

## APPENDIX II

## RESEARCH SUPPORT PROGRAM

## BASIC RESEARCH GRANTS AWARDED IN FISCAL YEAR 1954

*Astronomy*

- THE AMERICAN ASSOCIATION OF VARIABLE STAR OBSERVERS, HARVARD UNIVERSITY, Cambridge, Mass.; W. Myall; *The Light Variations of More than 500 Variable Stars*; 1 year; \$10,000.
- UNIVERSITY OF CHICAGO, Chicago, Ill.; W. A. Hiltner, Department of Astronomy; *Interstellar Polarization*; 2 years; \$10,900.
- UNIVERSITY OF CHICAGO, Chicago, Ill.; G. P. Kuiper, Department of Astronomy; *Physical and Statistical Study of the Asteroids*; 2 years; \$23,000.
- UNIVERSITY OF CHICAGO, Chicago, Ill.; G. van Biesbroeck, Yerkes Observatory; *Astrometric Observations*; 1 year; \$4,400.
- UNIVERSITY OF FLORIDA, Gainesville, Fla.; D. Duke, Department of Astronomy; *Photographic Studies of Close Binaries*; 1 year; \$1,200.
- HARVARD UNIVERSITY, Cambridge, Mass.; B. J. Bok and H. I. Ewen, Harvard College Observatory; *Radio Astronomy in the Microwave Region*; 1 year; \$17,000.
- HARVARD UNIVERSITY, Cambridge, Mass.; D. Hoffleit, Harvard College Observatory; *Variable Stars in the Milky Way*; 2 years; \$5,500.
- HARVARD UNIVERSITY, Cambridge, Mass.; H. Shapley, Department of Astronomy; *The Stellar Corona Surrounding our Discoidal Galactic System*; 1 year; \$3,800.
- UNIVERSITY OF ILLINOIS, Urbana, Ill.; G. C. McVittie, Department of Astronomy; *Classical and Relativistic Gas-Dynamics by the Method of Einstein's Equations*; 2 years; \$11,400.
- INDIANA UNIVERSITY, Bloomington, Ind.; F. K. Edmondson, Department of Astronomy; *Observations of Asteroids*; 1 year; \$5,000.
- LOUISIANA STATE UNIVERSITY, Baton Rouge, La.; K. Yoss, Department of Physics and Astronomy; *Relative Frequencies of Galactic Star Populations*; 2 years; \$2,700.
- UNIVERSITY OF MICHIGAN, Ann Arbor, Mich.; L. H. Aller, Department of Astronomy; *Abundances of Light Metals in Stars and Nebulae*; 2 years; \$11,000.
- MOUNT HOLYOKE COLLEGE, South Hadley, Mass.; A. H. Farnsworth, Department of Astronomy; *Study of a Milky Way Field*; 3 years; \$1,500.
- NORTHWESTERN UNIVERSITY, Evanston, Ill.; K. Aa. Strand, Department of Astronomy; *Photographic Observation of Double Stars*; 2 years; \$6,500.
- OHIO STATE UNIVERSITY, Columbus, Ohio; P. C. Keenan, Department of Physics and Astronomy; *Spectroscopic Study of Luminosity and Composition of S-Type and Related Stars*; 2 years; \$3,700.
- OHIO STATE UNIVERSITY, Columbus, Ohio; A. Slettebak, Department of Physics and Astronomy; *Line Broadening in Early-Type Supergiant Stars*; 1 year; \$2,700.
- PRINCETON UNIVERSITY, Princeton, N. J.; M. Schwarzschild, Department of Astronomy; *Advanced Stages of Stellar Evolution*; 2 years; \$12,600.
- UNIVERSITY OF VIRGINIA, Charlottesville, Va.; A. N. Vyssotsky, Department of Astronomy; *Spectra of Faint Stars*; 1 year; \$3,500.
- YALE UNIVERSITY, New Haven, Conn.; D. Brouwer, Department of Astronomy; *Systems of Fundamental Catalogues from Observations of Selected Minor Planets*; 2 years; \$11,500.

## Chemistry

- BOSTON UNIVERSITY, Boston, Mass.; N. N. Lichtin, Department of Chemistry; *Ionic Dissociation Equilibria in Solutions in Liquid Sulfur Dioxide*; 2 years; \$12,900.
- BRANDEIS UNIVERSITY, Waltham, Mass.; S. G. Cohen, Department of Chemistry; *Chemistry of Free Radicals*; 3 years; \$18,000.
- BRIGHAM YOUNG UNIVERSITY, Provo, Utah; J. R. Goates, Department of Chemistry; *Mechanism of Adsorption of Ions by Silicate Minerals*; 1 year; \$4,400.
- UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; T. L. Allen, Department of Chemistry; *Dissociation Equilibria of Metallic Halides at High Temperatures*; 3 years; \$9,000.
- UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; D. W. Mitchell, Institute of Engineering Research; *A Study of the Structure of Molten Silicates by Measurements of Partial Molar Volumes*; 1 year; \$3,000.
- UNIVERSITY OF CALIFORNIA, Los Angeles, Calif.; R. L. Scott, Department of Chemistry; *Molecular Complexes Involving Halogens*; 3 years; \$14,800.
- CARNEGIE INSTITUTE OF TECHNOLOGY, Pittsburgh, Pa.; P. Fugassi, Department of Chemistry; *Chemical Nature of Coal Hydrogenation Products*; 3 years; \$12,000.
- CENTRAL STATE COLLEGE, Wilberforce, Ohio; E. O. Woolfolk, Department of Chemistry; *P-Phenylazo-Benzoyl Chloride for Identification and Separation of Alcohols, Amines, and Phenols*; 2 years; \$3,100.
- UNIVERSITY OF COLORADO, Boulder, Colo.; R. N. Keller, Department of Chemistry; *Low Count-Rate Techniques in Radiocarbon Dating*; 2 years; \$10,000.
- COLUMBIA UNIVERSITY, New York, N. Y.; G. Stork, Department of Chemistry; *Synthesis of the Polycyclic Di- and Tri-Terpenes*; 2 years; \$13,300.
- UNIVERSITY OF DELAWARE, Newark, Del.; E. Dyer, Department of Chemistry; *Effect of Oxygen on Vinyl Compounds in the presence of Free Radicals*; 18 months; \$10,000.
- UNIVERSITY OF FLORIDA, Gainesville, Fla.; G. A. Greathouse, Engineering and Industrial Experiment Station; *Mechanism of Synthesis and Degradation of Specifically Labeled C<sup>14</sup> Cellulose*; 2 years, \$6,500.
- GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, Ga.; J. Hine, Department of Chemistry; *Effect of Halogen Atoms on Reactivity of Other Halogen Atoms in the Same Molecule*; 2 years; \$10,000.
- HOWARD UNIVERSITY, Washington, D. C.; M. D. Taylor, Department of Chemistry; *Action of Simple and Complex Hydrides on Rare Earth Compounds*; 2 years; \$12,000.
- ILLINOIS INSTITUTE OF TECHNOLOGY, Chicago, Ill.; S. E. Wood, Department of Chemistry; *Properties of Nonelectrolytic Solutions*; 3 years; \$24,000.
- UNIVERSITY OF ILLINOIS, Urbana, Ill.; H. A. Laitinen, Department of Chemistry and Chemical Engineering; *Adsorption Processes at Electrode Surfaces*; 2 years; \$11,800.
- UNIVERSITY OF ILLINOIS, Urbana, Ill.; B. R. Ray, Department of Chemistry; *Transference Numbers of Salts in Non-Aqueous Solvents*; 1 year; \$5,300.
- UNIVERSITY OF ILLINOIS, Urbana, Ill.; H. R. Snyder, Department of Chemistry; *Alkaloids of Haplophyton Cimicidum*; 3 years; \$29,600.
- UNIVERSITY OF ILLINOIS, Urbana, Ill.; E. C. Taylor, Jr., Department of Chemistry; *An Investigation of the Pyridinopyrimidines*; 2 years; \$5,000.
- KENYON COLLEGE, Gambier, Ohio; B. M. Norton, Department of Chemistry; *Liquid Phase Photochemical Reactions*; 3 years; \$4,600.
- UNIVERSITY OF LOUISVILLE, Louisville, Ky.; J. P. Phillips, Department of Chemistry; *Analytical Reagents Related to 8-Quinolinol*; 2 years; 5,100.

