

APPENDIX C

Grants for Basic Research

ANTHROPOLOGICAL SCIENCES

AMERICAN UNIVERSITY, Washington, D.C.; Olov R. T. Janse; *Early Western Influences in Vietnam*; 2 years; \$20,800

BERNICE P. BISHOP MUSEUM, Honolulu Hawaii; Kenneth P. Emory; *Polynesian Archaeology*; 3 years; \$77,200

BRANDEIS UNIVERSITY, Waltham, Mass.; James E. Duffy; *African Social Institutions*; 1 year; \$3,500
 Robert A. Manners; *The Changing Culture of the Kipsigis Tribe of Kenya*; 1 year; \$3,700

BROOKLYN COLLEGE, Brooklyn, N.Y.; Robert W. Ehrlich; *Excavations at Homolka*; 1 year; \$1,400

BROWN UNIVERSITY, Providence, R.I.; J. L. Giddings; *Beach Ridge Dating*; 1 year; \$3,000

CATHOLIC UNIVERSITY, Washington, D.C.; Svend Frederiksen; *Collection of Eskimo Texts*; 1 year; \$12,800

CHICAGO NATURAL HISTORY MUSEUM, Ill.; Paul S. Martin; *Cultural Stability in the Upper Little Colorado River Drainage*; 1 year; \$1,800
 Paul S. Martin; *Archaeological Investigation in the Upper Little Colorado Drainage*; 1 year; \$28,800

COLUMBIA UNIVERSITY, New York, N.Y.; Ralph S. Solecki; *Neanderthal Tibiae from Shanidar Cave*; 1 year; \$1,900
 Andrew P. Vayda; *Human Ecology of the New Guinea Rain Forest*; 2 years; \$65,200

DARTMOUTH COLLEGE, Hanover, N.H.; Gordon M. Day; *Abenaki Dialects*; 1 year; \$11,600
 Elmer Harp, Jr.; *Dorset Eskimo Culture*; 3 years; \$36,100
 Robert A. McKennan; *Tanana Indians of Alaska*; 1 year; \$6,700

GEORGE WASHINGTON UNIVERSITY, Washington, D.C.; John M. Campbell; *Archaeology of Anaktuvuk Pass*; 1 year; \$4,800

GREAT PLAINS HISTORICAL ASSOCIATIONS, Lawton, Okla.; Adrian D. Anderson; *Paleo-Indian Cultural Remains*; 1 year; \$3,200

HAMLIN UNIVERSITY, St. Paul, Minn.; Leonard R. Cooper; *Aboriginal Cultural Horizons in Minnesota*; 1 year; \$4,600

HARVARD UNIVERSITY, Cambridge, Mass.; Douglas L. Oliver; *Anthropological Study of the Society Islands*; 2 years; \$11,700
 John W. M. Whiting; *Social Structure of Two African Communities*; 2 years; \$14,400

HUMAN RELATIONS AREA FILES, New Haven, Conn.; Frank M. LeBar; *Atlas of Southeast Asian Cultures*; 1 year; \$3,500
 Peter J. Wilson; *Social Structures in Madagascar*; 1 year; \$13,700

IDAHO STATE COLLEGE, Pocatello; Earl H. Swanson; *Archaeological Exploration in Eastern Idaho*; 1 year; \$6,700

ILLINOIS ARCHAEOLOGICAL SURVEY, Urbana; Melvin L. Fowler; *Southern Illinois University; Archaeology of the Mississippi River Valley*; 1 year; \$62,300

ILLINOIS STATE MUSEUM, Springfield; Joseph R. Caldwell and Emily J. Blasingham; *Archaeological Study of Starved Rock*; 1 year; \$11,400

INDIANA UNIVERSITY, Bloomington; Joseph Hickerson; *North American Indian Music*; 1 year; \$600

INSTITUTE FOR ADVANCED STUDY, Princeton, N.J.; Stephen Foltyn; *Cultural Interrelations During the Bronze and Early Iron Ages*; 1 year; \$3,300

LONDON SCHOOL OF ECONOMICS AND POLITICAL SCIENCE, London, Eng.; Raymond Firth; *Comparative Study of Extra-Familial Kinship*; 2 years; \$44,600

LOS ANGELES STATE COLLEGE FOUNDATION, Los Angeles, Calif.; Louis C. Faron; *Cognitive Social Systems*; 2 years; \$21,100

