At this altitude not only are there corona discharges from physical projections, but one quite often experiences electric discharges from the tips of his fingers or ears. The quick changes in weather, which varies from winter to summer each day, makes this an interesting location at which to make a study of the potential gradient.

Examples of other general fields of investigation in physics are those of the electrical conductivity of air, ultra-violet light and cosmic rays. The time necessary to secure data in the field of cosmic rays is materially decreased, for at this altitude the intensity of primary cosmic rays and cosmic ray showers is respectively five and ten times their intensity at sea level. The figure for showers is only approximate and may be greater than this for many particle showers. This enables the collection of data during the summer season which would require observations extending over a period of a year at sea level. In addition, intermediate altitudes, deep mines, lakes and aeroplanes are available to workers in the field of cosmic rays.

In the field of biology the laboratory offers an opportunity to study two types of problems: One, the influence of the increase of natural radiations on the biological processes; and the other, the biological effects due to the decrease of oxygen. An example of the former is the work of Dr. Victor Jollos, who used the laboratory to study the effect of cosmic primary and shower radiation on mutations in Drosophila. A problem in the latter field is the study of mountain sickness, which may be carried on to advantage as there are patients in great numbers; those who are summer guests at the laboratory and a large number of tourists. (The tourists are directed up another peak, and this one hike so thoroughly satisfies most of them that there is a minimum number of uninvited visitors at the laboratory.)

It is hoped that the laboratory may soon be utilized throughout the year by the department of meteorology. At the present a preliminary study of the meteorological conditions at this altitude during the summer months should be of scientific interest. Those interested in Alpine botany and nature study will be surprised and pleased at the variety of flowering plants above timber line. A region on the Mt. Evans road about 10 miles from the peak has been preserved for botanical study. While the automatic devices are taking data in the laboratory, an inviting field for research is Summit Lake, well stocked with large mountain trout which defy the efforts of all dieticians to prescribe a bait which will tempt them.

The physical plant has been described in another article.[1] If there is a growing demand for the services of the laboratory, it will be improved and enlarged to meet these requirements. Those wishing to use the laboratory this summer should communicate at an early date with Professor J. C. Stearns, University of Denver, Denver, Colorado.

J. C. STEARNS

[1] J. C. Stearns, *The Scientific Monthly*, 46: 242–248, 1938.

GRANTS AWARDED BY THE AMERICAN PHILOSOPHICAL SOCIETY

THE committee on research of the American Philosophical Society, Philadelphia, made in February grants as follows:

Edward W. Berry, the Johns Hopkins University, for the illustrations of a study of the Tertiary flora of Cuba	$ 100
Ralph E. Cleland, Goucher College, for continuation of work on cytogenetics and phylogeny of Onagra (evening primrose)	1,500
H. S. Jennings, the Johns Hopkins University, for the study of the cytology of ciliate protozoa, in particular the chromosomes and their behavior at conjugation in *Paramecium bursaria* and in other species of Paramecium; also the chromosomes in the Opalinidae	1,200
Ernest W. Brown, Yale University, and W. J. Eckert, Columbia University, for the continuation of the verification of the polar coordinates which are used to predict the moon's place	500
William Berryman Scott and Glenn L. Jepsen, Princeton University, for the continuation of the monograph of White River Mammalia	600
Donald H. Andrews, the Johns Hopkins University, for the measurement of the heat capacities of nine or more organic compounds to be made in the range 1° to 300° K. together with supplementary measurements necessary to determine the values of the free energy and entropy at 300° K.	1,000
D. H. Kabakjian, University of Pennsylvania, for a study of the energy levels in pure or activated crystals and the dependence of these on physical structure	350
J. Kenneth Donahue, College of Charleston, for the study of the occurrence of hormones in marine invertebrates with special reference to the female sex hormone	500
Nabih Amin Faris, Princeton University, for the continuation of the editing from old manuscripts and translating into English the major work of al Ghazzali, the Ihya 'Ulum al-Din, which treats of Moslem theology and jurisprudence, Moslem political theory and constitutional law	500
Clarence E. McClung, University of Pennsylvania, for continuation of the project of bringing together as representative a group as possible of the short-horned grasshoppers for cytological, genetical and phylogenetic studies	400
Alexander Weinstein, Columbia University, for a	

historical, biological and philosophical study of human genetics 1,500

Robert Gaunt, New York University, for the study of the functional interrelationship of the adrenal cortex and the pituitary 500