- UNIVERSITY OF MARYLAND, College Park, Md.; G. Brown, Department of Chemistry; *X-Ray Analysis of Organic Crystal Structures*; 2 years; \$10,400.
- MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge, Mass.; G. Swain, Department of Chemistry; *Quantitative Correlation of Relative Rates of Polar Displacement Reactions*; 3 years; \$13,000.
- UNIVERSITY OF MISSISSIPPI, University, Miss.; W. L. Nobles, School of Pharmacy; *Studies Involving the Mannich Reaction*; 2 years; \$4,100.
- MONMOUTH COLLEGE, Monmouth, Ill.; G. W. Thiessen, Department of Chemistry; *Benzenoid Inhibition of the Kolbe Electrolysis*; 1 year; \$5,000.
- MOUNT HOLYOKE COLLEGE, South Hadley, Mass.; L. W. Pickett, Department of Chemistry; *Vacuum Ultraviolet Spectra of Selected Organic Compounds*; 2 years; \$11,000.
- STATE UNIVERSITY OF NEW YORK, Albany, N. Y.; M. Szwarc, Department of Chemistry, School of Forestry, Syracuse, N. Y.; *Heats of Formation of Radicals and of Bond Dissociation Energies*; 2 years; \$16,000.
- UNIVERSITY OF NOTRE DAME, Notre Dame, Ind.; C. Curran, Department of Chemistry; *Localized and Nonlocalized Hydrogen Bonding*; 2 years; \$6,100.
- OHIO STATE UNIVERSITY, Columbus, Ohio; M. L. Wolfrom, Department of Chemistry; *Determination of Polysaccharide Structure by Degradative Methods*; 3 years; \$25,000.
- PENNSYLVANIA STATE UNIVERSITY, State College, Pa.; N. C. Deno, Department of Chemistry; *Factors Governing Stability of Carbonium Ions*; 2 years; \$4,600.
- REED COLLEGE, Portland, Oreg.; A. F. Scott, Department of Chemistry; *Chemical Determination of Atomic Weights*; 2 years; \$8,000.
- RENSSELAER POLYTECHNIC INSTITUTE, Troy, N. Y.; S. Ross, Department of Chemistry; *Two-Dimensional Condensation of Adsorbed Vapors on Solid Surfaces*; 1 year; \$5,000.
- RICE INSTITUTE, Houston, Tex.; R. B. Turner, Department of Chemistry; *Total Synthesis in the Steroid Series*; 2 years; \$16,300.
- UNIVERSITY OF SOUTH CAROLINA, Columbia, S. C.; D. F. De Tar, Department of Chemistry; *Intramolecular Reactions of Free Radicals*; 2 years; \$13,100.
- UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles, Calif.; W. K. Wilmarth, Department of Chemistry; *Chemistry of Aromatic Free Radicals*; 2 years, \$6,300.
- TUFTS COLLEGE, Medford, Mass.; C. E. Messer, Department of Chemistry; *Solid Solution Formation and Solid-Liquid Phase Equilibria in Systems of Aromatic Ring Compounds*; 1 year; \$5,000.
- UNIVERSITY OF UTAH, Salt Lake City, Utah; R. E. Hamm, Department of Chemistry; *Solution Chemistry of Complex Ions*; 2 years; \$9,700.
- VANDERBILT UNIVERSITY, Nashville, Tenn.; D. E. Pearson, Department of Chemistry; *Mechanisms of Electrophilic Reactions*; 2 years; \$9,200.
- UNIVERSITY OF VIRGINIA, Charlottesville, Va.; R. E. Lutz, Department of Chemistry; *Stereochemistry and Effectiveness of Conjugation in Chalcones and Related Systems*; 2 years; \$6,600.
- STATE COLLEGE OF WASHINGTON, Pullman, Wash.; G. W. Stacy, Department of Chemistry; *Addition of Thiols to Schiff Base Systems*; 1 year; \$4,100.
- UNIVERSITY OF WASHINGTON, Seattle, Wash.; W. M. Schubert, Department of Chemistry; *Aromatic Electrophilic Substitution by Hydrogen*; 3 years; \$6,500.
- UNIVERSITY OF WASHINGTON, Seattle, Wash.; B. S. Rabinovitch, Department of Chemistry; *Kinetics of Homogeneous Unimolecular Isomerization Reaction*; 2 years; \$12,400.
- WASHINGTON UNIVERSITY, St. Louis, Mo.; A. C. Wahl, Department of Chemistry; *Kinetic Studies of Oxidation-Reduction Reactions*; 2 years; \$17,700.

WESTERN RESERVE UNIVERSITY, Cleveland, Ohio; E. L. Pace, Department of Chemistry; *Thermodynamics and Molecular Structure of Simple Fluorine Compounds*; 2 years; \$10,500.

UNIVERSITY OF WISCONSIN, Madison, Wis.; W. S. Johnson, Department of Chemistry; *Synthesis of Structures Related to the Steroids*; 2 years; \$15,000.

UNIVERSITY OF WISCONSIN, Madison, Wis.; A. L. Wilds, Department of Chemistry; *Total Synthesis of Nonaromatic Steroids*; 1 year; \$8,600.

YALE UNIVERSITY, New Haven, Conn.; B. Owen, Department of Chemistry; *The Dielectric Constants of Liquids at High Pressures*; 1 year; \$3,800.

### Developmental Biology

ATLANTA UNIVERSITY, Atlanta, Ga.; M. L. Reddick, Department of Biology; *Pattern of Outgrowth of Cells from Chick Medulla Grown in Vitro*; 2 years; \$4,600.

UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; R. Y. Stainer, Department of Bacteriology; *Physiology and Photosynthetic Bacteria*; 3 years; \$20,700.

UNIVERSITY OF COLORADO, Boulder, Colo.; H. Herrmann, Department of Pediatrics, School of Medicine; *Embryonic Development and Maturation of Muscle Tissue*; 1 year; \$7,500.

FLORIDA STATE UNIVERSITY, Tallahassee, Fla.; C. B. Metz, Department of Zoology; *The Nature and Role of Specific Substances in Fertilizin*; 2 years; \$8,100.

GRINNELL COLLEGE, Grinnell, Iowa; G. Mendoza, Department of Biology; *Yolk Nucleus of the Teleost Ova*; 1 year; \$500.

STATE UNIVERSITY OF IOWA, Iowa City, Iowa; R. B. Wylie, Department of Botany; *New Methods in Leaf Research*; 15 months; \$5,400.

MACALESTER COLLEGE, St. Paul, Minn.; W. S. Glock, Department of Geology; *Tree Growth and Climate*; 3 years; \$13,000.

UNIVERSITY OF PENNSYLVANIA, Philadelphia, Pa.; C. E. Wilde, School of Dentistry; *Embryogenesis of the Vertebrate Head*; 2 years; \$10,800.

RICE INSTITUTE, Houston, Tex.; R. V. Talmadge, Department of Biology; *Hormonal Basis for Implantation of Blastocyst in Armadillo*; 2 years; \$13,000.

ST. AMBROSE COLLEGE, Davenport, Iowa; W. F. Lynch, Department of Biology; *Factors Inducing Metamorphosis in Bugula*; 1 year; \$450.

UNIVERSITY OF WASHINGTON, Seattle, Wash.; W. S. Hsu, Department of Zoology; *Bdelloid Cytology*; 2 years; \$3,200.

UNIVERSITY OF WISCONSIN, Madison, Wis.; H. W. Mossman, Department of Anatomy; *Uterine Vascular System in the Hamster*; 1 year; \$4,370.

UNIVERSITY OF WISCONSIN, Madison, Wis.; K. B. Raper, Department of Botany; *Speciation in Simple Slime Molds*; 3 years; \$18,900.

### Earth Sciences

UNIVERSITY OF ALASKA, College, Alaska; C. T. Elvey, Director, Geophysical Institute; *Ionospheric Research Using Both Radio Waves of Extraterrestrial Origin and from Controlled Transmitters*; 2 years; \$20,000.

AMERICAN MUSEUM OF NATURAL HISTORY, New York, N. Y.; N. D. Newell, Curator of Historical Geology and Fossil Invertebrates; *Phylogenetic Studies of Pelecypoda*; 1 year; \$3,100.

BROWN UNIVERSITY, Providence, R. I.; R. B. Montgomery, Visiting Professor of Oceanography; *Analysis of Serial Oceanographic Observations*; 2 years; \$12,200.

UNIVERSITY OF CALIFORNIA, Los Angeles, Calif.; D. I. Axelrod, Department of Geology; *Pliocene Floras of Western Nevada*; 3 years; \$13,800.

- UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; C. Meyer, Department of Geological Sciences; *Hydrothermal Alteration Studies of Micas, Mica-Like Clays and Related Minerals*; 2 years; \$19,500.
- UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; G. A. Nelson, Department of Geology; *Cambrian Strata of the Inyo Mountains, California*; 3 years; \$8,600.
- UNIVERSITY OF CALIFORNIA, Los Angeles, Calif.; G. Tunell, Department of Geology; *Geochemistry of Mercury Ores*; 2 years; \$17,700.
- UNIVERSITY OF CHICAGO, Chicago, Ill.; H. C. Urey, Institute for Nuclear Studies; *Isotopic Abundances Relating to Geochemical Research*; 1 year; \$21,400.
- COLUMBIA UNIVERSITY, New York, N. Y.; W. H. Bucher, Department of Geology; *Geologic Investigation of the Tectonic Settling of Land Masses Adjacent to the Puerto Rican Trench*; 1 year; \$14,000.
- COLUMBIA UNIVERSITY, New York, N. Y.; D. B. Ericson, Iamont Geological Observatory; *Lithological and Micropaleontological Investigation of Atlantic Ocean Sediment Cores*; 2 years; \$18,000.
- COLUMBIA UNIVERSITY, New York, N. Y.; J. L. Kulp, Department of Geology; *Time Relations of Ocean Floor Sediments*; 1 year; \$13,000.
- HIGH ALTITUDE OBSERVATORY OF HARVARD UNIVERSITY AND THE UNIVERSITY OF COLORADO, Boulder, Colo.; W. O. Roberts, Director, High Altitude Observatory; *Observational Studies of Solar Activity*; 1 year; \$10,000.
- UNIVERSITY OF ILLINOIS, Urbana, Ill.; G. W. White, Department of Geology; *Properties of Glacial Till*s; 15 months; \$11,800.
- UNIVERSITY OF MIAMI, Coral Gables, Fla.; R. N. Ginsburg, Marine Laboratory; *Geological Role of Some Blue-Green Algae*; 6 months; \$3,300.
- UNIVERSITY OF NEBRASKA, Lincoln, Nebr.; R. L. Threert, Department of Geology; *Structures of the Colorado Plateau Margin in Southwestern Utah*; 2 years; \$4,400.
- NORTH DAKOTA AGRICULTURAL COLLEGE, Fargo, N. Dak.; P. Tasch, Department of Geology; *Fauna and Paleocology of the Depauperate Zone of the Maquoketa Shale of Iowa*; 1 year; \$1,000.
- OBERLIN COLLEGE, Oberlin, Ohio; P. B. Sears, K. Clisby, and F. Foreman; *Continuous History of Vegetation, Climate and Sediments Extending into the Pleistocene*; 1 year; \$9,000.
- PALEONTOLOGICAL RESEARCH INSTITUTION, Ithaca, N. Y.; J. D. McLean, Jr.; *Foraminifera of the Yorktown Formation*; 1 year; \$5,200.
- PENNSYLVANIA STATE UNIVERSITY, State College, Pa.; B. F. Howell, Jr., Department of Earth Sciences; *Formation of Seismic Pulses*; 2 years; \$12,100.
- PENNSYLVANIA STATE UNIVERSITY, State College, Pa.; M. L. Keith, Department of Earth Sciences; *Fractionation of Stable Isotopes in Geologic Processes*; 2 years; \$15,100.
- PENNSYLVANIA STATE UNIVERSITY, State College, Pa.; O. F. Tuttle, Department of Earth Sciences; *Stability Relations of Silicate-Carbonates at Elevated Temperatures and Pressures*; 1 year; \$5,500.
- PRINCETON UNIVERSITY, Princeton, N. J.; J. C. Maxwell, Department of Geology; *Compaction and Cementation of Sediments*; 2 years; \$10,800.
- PRINCETON UNIVERSITY, Princeton, N. J., W. T. Thom, Jr., Department of Geological Engineering; *Crustal Deformation in Portions of the Great Plains and Cordilleran Regions*; 1 year; \$8,700.
- UNIVERSITY OF UTAH, Salt Lake City, Utah; E. Roedder, Department of Mineralogy; *Phase Equilibrium Relations in the System  $K_2O-FeO-Al_2O_3-SiO_2$* ; 2 years; \$13,400.
- WASHINGTON UNIVERSITY, St. Louis, Mo.; J. C. Brice, Department of Geology; *Pleistocene Geology of Northeastern Missouri*; 2 years; \$3,500.

- WAYNE UNIVERSITY, Detroit, Mich.; W. H. Parsons, Department of Geology; *Igneous Geology in the Beartooth Mountain Area, Wyoming-Montana*; 6 months; \$4,000.
- WAYNE UNIVERSITY, Detroit, Mich.; W. H. Parsons, Department of Geology; *Problems of Igneous Geology in the Beartooth Mountain Area, Wyoming-Montana*; 1 year; \$3,700.

### *Engineering Sciences*

- UNIVERSITY OF ARIZONA, Tucson, Ariz.; T. L. Martin, Jr. and C. R. Hausenbauer, Department of Electrical Engineering; *Thermionic Ion Generation in Contaminated Air and Other Gases*; 2 years; \$10,000.
- POLYTECHNIC INSTITUTE OF BROOKLYN, Brooklyn, N. Y.; J. C. Chu, Department of Chemical Engineering; *Drying with Superheated Vapors*; 2 years; \$3,500.
- UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; W. T. Thomson, Department of Engineering; *Wave Propagation Through Hydrocarbons*; 2 years; \$9,600.
- CARNEGIE INSTITUTE OF TECHNOLOGY, Pittsburgh, Pa.; C. L. McCabe, Department of Metallurgical Engineering; *Determination of Activity of Silicon in Liquid Silicate Systems*; 18 months; \$11,000.
- CASE INSTITUTE OF TECHNOLOGY, Cleveland, Ohio; W. L. Bryan, Mechanical Engineering Department; *Heat Transfer to Boiling Liquids Flowing in Horizontal Tubes*; 1 year; \$5,700.
- COLORADO AGRICULTURAL AND MECHANICAL COLLEGE, Fort Collins, Colo.; M. L. Albertson, Department of Civil Engineering; *Resistance to Flow in Open Channels*; 30 months; \$12,500.
- UNIVERSITY OF DELAWARE, Newark, Del.; A. B. Metzner, Department of Chemical Engineering; *Engineering Reaction Kinetics of Ethylene Oxide Hydration*; 18 months; \$9,000.
- UNIVERSITY OF DETROIT, Detroit, Mich.; R. H. McCormack, Department of Chemical Engineering; *Solubility of Hydrogen Chloride and Ammonia in Water and Organic Solvents*; 18 months; \$2,300.
- GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta, Ga.; W. T. Ziegler, Department of Chemical Engineering; *Studies of Compounds for Superconductivity*; 2 years; \$13,000.
- UNIVERSITY OF ILLINOIS, Urbana, Ill.; J. W. Westwater, Division of Chemical Engineering; *Metastable Boiling*; 2 years; \$13,500.
- STATE UNIVERSITY OF IOWA, Iowa City, Iowa; J. O. Osburn, Division of Chemical Engineering; *Supersaturation in Liquid Solutions*; 1 year; \$8,000.
- JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; H. E. Hoelscher, Department of Chemical Engineering; *Kinetics of Reactions in Three-Phase Systems*; 2 years; \$9,000.
- KANSAS STATE COLLEGE, Manhattan, Kans.; D. R. Carver, Applied Mechanics Department; *Stability of Rings and Circular Arches under Arbitrary Loading*; 2 years; \$10,000.
- UNIVERSITY OF KENTUCKY, Lexington, Ky.; C. S. Crouse and J. P. Hammond, Department of Mining and Metallurgical Engineering; *Effect of Deformation Temperature on the Rolling Textures of Metals*; 1 Year; \$9,000.
- LEHIGH UNIVERSITY, Bethlehem, Pa.; L. S. Beedle, Department of Civil Engineering; *The Influence of Residual Stress on Column Strength*; 3 years; \$15,000.
- LEHIGH UNIVERSITY, Bethlehem, Pa.; A. C. Zettlemyer, Department of Chemistry; *Mixed Vapor Adsorption*; 2 years; \$6,200.
- LOUISIANA STATE UNIVERSITY, Baton Rouge, La.; J. Coates, Department of Chemical Engineering; *Thermal Conductivity of Liquids and Solutions as a Function of Temperature*; 2 years; \$13,800.

- MASSACHUSETTS INSTITUTE OF TECHNOLOGY; Cambridge, Mass.; M. C. Shaw, Department of Mechanical Engineering; *Stress and Energy Characteristics of Brittle Materials During Comminution*; 1 year; \$6,000.
- MASSACHUSETTS INSTITUTE OF TECHNOLOGY; Cambridge, Mass.; J. Wulff, Department of Metallurgy; *Adsorption of Gases on Solid Metals*; 1 year; \$8,600.
- UNIVERSITY OF MINNESOTA, Minneapolis, Minn.; E. L. Piret, Department of Chemical Engineering; *Reaction and Dislocation Kinetics of Crushing and Grinding*; 2 years; \$15,000.
- MISSISSIPPI STATE COLLEGE, State College, Miss.; D. M. McCain, Department of Civil Engineering; *Stress-Strain Relations in Plain Concrete Under Simulated Beam Action*; 1 year; \$5,500.
- MONTANA SCHOOL OF MINES; Butte, Mont.; D. W. McGlashan, Department of Mining Engineering; *Effects of Progressive Change of Position on the Surface Reactivity of Aliphatic Derivatives*; 2 years; \$13,000.
- NEW YORK UNIVERSITY, New York, N. Y.; Y. C. Liu, Department of Metallurgy; *Effect of Crystal Orientation in Cold-Rolled and Recrystallized Textures of Copper*; 18 months; \$6,000.
- NEW YORK UNIVERSITY, New York, N. Y.; R. E. Treybal, Department of Chemical Engineering; *Mass Transfer to and from Solid Spheres Immersed in a Flowing Fluid*; 30 months; \$7,000.
- NORTH CAROLINA STATE COLLEGE, Raleigh, N. C.; N. L. Memerow, Department of Engineering Research; *Mechanism of Biochemical Oxidation of Organic Matter*; 1 year; \$7,000.
- UNIVERSITY OF NORTH DAKOTA, Grand Forks, N. Dak.; W. R. Kube, Department of Chemical Engineering; *Sorption of Water Vapor by Thermally Treated Lignite*; 18 months; \$3,400.
- NORTHWESTERN UNIVERSITY, Evanston, Ill.; A. B. Bronwell, Department of Electrical Engineering; *Microwave Conversion and Detection*; 1 year; \$5,000.
- NORTHWESTERN UNIVERSITY, Evanston, Ill.; G. Thodos, Department of Chemical Engineering; *Vapor Liquid Equilibrium Studies in Multicomponent Systems*; 2 years; \$10,000.
- OHIO STATE UNIVERSITY, Columbus, Ohio; J. D. Kraus, Department of Electrical Engineering; *Positions and Characteristics of Discrete Radio Sources*; 2 years; \$9,800.
- OREGON STATE COLLEGE, Corvallis, Oreg.; J. G. Knudsen, Department of Chemical Engineering; *Heat Transfer Coefficients in Baffled Tubular Heat Exchanges*; 2 years; \$7,200.
- PENNSYLVANIA STATE UNIVERSITY, State College, Pa., L. W. Hu and J. Marin, Department of Engineering; *Creep Stress-Strain-Time Relations for Combined Stresses*; 2 years; \$13,000.
- PENNSYLVANIA STATE UNIVERSITY, State College, Pa., A. H. Waynick, Department of Electrical Engineering; *Detecting Solar and Upper Atmosphere Phenomena by Long-Wave Radio Methods*; 1 year; \$12,000.
- UNIVERSITY OF PENNSYLVANIA, Philadelphia, Pa.; F. J. Dunkerley, Department of Metallurgical Engineering; *Thermodynamic Properties of Sulphur and Oxygen in Liquid Iron Alloys*; 2 years; \$20,000.
- UNIVERSITY OF PENNSYLVANIA, Philadelphia, Pa.; F. F. Hagerty, Department of Chemical Engineering; *Fixed Bed Problem with a Nonlinear Equilibrium Relationship*; 1 year; \$5,000.
- PRATT INSTITUTE, Brooklyn, N. Y.; G. B. Diamond, Department of Chemical Engineering; *Selective Electrolytic Reduction of Carbocyclic Unsaturated Compounds*; 2 years; \$10,000.