MICHIGAN STATE UNIVERSITY, East Lansing; Moreau S. Maxwell; *Pre-Dorset of Baffin Island*; 2 years; \$19,700

MISSISSIPPI DEPARTMENT OF ARCHIVES & HISTORY, Jackson; Robert S. Neitzel; *Archaeology of the Grand Village Site*; 2 years; \$15,500

MUSEUM OF NEW MEXICO, Santa Fe; Bertha P. Dutton; *Anasazi Migrations*; 1 year; \$2,000

NEBRASKA STATE HISTORICAL SOCIETY, Lincoln; Marvin F. Kivett; *Archaeological Investigation of the Logan Creek Complex*; 1 year; \$12,700

OSHKOSH PUBLIC MUSEUM, Oshkosh, Wis.; Robert Ritzenthaler; *The Riverside Site*; 3 years; \$16,900

PENNSYLVANIA STATE UNIVERSITY, University Park; William T. Sanders; *Prehispanic Settlement Patterns of Teotihuacan*; 1 year; \$16,500

ROBERT S. PEABODY FOUNDATION FOR ARCHAEOLOGY, Andover, Mass.; Frederick Johnson; *Radiocarbon Chronology for Tehuacan*; 2 years; \$14,300
 Richard S. MacNeish; *Tehuacan Archaeological Investigations*; 2 years; \$40,300

SACRAMENTO STATE COLLEGE FOUNDATION, Sacramento, Calif.; Thomas Rhys Williams; *Dusun Anthropology*; 2 years; \$30,000

SAN FERNANDO VALLEY STATE COLLEGE FOUNDATION, Northridge, Calif.; Raoul Naroll; *An Index of Social Development*; 2 years; \$4,600

SCHOOL OF ORIENTAL AND AFRICAN STUDIES, London, England; C. von Furer-Haimendorf; *Anthropological Study of Nepal*; 1 year; \$15,100

