

vey will prepare at Anchorage memoranda for publication, setting forth the principal results of the individual investigations within a few weeks after the field work of the parties has been completed. Complete statements of the field results of each project, based on a more thorough study on material collected and on the interpretation of many technical observations will follow later, but will be issued at as early a date as is compatible with a thoroughly sound and accurate statement of the results.

For the above purposes the Anthracite Ridge area has been temporarily withdrawn from classification. The other areas where the ten parties will operate will not be withdrawn or in any way reserved, and this intensive work to produce tonnage will be carried on in the most promising areas, both on the public lands and with the permission of the owners on claims which are already staked. No development work will be done, but the testing of samples and intensive geological work will give the owners, prospectors and prospective investors some guide as to the possibilities of the property under study.

The Geological Survey will maintain throughout the year a representative in Alaska, with headquarters at Anchorage, to work with prospectors and mining companies, and make available to them the material gathered by the surveys herein provided. His salary and the expenses of his office will be charged against the \$250,000 appropriation mentioned. He will also be a medium of coordination between the railroad and the other agencies engaged in this program. The General Land Office will aid in making surveys of the areas investigated.

#### THE FOREST SERVICE AND HIGHWAY COMMISSIONS

THE Forest Service of the Department of Agriculture, in instructions issued to its regional foresters, announces that hereafter there will be the fullest cooperation with the Federal and State Highway Commissions in the interest of preservation of roadside beauty and other natural scenery. The instructions read:

A. All national forest lands within 200 feet of the center line of a Class A or Class B highway, or within 100 feet of the center line of a Class C highway or road shall be administered with the major objective of conserving and augmenting the scenic, inspirational, educational and recreational values of said lands and roads, and no form of occupancy or use of said lands or the products thereof shall be allowed except with the prior approval of the regional forester or forester who, before granting such approval, shall require full assurance that proposed occupancy or use is necessary, is appropriately safeguarded, and will not result in a sacrifice of public values or services greater than the public values or services to be derived from such occupancy or use.

B. While the proposal to acquire all timbered lands contiguous to highways by granting national forest stumpage in exchange therefor is regarded by the Forest Service as impracticable, the acquisition of areas of privately owned forest land, within the boundaries of the national forests, for the purpose of conserving roadside beauty, will be accomplished as rapidly as such lands can be acquired through exchange with due regard to other requirements of public interest.

C. The detailed and systematic planning of the management and use of all national forest lands tributary to class 1, 2 and 3 roads, including not only the 400- or 200-foot strips, but also such other additional lands as may affect the public value of a given road, will be regarded as a definite and current administrative function of the Forest Service, to be carried to consummation as rapidly as the available personnel, funds and other administrative obligations will permit. National park approach roads will be given initial consideration. Project plans will be personally considered by the regional forester and when approved by him will thereafter govern all occupancy and use of the lands involved.

D. An effort to secure the approval of Congress to the employment of a limited technical personnel for the more intensive management and development of the scenic and recreational potentialities of the national forests, in which major attention would be given to the relation of the highway and road system and its adaptation to the natural values involved.

#### LECTURES IN PHYSICS AT THE UNIVERSITY OF MICHIGAN

THE department of physics, University of Michigan, announces the following special lectures for the summer session of 1931:

PROFESSOR ARNOLD SOMMERFELD, University of Munich.

*Electron Theory of Metals.* (First half.) Introduction to the Fermi-Dirac statistics. Richardson Effect. Problems of Conductivity. Thermoelectric and thermomagnetic effects. Problems of specific heat.

*Selected Problems of Wave Mechanics.* (Second half.) Photoelectric effect, especially with x-rays. Advancing of the radiation maximum for different shells. Continuous x-ray spectrum. Diffraction of electron rays.

PROFESSOR W. PAULI, University of Zurich.

*Problems of Nuclear Physics.* (First half.) Application of the theory of potential thresholds to nuclear disintegration. Nott's theory of impact of alpha particles on helium. Nuclear spin and band spectra. Hyperfine structure, especially of ionized lithium. The electric quadrupole moment of the nucleus.

*Application of Quantum Theory to Problems of Thermal Equilibrium.* (Continuation of Electron Theory of Metals.) (Second half.) H theorem. Ferromagnetism. Conductivity of metals at low temperatures. Influence of space lattice forces upon thermoelectric effects.