- PURDUE UNIVERSITY, Lafayette, Ind.; E. W. Comings, School of Chemical and Metallurgical Engineering; *Properties of Gases at High Pressures*; 2 years; \$14,000.
- RENSSELAER POLYTECHNIC INSTITUTE, Troy, N. Y.; J. O. Hougen, Department of Chemical Engineering; *Reduction of Metallic Oxides with Hydrogen*; 1 year; \$4,300.
- SOUTH DAKOTA SCHOOL OF MINES AND TECHNOLOGY, Rapid City, S. Dak.; W. A. Hixson, Department of Electrical Engineering; *Observable Failures of Electrically Stressed Transformer Oil*; 2 years; \$3,500.
- SWARTHMORE COLLEGE, Swarthmore, Pa.; C. Barus, Department of Electrical Engineering; *Electronic Instrumentation in Neurophysiology*; 1 year; \$8,500.
- UNIVERSITY OF TEXAS, Austin, Tex.; W. L. Moore, Department of Civil Engineering; *Diffusion of a Two-Dimensional Submerged Jet*; 1 year; \$10,000.
- UNIVERSITY OF UTAH, Salt Lake City, Utah; J. H. Hamilton and J. R. Lewis, Department of Metallurgical Engineering; *Kinetics of the Removal of Carbon from Molten Metal-Carbon Mixtures by Reaction with Carbon Dioxide*; 3 years; \$13,000.
- UNIVERSITY OF WISCONSIN, Madison, Wis.; J. A. Duffie, Engineering Experiment Station; *Solar Energy Research*; 3 years; \$13,000.

### *Environmental Biology*

- UNIVERSITY OF ARIZONA, Tucson, Ariz.; A. R. Mead, Department of Zoology; *Population Decline of the Giant African Snail*; 1 year; \$8,300.
- EMORY UNIVERSITY, Emory University, Ga.; F. H. Bormann, Department of Biology; *Ecology of Southern Pine*; 2 years; \$4,200.
- UNIVERSITY OF MIAMI, Coral Gables, Fla.; H. B. Moore, Assistant Director, Marine Laboratory; *Reactions of the Copepods of the Florida Current*; 2 years; \$11,600.
- MICHIGAN STATE COLLEGE, East Lansing, Mich.; G. W. Prescott, Department of Botany; *Alpine and Arctic Algae*; 1 year; \$2,200.
- ST. LOUIS UNIVERSITY, St. Louis, Mo.; B. J. Luyet, Institute of Biophysics; *Survival of Vitrified and Dried Organisms*; 1 year; \$4,500.
- STANFORD UNIVERSITY, Palo Alto, Calif.; D. P. Abbott and R. L. Bolin, Hopkins Marine Station; *Populations of Marine Organisms*; 1 year; \$7,100.
- VASSAR COLLEGE, Poughkeepsie, N. Y.; G. E. Baker, Plant Science Department; *Microorganisms in Lake Water*; 3 years; \$5,300.

### *Genetic Biology*

- ALABAMA POLYTECHNIC INSTITUTE, Auburn, Ala.; C. D. Squiers and L. E. Gregory, Department of Animal Husbandry and Nutrition; *Fertility, Viability, and Growth in the Rat*; 3 years; \$18,000.
- UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; C. M. Rick, Department of Vegetable Crops; *Cytogenetic Studies in the Genus *Lycopersicon**; 3 years; \$7,000.
- UNIVERSITY OF DETROIT, Detroit, Mich.; P. F. Forsthoefel, Department of Zoology; *The Developmental Genetics of *Luxoid*, A New Skeletal Variation in the House Mouse*; 2 years; \$7,900.
- HARVARD UNIVERSITY, Cambridge, Mass.; J. R. Raper, Professor of Botany; *Naturally Occurring Filtrable Mutagens in *Schizophyllum**; 1 year; \$5,500.
- MISSOURI BOTANICAL GARDEN, St. Louis, Mo.; E. Anderson, Genetics; *Introgression in Natural Populations*; 3 years; \$19,000.
- UNIVERSITY OF NORTH CAROLINA, Chapel Hall, N. C.; D. U. Gerstel, Department of Agronomy, North Carolina State College, Raleigh, N. C.; *Segregation in Artificial Amphidiploids in Genus *Gossypium**; 3 years; \$12,500.



- PURDUE UNIVERSITY, Lafayette, Ind.; D. C. Warren and A. E. Bell, Department of Poultry Husbandry, Agricultural Experiment Station; *Heterosis in Drosophila Melanogaster*; 3 years; \$18,400.
- RADFORD COLLEGE, Radford, Va.; V. L. House, Department of Biology; *Genetic Control of Venation in Drosophila*; 2 years; \$7,500.
- RANCHO SANTA ANA BOTANICAL GARDEN, Claremont, Calif.; V. Grant, Biosystematist; *Genetics of the Genus Gilia*; 3 years; \$7,700.
- UNIVERSITY OF ROCHESTER, Rochester, N. Y.; K. W. Cooper, Department of Biology; *Patterns of Chromosome Segregation*; 3 years; \$24,000.
- SMITH COLLEGE, Northampton, Mass.; A. F. Blakeslee, Director, Genetics Experiment Station; *Evolution and Life Processes in Plants*; 2 years; \$14,000.
- TEXAS AGRICULTURAL EXPERIMENT STATION, College Station, Tex.; H. H. Hadley, Department of Genetics; *Cytogenetic Relationships Among Sorghums*; 3 years; \$3,900.
- WASHINGTON UNIVERSITY, St. Louis, Mo.; H. L. Carson and H. D. Stalker, Department of Zoology; *Investigation of Drosophila and Diptera*; 3 years; \$11,500.

### Mathematical Sciences

- ALABAMA POLYTECHNIC INSTITUTE, Auburn, Ala.; Hsien-Chung Wang; *Subgroups of Complex Lie Groups and Groups of Holomorphic Homeomorphisms*; 1 year; \$8,900.
- AMERICAN MATHEMATICAL SOCIETY, Providence, R. I.; *Summer Mathematical Institute for the Study of Functions of Several Complex Variables*; \$25,000.
- BROWN UNIVERSITY, Providence, R. I.; H. Federer, Department of Mathematics; *Theory of Measure and Area*; 1 year; \$7,000.
- BROWN UNIVERSITY, Providence, R. I.; B. Jonsson, Department of Mathematics; *Problems in Modular Lattices*; 1 year; \$3,400.
- COLUMBIA UNIVERSITY, New York, N. Y.; E. R. Lorch, Department of Mathematics; *Volume in Hilbert Space*; 1 year; \$5,700.
- HAVERFORD COLLEGE, Haverford, Pa.; R. C. James, Department of Mathematics; *Implications of the Existence of Banach Spaces*; 1 year; \$2,500.
- ILLINOIS INSTITUTE OF TECHNOLOGY, Chicago, Ill.; L. R. Wilcox, Department of Mathematics; *Imbedding Theorems and Topologies for Lattices*; 1 year; \$7,000.
- INSTITUTE FOR ADVANCED STUDY, Princeton, N. J.; H. Samelson, School of Mathematics; *Topology of Lie Groups and Spaces of Paths*; 1 year; \$9,200.
- INSTITUTE FOR ADVANCED STUDY, Princeton, N. J.; Shing-Shen Chern, Department of Mathematics; *Pseudo Groups with Emphasis on Complex and Symplectic Manifolds*; 1 year; \$3,450.
- LEHIGH UNIVERSITY, Bethlehem, Pa.; E. A. Pitcher, Department of Mathematics; *Problems in Critical Point Theory*; 1 year; \$3,000.
- UNIVERSITY OF MICHIGAN, Ann Arbor, Mich.; W. Kaplan, Department of Mathematics; *Problems in the Theory of Functions of a Complex Variable*; 6 months; \$1,600.
- NORTHWESTERN UNIVERSITY, Evanston, Ill.; A. Rosenberg and D. Zelinsky, Department of Mathematics; *Galois Theory of Rings*; 1 year; \$6,800.
- OHIO STATE UNIVERSITY, Columbus, Ohio; M. Hall, Jr., Department of Mathematics; *Combinatorial Problems*; 18 months; \$10,400.
- PENNSYLVANIA STATE UNIVERSITY, State College, Pa.; H. B. Curry, Department of Mathematics; *Combinatory Logic*; 1 year; \$9,400.
- PRINCETON UNIVERSITY, Princeton, N. J.; A. Church, Department of Mathematics; *Preparation of Results of Basic Research Entitled "Introduction to Mathematical Logic, Volumes I and II"*; 1 year; \$5,600.