Richard Krautheimer, Vassar College, for a historical and architectural analysis of the early Christian basilicas in Rome as far as preserved either completely or in remnants, fourth to ninth centuries 1,500

Wesley L. Bliss, University of New Mexico, for the study of evidence of early man in the area on the eastern flank of the Canadian Rockies to the Arctic and in the upper Yukon, with emphasis upon glacial and other geological and geographical conditions that may have influenced him 1,000

John H. Davis, Jr., Southwestern College, for the continuation of the study of mangroves and land building in southern Florida 425

Edwin Francis Carpenter, University of Arizona, for the study of the distribution of color in the extra-galactic nebulae 700

F. Martin Brown, Colorado College, for a study of the microscopic structure of animal hairs and the preparation of keys, drawings and description to be used in assisting in the determination of the various furs used by the aborigines of the southwestern states for making textiles, cords, etc. 600

Thomas Hale Ham, Harvard Medical School, for an investigation on the mechanism of blood destruction in normal and pathological conditions 1,500

Carl G. Vinson, University of Missouri, for a chemical investigation of disease viruses 500

Grants made in April, 1938, were as follows:

Erwin K. Mapes, University of Iowa, to identify and collect the writings of the Mexican author, Manuel Gutiérrez Nájera, together with critical and other data regarding his life and work 500

J. J. Nassau and S. W. McCuskey, Case School of Applied Science, for the construction of a photoelectric machine for counting stellar images of varying degrees of brightness on a photographic plate 300

V. M. Slipher, Lowell Observatory, for the investigation of the spectrum of the light of the night sky 500

Dwight C. Carpenter, New York State Experiment Station, for the study of the effect of light on proteins and amino-acids 300

Ernst C. Abbe, University of Minnesota, for a detailed field study of the flora of the Richmond Gulf region (east coast of Hudson Bay) to gather further evidence concerning the interrelationship of historical and environmental factors in the floristic development of the Labrador peninsula 450

Leslie Spier, Yale University, for the completion of an extended ethnography of the Modoc Indians of Oregon 750

H. O. Burdick, Alfred University, for a continuation of studies of the physiology of the fallopian tubes 500

Samuel L. Leonard, Rutgers University, for the study of hypophysis-thyroid-gonad relationship 735

Harold S. Colton, Museum of Northern Arizona, to carry on archeological excavations in northwestern Arizona 1,000

Rudolf Höber, University of Pennsylvania, for a continuation of investigations on the secretory activity of the liver 1,200

EDWIN G. CONKLIN,
Chairman, Committee on Research

MEDALS OF THE FRANKLIN INSTITUTE

THE complete list of recipients in 1938 of the various medals awarded annually by the Franklin Institute, Philadelphia, Pa., as recommended by the Institute's Committee on Science and the Arts, has been announced as follows:

The Elliott Cresson Medal to Edwin H. Land, The Land-Wheelwright Laboratories, Inc., Boston, Mass., "in consideration of his contribution to the art and science of optics evidenced in his invention of polaroid and in his development of polaroid into a commercial product."

The Howard N. Potts Medal to Lars O. Grondahl, Union Switch and Signal Company, Swissvale, Pa., "in consideration of his recognition of the potential value of an accidentally discovered phenomenon in physics and of his subsequent masterly development of the principle involved into an extremely valuable engineering appliance, the copper-oxide rectifier."

The Louis Edward Levy Medal jointly to S. S. Kurtz, Jr., of the Chemical Section of the Sun Oil Company, Philadelphia, and A. L. Ward, of the Chemical Laboratory of the United Gas Improvement Company, Philadelphia, "for their series of papers on 'The Refractivity Intercept and the Specific Refraction Equation of Newton,' published in the *Journal* of the institute in November, 1936, November, 1937, and December, 1937."

The George R. Henderson Medal to Clyde C. Farmer, Westinghouse Air Brake Company, Pittsburgh, Pa., "in consideration of his invention and development of the 'AB' Freight Brake which has, in large measure, solved the difficulties and intricacies of a complicated problem in Railway Engineering."

The Walton Clark Gold Medal to Robert Brinton Harper, The Peoples Gas Light and Coke Company, Chicago, "in consideration of his leading part in the development, supervision and direction of a research and testing laboratory of outstanding excellence in the gas industry, his cooperation personally and through members of his staff with the gas industry generally, and his own distinguished work in the chemistry and physics of the gas industry."

The Edward Longstreth Medal to J. F. Hellweg, captain, U. S. Navy (retired), head of the United States