pomona 38
Whittier 69	Caltech 36
Caltech 46	La Verne 30