PURDUE RESEARCH FOUNDATION, Lafayette, Ind.; C. R. Putnam, Department of Mathematics; *Investigation of Singular Boundary Value Problems and Operators in Hilbert Space*; 2 years; \$12,000.

QUEENS COLLEGE, Flushing, N. Y.; L. Zippin, Department of Mathematics; *Topological Groups Acting as Transformation Groups*; 1 year; \$7,700.

UNIVERSITY OF VIRGINIA, Charlottesville, Va.; E. J. McShane, School of Mathematics; *Convergence Problems in Partially Ordered Spaces*; 1 year; \$1,700.

WAYNE UNIVERSITY, Detroit, Mich.; C. Goffman, Department of Mathematics; *Lower Semicontinuous Functionals and Surface Area*; 1 year; \$8,200.

UNIVERSITY OF WASHINGTON, Seattle, Wash.; E. Hewitt, Department of Mathematics; *Investigations in Functional Analysis*; 21 months; \$30,000.

UNIVERSITY OF WISCONSIN, Madison, Wis.; R. H. Bing, Department of Mathematics; *Imbedding Sets in Manifolds*; 1 year; \$5,400.

### *Molecular Biology*

UNIVERSITY OF ALABAMA, Birmingham, Ala.; W. Pigman, Department of Biochemistry; *Biologically Significant Reactions and Interactions of Nitrogenous Carbohydrates and Related Substances*; 3 years; \$13,000.

UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; G. Mackinney, Department of Food Technology; *Carotenoid Biosynthesis*; 2 years; \$16,000.

UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; H. K. Schachman and C. A. Dekker, Virus Laboratory; *Mechanisms of Enzymatic Breakdown of Proteins and Nucleic Acids*; 3 years; \$25,000.

CHICAGO MEDICAL SCHOOL, Chicago, Ill.; A. R. Goldfarb, Department of Biochemistry; *Structure and Reactions of the Peptide Bond in Aqueous Solution as Indicated by Ultraviolet Absorption Spectra*; 1 year; \$8,000.

UNIVERSITY OF CHICAGO, Chicago, Ill.; L. Bogorad, Department of Botany; *Enzymatic Synthesis of Porphyrins from Porphobilinogen*; 2 years; \$12,000.

CORNELL UNIVERSITY, Ithaca, N. Y.; H. A. Scheraga, Department of Chemistry; *Hydrodynamic Properties of Proteins*; 3 years; \$15,500.

DUQUESNE UNIVERSITY, Pittsburgh, Pa.; N. C. Li, Department of Chemistry; *Metal-Protein Interactions*; 2 years; \$13,000.

FORDHAM UNIVERSITY, New York City, N. Y.; F. F. Nord, Department of Organic Chemistry; *Structural, Biochemical and Physicochemical Studies of Lignin*; 3 years; \$21,000.

HARVARD UNIVERSITY, Cambridge, Mass.; J. T. Edsall, Biological Laboratories; *Physical Chemistry of Amino Acids, Peptides, and Proteins with Special Reference to Raman Spectra*; 3 years; \$30,000.

HARVARD UNIVERSITY, Cambridge, Mass.; L. F. Fieser, Department of Chemistry; *Role of Sterols in Health and Disease*; 3 years; \$30,000.

HARVARD UNIVERSITY, Cambridge, Mass.; A. F. Riggs, Biological Laboratories; *Biochemistry of Hemoglobin*; 2 years; \$3,500.

UNIVERSITY OF ILLINOIS, Urbana, Ill.; I. C. Gunsalus, Department of Bacteriology; *Biosynthesis and Function of Microbial Chromoproteins*; 2 years; \$11,000.

STATE UNIVERSITY OF IOWA, Iowa City, Iowa; R. Benesch, Department of Biochemistry; *The Reactivity of Sulfhydryl Groups in Peptides and Proteins*; 2 years; \$12,000.

JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; W. L. Hughes, McCollum-Pratt Institute; *Nature of the Hemoglobin Linkage*; 3 years; \$18,000.

JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; W. C. McElroy, McCollum-Pratt Institute; *Biological Conversion of Chemical Energy to Light*; 3 years; \$15,000.

- UNIVERSITY OF MICHIGAN, Ann Arbor, Mich.; A. G. Norman, Department of Botany; *Interrelationships Between Plant Cell Wall Polysaccharides*; 2 years; \$16,000.
- MONTANA STATE COLLEGE, Bozeman, Mont.; R. H. McBee, Department of Botany and Bacteriology; *Bacterial Cellulose Decomposition*; 3 years; \$12,000.
- MONTANA STATE COLLEGE, Bozeman, Mont.; J. H. Pepper, Department of Zoology and Entomology, and L. H. Johnson, Department of Chemistry Research; *The Composition and Structure of the Cuticular Components of the Exoskeleton of the Mormon Cricket*; 2 years; \$10,000.
- UNIVERSITY OF NEBRASKA, Lincoln, Nebr.; H. Jehle, Department of Physics; *Specific Interactions of Biological Significance*; 2 years; \$10,000.
- UNIVERSITY OF NEBRASKA, Lincoln, Nebr.; J. N. Pazur, Department of Biochemistry and Nutrition, Agricultural Experiment Station; *Enzymatic Synthesis of Glucosyl Carbohydrates*; 2 years; \$10,500.
- NEW YORK UNIVERSITY, New York, N. Y.; M. Levy, Medical Center, College of Medicine, Department of Chemistry; *Chemical Structure of Proteins*; 3 years; \$18,000.
- UNIVERSITY OF PENNSYLVANIA, Philadelphia, Pa.; M. J. Coon, Department of Physiological Chemistry, School of Medicine; *Amino Acid Metabolism*; 3 years; \$25,000.
- UNIVERSITY OF PENNSYLVANIA, Philadelphia, Pa.; S. D. Rodenberg, Laboratory of Microbiology; *Biosynthesis of Proteins Associated with Microbial Cells*; 2 years; \$2,200.
- UNIVERSITY OF PITTSBURGH, Pittsburgh, Pa.; M. A. Lauffer, Department of Biophysics; *Biophysical Studies on Plant Viruses*; 2 years; \$16,000.
- PRINCETON UNIVERSITY, Princeton, N. J.; E. N. Harvey, Department of Biology; *The Biochemistry of Light Production in the Ostracod Crustacean, Cypridina Hilgendorfii*; 3 years; \$19,000.
- VANDERBILT UNIVERSITY, Nashville, Tenn.; O. Touster, Department of Biochemistry; *The Origin and Metabolic Fate of L-Xylulose*; 2 years; \$8,000.
- WASHINGTON UNIVERSITY, St. Louis, Mo.; M. Cohn, Department of Biological Chemistry; *Mechanism of Phosphorylation and Phosphate Transfer Reactions*; 3 years; \$18,000.
- WESTERN RESERVE UNIVERSITY, Cleveland Ohio; H. Z. Sable, Department of Biochemistry; *Intermediary Metabolism of Nucleic Acid Fragments*; 2 years; \$10,000.
- WESTERN RESERVE UNIVERSITY, Cleveland Ohio; J. B. Wittenberg, Department of Biochemistry; *The In Vitro Synthesis of Sphingosine*; 2 years; \$3,500.
- UNIVERSITY OF WISCONSIN, Madison, Wis.; R. A. Alberty and R. M. Bock, Department of Chemistry; *Investigation of Enzyme Fumarase*; 2 years; \$15,000.
- WOODS HOLE OCEANOGRAPHIC INSTITUTION, Woods Hole, Mass.; F. A. Richards; *Significance of Chlorophyll C*; 2 years; \$8,000.
- R. W. G. WYCKOFF, Science Attaché, U. S. Embassy, London, England; *Electron Microscopic Study of the Structure of Biological Tissues*; 1 year; \$3,000.
- YALE UNIVERSITY, New Haven, Conn.; E. C. Pollard and F. Hutchinson, Department of Physics; *X-Ray Studies of Viruses*; 2 years; \$13,000.

### Physics

- UNIVERSITY OF ALABAMA, University, Ala.; A. E. Ruark, Department of Physics; *A Cloud Chamber Search for Free Magnetic Poles*; 3 years; \$14,300.
- ANTIOCH COLLEGE, Yellow Springs, Ohio; A. B. Stewart and G. E. Owen, Department of Physics; *Glow Discharge Oscillations*; 2 years; \$10,000.
- BOWDOIN COLLEGE, Brunswick, Maine; M. A. Jeppesen, Department of Physics; *Optical Studies of Surface and Body Properties of Crystalline and Amorphous Solids*; 2 years; \$14,100.