PROFESSOR H. A. KRAMERS, University of Utrecht.

*Quantum Mechanics and Classical Models.* (First half.) Vector models for atoms and molecules. Rotation of polyatomic molecules.

PROFESSOR W. F. COLBY, University of Michigan.

*Theory of Band Spectra.* A development of the problem of molecular spectra. This course will cover the recent work, both in classification and theory of radiation from molecules.

PROFESSOR GEORGE E. UHLENBECK, University of Michigan.

*Application of the Theory of Probability in Physics.* This course will contain a detailed treatment of the fluctuation-phenomena, of the theory of Brownian motion, and of their recent applications.

PROFESSOR J. R. OPPENHEIMER, California Institute of Technology.

*General Quantum Theory of Transitions.* (First half.) Methods for investigation of elementary collisions. Interaction between radiation and matter.

PROFESSOR OTTO LAPORTE, University of Michigan.

*Quantum Theory of Atomic Spectra.* A study of the structure of atomic spectra from the theoretical viewpoint. Interaction of electrons within the atom. Laws governing term separations. Hyperfine structure.

### THE BOTANICAL SOCIETY OF AMERICA

THE Botanical Society of America will this year hold two summer meetings: it will participate in the summer meeting of the American Association for the Advancement of Science at Pasadena, California, and it will hold an eastern meeting at Pennsylvania State College, State College, Pennsylvania.

The Pasadena meeting will be held from June 16 to 20. Regular sessions will be held in the mornings beginning on Tuesday, June 16. Excursions to places of special interest will be made in the afternoons.

Botanists will find the Pasadena region full of interest; the parks and gardens abound with tropical and subtropical exotics; the mountains, desert and sea

are easily accessible and exhibit an unusually diversified native flora.

In addition to the afternoon excursions arranged by the association, the Botanical Society will conduct a week-end (June 19-21) field-trip to places of special botanical interest, if enough botanists wish to go.

Those planning to participate in the meetings must forward the title and a short abstract of their papers so as to reach the chairman of the program committee not later than May 4. A request for a lantern, if desired, should also be made at that time.

The chairman of the program committee is Dr. L. R. Abrams, Stanford University, California.

The eastern meeting will be held from Tuesday, June 16, to Friday, June 19. On the evening of the sixteenth there will be a general gathering, followed by an address and an informal reception. The next three days will be devoted to an inspection of the experimental work in botany conducted at the College Experiment Station, to field trips, to round table discussions on various topics, and to demonstrations of scientific material by members of the society. On Thursday there is planned an all-day trip to Bear Meadows and the Alan Seeger Monument. The country around the college is diversified botanically and these trips should be of particular interest.

The meeting will be informal in character throughout and no scientific papers will be presented. Members remaining over for Saturday or the week-end will have opportunity for additional field trips, the privileges of the Country Club, or of cabins in the mountains, with a choice of golf, trout fishing and other diversions.

State College may be conveniently reached by rail, but is most readily accessible by motor car over good roads from all directions.

Suggestions as to topics for discussion and requests for space and apparatus for demonstrations should be sent to the chairman of the local committee, Professor Frank D. Kern.

## SCIENTIFIC NOTES AND NEWS

At the annual meeting of the National Academy of Sciences, in Washington, D. C., an evening lecture will be given on April 27 by Professor James H. Breasted, of the University of Chicago. The subject is "The Rise of Man and the Dawn of Research."

THE John Scott Prize of the City of Philadelphia, consisting of a bronze medal and \$1,000, has been awarded to Orville S. Peters, Chevy Chase, Maryland; for his invention of the electric telemeter. Dr. Peters was from 1910 to 1918 assistant physicist at the Bureau of Standards.

THE doctorate of science will be conferred by the

Georgia School of Technology on Mr. Harry F. Guggenheim "in recognition of his high standing in the scientific engineering and aeronautical fields." The occasion of the conferring of the degree will be the formal dedication at commencement on June 6 of the Daniel Guggenheim School of Aeronautics.

PRESIDENT MASARYK, of Czechoslovakia, has conferred the Order of the White Lion, Fourth Class, on Dr. Frederick G. Novy, professor of bacteriology and chairman of the executive committee of the Medical School of the University of Michigan.

THE French Government has named Jerome Alex-