- BRIGHAM YOUNG UNIVERSITY, Provo, Utah; H. Fletcher, Department of Physics; *Definitive Physical Characteristics of Tones*; 2 years; \$11,100.
- BRYN MAWR COLLEGE, Bryn Mawr, Pa.; J. R. Pruett, Department of Physics; *Direction Correlations and Forbidden Beta-Spectra*; 2 years; \$8,000.
- UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; C. Kittel, Department of Physics; *Interaction of Fundamental Particles with Solid State Systems*; 2 years; \$11,800.
- CASE INSTITUTE OF TECHNOLOGY, Cleveland, Ohio; L. L. Foldy and M. J. Klein, Department of Physics; *Theoretical Research in Nuclear and Solid State Physics*; 2 years; \$15,600.
- UNIVERSITY OF CHICAGO, Chicago, Ill.; M. G. Inghram, Department of Physics; *Mass Spectrometric Investigations*; 2 years; \$20,000.
- UNIVERSITY OF COLORADO, Boulder, Colo.; W. A. Rense, Department of Physics; *Polarization Measurements of the Zodiacal Light During Total Solar Eclipse of June '54*; 6 months; \$1,700.
- COLUMBIA UNIVERSITY, New York, N. Y.; H. M. Foley, Department of Physics; *Theory of Nuclear Quadrupole Effects*; 18 months; \$11,300.
- UNIVERSITY OF CONNECTICUT, Storrs, Conn.; C. A. Reynolds, Department of Physics; *Hydrodynamics of Liquid Helium II*; 1 year; \$8,400.
- CORNELL UNIVERSITY, Ithaca, N. Y.; R. L. Sproull, Department of Physics; *Thermal Conductivity and Crystal Imperfections*; 3 years; \$15,000.
- DUKE UNIVERSITY, Durham, N. C.; L. W. Nordheim and E. Greuling, Department of Physics; *Theory of Nuclear Shell Structure*; 2 years; \$20,600.
- UNIVERSITY OF ILLINOIS, Urbana, Ill.; D. W. Kerst, Department of Physics; *Photo Production of Pi-Mesons*; 2 years; \$12,000.
- JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; H. Meissner, Department of Physics; *Intermediate State of Superconductivity*; 2 years; \$6,000.
- KENT STATE UNIVERSITY, Kent, Ohio; A. A. Silvidi, Department of Physics; *Continuous Cloud Chambers*; 1 year; \$3,000.
- LOUISIANA STATE UNIVERSITY, Baton Rouge, La.; J. S. Levinger, Department of Physics; *Theory of Photonuclear Reactions*; 2 years; \$8,700.
- LOUISIANA STATE UNIVERSITY, Baton Rouge, La.; J. M. Reynolds, Department of Physics; *Electric and Magnetic Measurements on Bismuth at Low Temperatures*; 1 year; \$9,800.
- MARQUETTE UNIVERSITY, Milwaukee, Wis.; A. G. Barkow, Department of Physics; *Elementary Particle Reactions in Photographic Emulsions*; 2 years; \$5,500.
- UNIVERSITY OF MARYLAND, College Park, Md.; S. F. Singer; *Origin of Ultrahigh Energy Cosmic Rays*; 2 years; \$15,800.
- UNIVERSITY OF MICHIGAN, Ann Arbor, Mich.; D. A. Glaser, Department of Physics; *Use of Bubble Chambers in the Study of High Energy Nuclear Interactions*; 2 years; \$12,600.
- MICHIGAN STATE COLLEGE, East Lansing, Mich.; E. A. Hiedemann, Department of Physics; *Light Diffraction and Ultrasonic Waves*; 2 years; \$10,600.
- UNIVERSITY OF MINNESOTA, Minneapolis, Minn.; A. O. C. Nier, Department of Physics; *Atomic Mass Determinations*; 2 years; \$15,500.
- UNIVERSITY OF NEBRASKA, Lincoln, Nebr.; D. C. Moore, Department of Physics; *Half-Life of Positrons in Condensed Matter*; 2 years; \$10,000.
- UNIVERSITY OF NEW MEXICO, Albuquerque, N. Mex.; J. R. Green and V. H. Regener, Department of Physics; *Collision Cross-Sections for Cosmic Ray Showers*; 2 years; \$8,900.
- NEW YORK UNIVERSITY, New York, N. Y.; A. Beiser, Department of Physics; *Time Sensitivity in Nuclear Emulsions*; 1 year; \$7,200.
- UNIVERSITY OF NORTH CAROLINA, Chapel Hill, N. C.; J. W. Straley, Department of Physics; *The Intensities of Infrared Absorption Bands*; 3 years; \$11,700.

- NORTHWESTERN UNIVERSITY, Evanston, Ill.; J. A. Marcus, Department of Physics; *Hall Effect in Single Crystals at Low Temperatures*; 2 years; \$11,100.
- OHIO STATE UNIVERSITY, Columbus, Ohio; J. G. Daunt and P. S. Jastram, Department of Physics; *Nuclear Orientation at Low Temperatures*; 2 years; \$17,000.
- UNIVERSITY OF OKLAHOMA, Norman, Okla.; J. R. Nielsen, Department of Physics; *Vibrational Spectra of Compounds in Different States of Aggregation*; 3 years; \$21,200.
- UNIVERSITY OF PUERTO RICO, Rio Piedras, Puerto Rico; A. Cobas, Department of Physics; *Zenith Angle Variation of Cosmic Rays*; 1 year; \$6,600.
- PURDUE RESEARCH FOUNDATION, Lafayette, Ind.; F. J. Belinfante, Department of Physics; *Elementary Particles and Field Theory*; 2 years; \$6,000.
- REED COLLEGE, Portland, Oreg.; F. C. Brown, Department of Physics; *Conduction and Trapping in Ionic Crystals*; 2 years; \$8,500.
- RENSSELAER POLYTECHNIC INSTITUTE, Troy, N. Y.; P. J. Bray, Department of Physics; *Molecular and Crystalline Structure by a Nuclear Resonance Absorption Technique*; 2 years; \$17,200.
- RICE INSTITUTE, Houston, Tex.; C. F. Squire, Department of Physics; *Studies in Solid State Physics*; 1 year; \$14,300.
- SOUTHWESTERN AT MEMPHIS, Memphis, Tenn.; D. E. Matthews, Department of Physics; *Critical Energy for Secondary Electron Research*; 1 year; \$9,400.
- UNIVERSITY OF VIRGINIA, Charlottesville, Va.; J. W. Beams, Department of Physics; *Ultracentrifuge Research on Molecular Weights*; 2 years; \$9,800.
- WESTERN RESERVE UNIVERSITY, Cleveland, Ohio; R. G. Winter, Department of Physics; *Double Beta Decay*; 1 year; \$7,600.
- WISCONSIN ALUMNI RESEARCH FOUNDATION, Madison, Wis.; D. W. Kerst, Department of Physics, University of Illinois; *High-Energy Accelerator Problems*; 9 months; \$53,300.
- YALE UNIVERSITY, New Haven, Conn.; H. Margenau, Department of Physics; *Definition and Law in the Physical Sciences*; 2 years; \$4,600.

### Psychobiology

- AMERICAN MUSEUM OF NATURAL HISTORY, New York, N. Y.; T. C. Schneirla, Department of Animal Behavior; *Development of Behavior Patterns in Lower Mammals*; 2 years; \$16,500.
- BOSTON UNIVERSITY, Boston, Mass.; J. M. Harrison, Department of Psychology; *The Relation Between the Hippocampus and Sensory Hyperesthesia*; 2 years; \$9,400.
- UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; D. A. Riley, Department of Psychology; *Research in Rote Learning*; 1 year; \$3,400.
- DUKE UNIVERSITY, Durham, N. C.; G. A. Kimble, Department of Psychology; *Research in Avoidance Learning*; 2 years; \$6,100.
- DUKE UNIVERSITY, Durham, N. C.; K. Zener, Department of Psychology; *Visual Perception of Spatial Relationships*; 2 years; \$11,800.
- FLORIDA STATE UNIVERSITY, Tallahassee, Fla.; W. N. Kellogg, Oceanographic Institute; *Echolocation in the Dolphin*; 1 year; \$7,000.
- GEORGE WASHINGTON UNIVERSITY, Washington, D. C.; B. H. Fox, Department of Psychology; *Research on Vision*; 1 year; \$5,900.
- STATE UNIVERSITY OF IOWA, Iowa City, Iowa; D. Lewis, Department of Psychology; *Research on Perceptual-Motor Tasks*; 2 years; \$11,700.
- JOHN HOPKINS UNIVERSITY, Baltimore, Md.; E. F. MacNichol, Jr., Department of Biophysics; *Visual Research*; 3 years; \$9,800.
- UNIVERSITY OF MISSOURI, Columbia, Mo.; M. H. Marx, Department of Psychology; *Experimental Analysis of Food Hoarding Behavior*; 2 years; \$8,400.

- MOUNT HOLYOKE COLLEGE, South Hadley, Mass.; J. Volkmann, Department of Psychology; *Research in Visual Perception*; 2 years; \$9,800.
- NEW YORK UNIVERSITY, New York, N. Y.; H. H. and T. S. Kendler, Department of Psychology; *Research on Problem-Solving Behavior*; 2 years; \$14,100.
- UNIVERSITY OF NORTH CAROLINA, Chapel Hill, N. C.; L. L. Thurstone, The Psychometric Laboratory; *Research in Multiple Factor Analysis*; 2 years; \$17,700.
- NORTHWESTERN UNIVERSITY, Evanston, Ill.; A. L. Diamond, Department of Psychology; *The Psycho-Physiology of Vision: Simultaneous Brightness Contrast*; 2 years; \$9,000.
- PENNSYLVANIA STATE UNIVERSITY, State College, Pa.; J. H. Grosslight, Department of Psychology; *The Role of Reinforcement in Learning*; 2 years; \$7,600.
- PRINCETON UNIVERSITY, Princeton, N. J.; H. Gulliksen, Department of Psychology; *Mathematical Techniques in Psychology*; 3 years; \$24,400.
- RUTGERS UNIVERSITY, New Brunswick, N. J.; D. S. Lehrman, Department of Psychology; *The Physiological Basis of Incubation Behavior in the Ring Doves*; 2 years; \$9,500.
- UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles, Calif.; W. W. Grings, Department of Psychology; *Studies of Stimulus Patterning in Learning*; 3 years; \$9,400.
- SYRACUSE UNIVERSITY, Syracuse, N. Y.; W. R. and D. E. McAllister, Department of Psychology; *Eyelid Conditioning and Generalization of the Conditioned Eyelid Response*; 2 years; \$12,300.
- UNIVERSITY OF UTAH, Salt Lake City, Utah; F. B. Porter, Department of Psychology; *Psychological Effects of Antimetabolites*; 2 years; \$10,000.
- STATE COLLEGE OF WASHINGTON, Pullman, Wash.; F. A. Young, Department of Psychology; *A Systematic Investigation of Pupillary Conditioning*; 2 years; \$11,400.
- UNIVERSITY OF WASHINGTON, Seattle, Wash.; A. F. Ax, Department of Psychiatry; *Investigations of Human Reactions to Stress*; 3 years; \$17,200.
- UNIVERSITY OF WISCONSIN, Madison, Wis.; W. J. Brogden, Department of Psychology; *Verbal Factors in the Learning of Motor Skill*; 3 years; \$15,100.
- UNIVERSITY OF WISCONSIN, Madison, Wis.; K. U. Smith, Department of Psychology; *The Role of Perception in Patterned Motion*; 2 years; \$7,800.
- YALE UNIVERSITY, New Haven, Conn.; F. A. Logan, Department of Psychology; *Conditions of Reinforcement*; 1 year; \$5,200.
- YALE UNIVERSITY, New Haven, Conn.; K. C. Montgomery, Department of Psychology; *Exploratory and Fear Behavior in Lower Mammals*; 2 years; \$11,400.
- YALE UNIVERSITY, New Haven, Conn.; F. D. Scheffield, Department of Psychology; *A Comparison of Autonomic Conditioning and Skeletal Instrumental Learning*; 3 years; \$11,550.

### *Regulatory Biology*

- UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; C. H. Sawyer, Department of Anatomy, School of Medicine; *The Hormonal Control of Enzyme Synthesis*; 3 years; \$6,000.
- UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; P. K. Stumpf, Department of Plant Biochemistry; *The Oxidation of Short Chain Fatty Acids by Plant Extracts*; 1 year; \$1,050.
- CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena, Calif.; J. Bonner, Division of Biology; *Energetic Coupling in Plant Systems*; 1 year; \$8,500.
- COLUMBIA UNIVERSITY, New York City, N. Y.; H. Elftman, Department of Anatomy, School of Physicians and Surgeons; *The Cytochemical Investigation of Phospholipids*; 2 years; \$9,300.
- EMORY UNIVERSITY, Emory University, Ga.; F. W. Fales, Department of Biochemistry; *Alkali-Insoluble Reserve Carbohydrate of Yeast Cells*; 2 years; \$9,100.
- HASKINS LABORATORIES, New York, N. Y.; L. Provasoli; *Nutritional Requirements of Marine Algae*; 3 years; \$9,000.

- INDIANA UNIVERSITY, Bloomington, Ind.; W. J. van Wagtenonk, Department of Zoology; *Role of Steroids in the Metabolism of Paramecium Aurelia*; 2 years; \$14,000.
- JEFFERSON MEDICAL COLLEGE OF PHILADELPHIA, Philadelphia, Pa.; B. W. Koft, Department of Bacteriology; *Growth Factor to Replace P-Aminobenzoic and Folic Acids*; 2 years, \$5,100.
- KAISER FOUNDATION, Oakland, Calif.; E. C. Dougherty, Department of Internal Medicine; *Nutrition of Free-Living Nematodes*; 2 years; \$13,400.
- UNIVERSITY OF KANSAS, Lawrence, Kans.; J. Jensen and A. Werder, Department of Medical Microbiology, School of Medicine; *Host-Parasite Relationships Between Viruses, Helminths and Protozoa*; 3 years; \$14,500.
- MASSACHUSETTS GENERAL HOSPITAL, Boston, Mass.; A. Leaf, Department of Medicine; *Mode of Action of the Antidiuretic Hormone*; 1 year; \$1,000.
- MICHIGAN STATE COLLEGE, East Lansing, Mich.; H. M. Sell, Department of Agricultural Chemistry; *The Biochemistry of Growth Substances in Corn Pollen*; 2 years; \$6,900.
- NORTHWESTERN UNIVERSITY, Evanston, Ill.; C. L. Turner, Department of Biology; *Hormonal Control of Growth and Differentiation of Regenerating Tissue*; 2 years; \$9,000.
- OKLAHOMA AGRICULTURAL AND MECHANICAL COLLEGE, Stillwater, Okla.; R. J. Sirny, Department of Agricultural Chemistry Research; *Sodium and Potassium Requirements of Lactic Acid*; 2 years; \$7,900.
- OREGON STATE COLLEGE, Corvallis, Oreg.; V. H. Cheldelin, Department of Chemistry; *Nutrition and Metabolism of Insects*; 2 years; \$15,000.
- UNIVERSITY OF PITTSBURGH, Pittsburgh, Pa.; R. Bentley, Department of Biochemistry and Nutrition; *Carbohydrate Metabolism in Molds*; 3 years; \$16,500.
- PRINCETON UNIVERSITY, Princeton, N. J.; J. T. Bonner, Department of Biology; *Differentiation of the Amoeboid Slime Molds*; 3 years; \$8,800.
- PRINCETON UNIVERSITY, Princeton, N. J.; W. P. Jacobs, Department of Biology; *Internal Factors Limiting Differentiation of Plant Cells*; 3 years; \$15,400.
- PRINCETON UNIVERSITY, Princeton, N. J.; W. W. Swingle, Department of Biology; *The Isolation, Physiological Properties and Bioassay of the Amorphous Fraction of Adrenal Cortical Extracts*; 2 years, \$11,500.
- RESEARCH FOUNDATION OF CHILDREN'S HOSPITAL, Washington, D. C.; S. P. Bessman; *Low Energy Transacylation in Animal Tissues*; 2 years; \$15,000.
- UNIVERSITY OF ROCHESTER, Rochester, N. Y.; E. F. Adolph, School of Medicine and Dentistry; *Physiological Development of Regulatory Functions*; 3 years; \$24,000.
- ST. JOHN'S UNIVERSITY, Brooklyn, N. Y.; D. M. Lilly, Department of Biology; *Nutritional Factors in Growth of Carnivorous Protozoa*; 2 years; \$7,600.
- UNIVERSITY OF TENNESSEE, Memphis, Tenn.; J. S. Davis, Division of Anatomy, Medical Units Division; *The Effects of Accessory Nutritional Factors on the Nucleic Acids of Uterine Tissue*; 2 years, \$9,000.
- UNIVERSITY OF TENNESSEE, Knoxville, Tenn.; D. F. Holtman, Department of Bacteriology; *Role of Amino Acids in the Host-Parasite Relationship*; 2 years; \$8,300.
- VANDERBILT UNIVERSITY, Nashville, Tenn.; C. R. Park, Department of Physiology, School of Medicine; *Factors Influencing Glucose Penetration into Cells*; 2 years; \$16,000.
- WABASH COLLEGE, Crawfordsville, Ind.; W. H. Johnson, Department of Biology; *Nutritive Requirements of Paramecium Multimicronucleatum*; 2 years; \$3,000.
- VIRGINIA POLYTECHNIC INSTITUTE, Blacksburg, Virginia; K. W. King, Department of Biology; *The Mechanism of Cellulose Decomposition by Aerobic Bacteria*; 2 years; \$6,000.

- UNIVERSITY OF WASHINGTON, Seattle, Wash.; E. C. Roosen-Runge, Department of Anatomy, School of Medicine; *Mammalian Spermatogenesis*; 2 years; \$10,000.
- WASHINGTON UNIVERSITY, St. Louis, Mo.; M. Cohn, Department of Microbiology, School of Medicine; *Induced Enzymes and Antibody Synthesis*; 3 years; \$22,500.
- WASHINGTON UNIVERSITY, St. Louis, Mo.; A. Kronberg, Department of Microbiology, School of Medicine; *Enzymatic Mechanisms in Nucleic Acid Synthesis*; 3 years; \$26,000.
- WESTERN RESERVE UNIVERSITY, Cleveland, Ohio; E. W. Sutherland, Department of Pharmacology; *The Mechanism of Action of Epinephrine and Related Sympathomimetic Amines*; 3 years; \$22,750.
- UNIVERSITY OF WISCONSIN, Madison, Wis.; G. W. Keitt, Department of Plant Pathology, College of Agriculture; *The Nature of Parasitism and Disease Resistance*; 2 years; \$15,000.
- UNIVERSITY OF WISCONSIN, Madison, Wis.; F. M. Strong, Department of Biochemistry; *The Chemistry and Metabolism of Biologically Active Substances*; 3 years; \$15,700.
- WOODS HOLE OCEANOGRAPHIC INSTITUTION, Woods Hole, Mass.; P. F. Scholander, Physiologist; *The Mechanism of Gas Secretion in Fishes*; 2 years; \$8,500.
- WORCESTER FOUNDATION FOR EXPERIMENTAL BIOLOGY, Shewsbury, Mass.; R. I. Dorfman, Associate Director of Laboratories; *Metabolism of Steroid Hormones by the Guinea Pig*; 3 years; \$20,000.
- YALE UNIVERSITY, New Haven, Conn.; M. Foster, Osborn Zoological Laboratory; *Inherited Pigmentary Variations*; 2 years; \$5,800.
- YALE UNIVERSITY, New Haven, Conn.; G. E. Pickford, The Bingham Oceanographic Laboratory; *Pituitary Hormones of Fish*; 3 years; \$14,400.
- YALE UNIVERSITY, New Haven, Conn.; W. Vishniac, Department of Microbiology; *Enzymatic Reactions in Photosynthesis and Chemosynthesis*; 3 years; \$10,000.

### Systematic Biology

- ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, Philadelphia, Pa.; J. A. G. Rehn, Curator, Department of Insects; *Orthoptera of North America*; 2 years; \$16,000.
- BERNICE P. BISHOP MUSEUM, Honolulu, Hawaii; J. L. Gressitt; *Insects of Micronesia*; 3 years; \$30,000.
- UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; G. F. Papenfuss, Department of Botany; *Marine Algal Flora of South Africa*; 3 years; \$12,250.
- UNIVERSITY OF CALIFORNIA, Berkeley, Calif.; A. E. Pritchard, Department of Entomology and Parasitology; *The Tetranychoid Acarids of Europe*; 1 year; \$6,500.
- CHICAGO NATURAL HISTORY MUSEUM, Chicago, Ill.; C. C. Sanborn, Curator of Mammals; *A Catalog of the Microchiroptera*; 5 years; \$10,000.
- DUKE UNIVERSITY, Durham, N. C.; L. E. Anderson, Department of Botany; *Bryophytes of the Ozarks*; 18 months; \$4,600.
- DUKE UNIVERSITY, Durham, N. C.; R. M. Schuster, Department of Botany; *The Hepaticae of Eastern North America*; 2 years; \$7,200.
- UNIVERSITY OF FLORIDA, Gainesville, Fla.; J. C. Dickinson, Jr., Department of Biology; *Biological Survey of Flint-Chattahoochee-Appalachicola Drainage Basins*; 3 years; \$5,200.
- FRANCIS HARPER, MOUNT HOLLY, N. J., *Flora and Fauna of the Central Labrador Peninsula*; 2 years, \$10,300.
- UNIVERSITY OF HAWAII, Honolulu, Hawaii; D. E. Hardy, College of Agriculture, Department of Entomology; *Diptera of Hawaii*; 1 year; \$2,000.
- HOLLINS COLLEGE, VIRGINIA; P. M. Patterson, Department of Biology; *Bryophyte Flora of Virginia*; 1 year; \$1,000.



- UNIVERSITY OF IDAHO, Moscow, Idaho; H. A. Imshaug, Department of Biological Sciences; *Alpine Lichens of Western America*; 2 years; \$3,500.
- MICHIGAN STATE COLLEGE, East Lansing, Mich.; I. W. Knobloch, Department of Natural Sciences; *The Flora of the Barranca Del Cobre Region*; 1 year; \$1,700.
- UNIVERSITY OF MINNESOTA, Minneapolis, Minn.; J. W. Hall, Department of Botany; *Coal Ball Floras*; 2 years; \$2,600.
- UNIVERSITY OF NEW HAMPSHIRE, Durham, N. H.; M. H. Pettibone, Department of Zoology; *The Polychaete Annelids of New England*; 2 years; \$11,500.
- NEW MEXICO HIGHLANDS UNIVERSITY, Las Vegas, N. Mex.; L. M. Shields, Department of Biology; *Nitrogen Sources and Nitrogen Content of Plants in Gypsum, Lava, and Alkali Deserts*; 2 years; \$3,450.
- COLLEGE OF NEW ROCHELLE, N. Y.; M. D. Rogick, Department of Biology; *Bryozoa of the Antarctic*; 2 years; \$3,900.
- STATE UNIVERSITY OF NEW YORK, Albany, N. Y.; J. L. Lowe, College of Forestry, Syracuse, N. Y.; *Polyporaceae of North America*; 1 year; \$1,200.
- NEW YORK BOTANICAL GARDEN, New York, N. Y.; B. Maguire, Curator; *The Flora of the Guayana Highland*; 2 years; \$12,400.
- UNIVERSITY OF NORTH CAROLINA, Chapel Hill, N. C.; J. N. Couch, Department of Botany; *The Genus Actinoplanes*; 3 years; \$15,300.
- UNIVERSITY OF NORTH CAROLINA, Chapel Hill, N. C.; Z. P. Metcalf, Division of Biological Sciences; *Catalogue of World Homoptera*; 2 years; \$16,000.
- UNIVERSITY OF PENNSYLVANIA, Philadelphia, Pa.; J. M. Fogg, Jr., Department of Botany; *The Flora of Pennsylvania*; 1 year; \$4,600.
- ROOSEVELT COLLEGE, Chicago, Ill.; C. H. Seevers, Department of Biology; *Systematics and Evolution of Staphylinidae*; 3 years; \$8,400.
- TEXAS AGRICULTURE AND MECHANICS RESEARCH FOUNDATION, College Station, Tex.; S. O. Brown, Department of Biology, Texas Agriculture and Mechanics College; *Microscopic Structure of Fossil Bone*; 1 year; \$2,650.
- TULANE UNIVERSITY, New Orleans, La.; G. H. Penn, Department of Zoology; *Speciation in Crawfish*; 2 years; \$5,200.
- UNITED STATES GEOLOGICAL SURVEY, Washington, D. C.; P. E. Cloud, Jr., Paleontology and Stratigraphy Branch; *Marine Mollusks of Reefs of the Pacific Ocean*; 1 year; \$3,000.
- UNIVERSITY OF WASHINGTON, Seattle, Wash.; P. L. Illg, Department of Zoology; *Systematics of North American Copepods*; 3 years; \$5,900.
- STATE COLLEGE OF WASHINGTON, Pullman, Wash.; G. W. Fischer, Department of Plant Pathology; *Revision of the Genus Tilletia*; 2 years; \$6,500.
- UNIVERSITY OF WISCONSIN, Madison, Wis.; E. V. Morse, Department of Veterinary Science, and E. McCoy, Department of Bacteriology; *Speciation of Animal Pathogens of the Genus Vibrio*; 2 years; \$9,550.
- UNIVERSITY OF WISCONSIN, Madison, Wis.; J. T. Medler and S. D. Beck, Department of Entomology; *Nutrition of Plant-Sucking Hemiptera*; 2 years; \$6,500.
- WOODS HOLE OCEANOGRAPHIC INSTITUTION, Woods Hole, Mass.; G. L. Clarke, Marine Biologist; *The Penetration of Light Into the Sea and its Effect on Aquatic Organisms*; 1 year; \$6,200.
- WOODS HOLE OCEANOGRAPHIC INSTITUTION, Woods Hole, Mass.; J. H. Ryther; *Basic Biological Productivity of Offshore Waters*; 3 years; \$6,700.
- YALE UNIVERSITY, New Haven, Conn.; S. D. Ripley, Peabody Museum of Natural History; *Speciation in Bird Fauna of the Eastern Moluccan Islands*; 1 year; \$1,700.

### General

- AMERICAN TYPE CULTURE COLLECTION, Washington, D. C.; F. Weiss, Curator; *A Collection of Bacteriophages (Bacterial Viruses)*; 2 years; \$11,000.

- BERMUDA BIOLOGICAL STATION FOR RESEARCH, INC., St. George's, Bermuda; *Biological Research at the Bermuda Biological Station for Research*; 5 years; \$10,000.
- UNIVERSITY OF CHICAGO, Chicago, Ill.; R. J. Braidwood, Department of Anthropology; *Human Population Studies in the Fertile Crescent*; 3 years; \$23,500.
- DUKE UNIVERSITY, Durham, N. C.; *Biological Research at the Duke University Marine Laboratory*; 3 years; \$12,000.
- UNIVERSITY OF GEORGIA, Athens, Ga.; P. R. Burkholder, Department of Bacteriology; *Development of National Culture Collection of Algae*; 2 years; \$7,500.
- HARVARD UNIVERSITY, Cambridge, Mass.; P. Doty, Department of Chemistry; *Physico-Chemical Properties and Characterization of Polymer Molecules*; 3 years; \$16,000.
- HARVARD UNIVERSITY, Cambridge, Mass.; G. R. Willey, Peabody Museum of Archaeology and Ethnology; *Prehistoric Settlement Patterns in the Maya Area*; 1 year; \$11,500.
- UNIVERSITY OF ILLINOIS, Urbana, Ill.; L. M. Black, Department of Botany; *Isolation and Characterization of Plant Viruses*; 3 years; \$5,500.
- UNIVERSITY OF MINNESOTA, Minneapolis, Minn.; *Biological Research at the Itasca Biological Station*; 1 year; \$3,000.
- MOUNT DESERT ISLAND BIOLOGICAL LABORATORY, Salisbury Cove, Maine; W. F. Sheldon; *Investigations in General and Comparative Physiology*; 3 years; \$26,000.
- NATIONAL ACADEMY OF SCIENCES, Washington, D. C.; *Operating Expenses of the Pacific Science Board*; 3 years; \$39,000.
- NATIONAL ACADEMY OF SCIENCES, Washington, D. C.; *U. S. National Committee for the International Geophysical Year 1957-1958*; \$22,000.
- SIERRA CLUB, San Francisco, Calif.; *California Himalayan Expedition Committee*; 1 year; \$5,000.
- WASHINGTON UNIVERSITY, St. Louis, Mo.; *Summer Research by Medical Students*; 3 years; \$6,900.