- SOUTHERN ILLINOIS UNIVERSITY, Carbondale; Phillip J. Dark; *Analysis of Bentin Art*; 2 years; \$12,700
- SOUTHERN METHODIST UNIVERSITY, Dallas, Tex.; Frederick Kilpatrick; *The Inait Letters*; 1 year; \$16,200
- TULANE UNIVERSITY, New Orleans, La.; John L. Fischer; *The Effects of Household Composition on Personality*; 1 year; \$14,900
Henry Orenstein; *Social Change in Bombay*; 1 year; \$3,600
E. Wyllys Andrews; *Development of Pre-Columbian Culture at Dzibitichaltun*; 3 years; \$35,400
- STANFORD UNIVERSITY, Stanford, Calif.; A. Kimball Romney; *Semantic Structure in Tzeltal*; 2 years; \$20,200
- STATE HISTORICAL SOCIETY OF WISCONSIN, Madison; Joan Freeman; *Skeletal Remains from Price Site III*; 1 year; \$5,100
- STATE UNIVERSITY OF SOUTH DAKOTA, Vermillion; Ella C. Deloria; *Sioux Language*; 2 years; \$15,500
- U.S. SMITHSONIAN INSTITUTION, Washington, D.C.; Frank H. H. Roberts, Jr.; *Settlement Patterns in the Missouri Valley*; 1 year; \$30,100
T. Dale Stewart; *Shanidar IV-VI Neanderthals*; 1 year; \$4,100
- UNIVERSITY OF ALASKA, College; Michael E. Krauss; *Aboriginal Languages of Alaska*; 1 year; \$28,800
- UNIVERSITY OF ARIZONA, Tucson; Richard B. Woodbury; *Pre-Industrial Systems of Water Management*; 2 years; \$36,300
- UNIVERSITY OF ARKANSAS, Fayetteville; Charles R. McGimsey, III; *Mound C at the Orenshaw Site*; 1 year; \$2,900
- UNIVERSITY OF BUFFALO, Buffalo, N.Y.; George L. Trager; *Language of the Taos Indians*; 2 years; \$16,200
Marian E. White; *Settlement Pattern Change and the Development of Agriculture*; 2 years; \$17,700
- UNIVERSITY OF CALIFORNIA, Berkeley; Joseph B. Birdsall, Los Angeles; *Dynamic Demography*; 1 year; \$3,800
J. Desmond Clark; *Archaeology of Northern Rhodesia*; 2 years; \$26,400
Sherburne F. Cook, Robert F. Heizer, Berkeley, and Martin A. Baumhoff, Davis; *Prehistoric California Demography*; 2 years; \$15,900
Robert I. Levy, San Francisco; *Psychology of Change in the Society Islands*; 2 years; \$49,800
John T. Hitchcock, Los Angeles; *Study of a Nepalese Tribe*; 1 year; \$3,420
H. B. Nicholson, Los Angeles; *Excavations at Cerro Portezuelo*; 1 year; \$5,400
- UNIVERSITY OF CHICAGO, Chicago, Ill.; Robert J. Braidwood; *The Appearance of Food Production in Southwest Asia*; 1 year; \$4,000
Seth Leacock; *A Religious Cult of Northern Brazil*; 1 year; \$11,500
A. Leo Oppenheim; *Society and Demography in Ancient Babylonia*; 2 years; \$15,200
David M. Schneider; *Comparative Study of Extra-Familial Kinship*; \$3,700
David M. Schneider; *Comparative Study of Extra-Familial Kinship*; 2 years; \$55,200
- UNIVERSITY OF FLORIDA, Gainesville; John M. Goggin; *Ethnohistoric Study of Early Florida Indians*; 1 year; \$7,400
- UNIVERSITY OF ILLINOIS, Urbana; Elaine A. Bluhm; *Archaeology of Rock River Valley*; 1 year; \$9,700
- UNIVERSITY OF MICHIGAN, Ann Arbor; Elman R. Service; *Organization of Hunting-Gathering Bands*; 1 year; \$13,700
- UNIVERSITY OF MINNESOTA, Minneapolis; Elden Johnson; *Archaeology of Glacial Lake Agassiz Basin*; 6 months; \$725
- UNIVERSITY OF NORTH CAROLINA, Chapel Hill; Richard W. Lieban; *A Sociocultural Study of Medicine*; 1 year; \$13,700
- UNIVERSITY OF OREGON, Eugene; Homer G. Barnett; *Culture Change and Stability in Displaced Communities*; 5 years; \$224,700
Vernon R. Dorjahn; *Urbanism in Sierra Leone*; 1 year; \$27,900
- UNIVERSITY OF PENNSYLVANIA, Philadelphia, Pa.; Froelich Rainey and Robert H. Dyson, Jr.; *Analysis of Hasanlu Data*; 1 year; \$10,800
Ruben E. Reina; *Community Study in the Peten*; 1 year; \$6,200
- UNIVERSITY OF ROCHESTER, Rochester, N.Y.; Rene Millon; *Map of Teotihuacan*; 3 years; \$75,700
- UNIVERSITY OF THE STATE OF NEW YORK, Albany; William A. Ritchie; *Aboriginal Settlement Patterns in the Northeast*; 3 years; \$22,700
- UNIVERSITY OF UTAH, Salt Lake City; Charles E. Dibble; *Translation of Sahagun's Books VI and XI*; 1 year; \$7,200
Jesse D. Jennings; *The Desert Archais and Fremont Cultures*; 3 years; \$36,000
- UNIVERSITY OF VIRGINIA, Charlottesville; Peter R. Goethals; *Sumbawan Social Structure*; 2 years; \$20,400
- UNIVERSITY OF WASHINGTON, Seattle; Robert E. Greengo; *Archaeology of the Columbia Valley*; 2 years; \$18,700
Sol Saporta; *Psycholinguistic Analysis of Consonant Clusters*; 1 year; \$7,200
James B. Watson; *Dynamics and Micro-evolution of a Human Community*; 2 years; \$96,000
- UNIVERSITY OF WICHITA, Wichita, Kans.; Lowell D. Holmes; *Leadership in Samoan Society*; 2 years; \$24,900
- UNIVERSITY OF WISCONSIN, Madison; Chester S. Chard; *Korean Prehistory*; 3 years; \$35,600
Chester S. Chard; *Archaeological Investigation of Howard Pass, Alaska*; 2 years; \$15,000
William S. Laughlin and William G. Reeder; *Aleut-Konyag Prehistory*; 1 year; \$36,000
- WASHINGTON UNIVERSITY, St. Louis, Mo.; John W. Bennett; *Habitat, Institutions, and Economic Development*; 2 years; \$37,800
- WASHINGTON STATE UNIVERSITY, Pullman; Richard D. Daugherty; *Columbia Basin Chronology*; 2 years; \$31,100
- WICHITA FOUNDATION, INCORPORATED, Wichita, Kans.; Herbert W. Dick, Taos, N. Mex.; *Picuris Pueblo Archaeology*; 1 year; \$30,100

YALE UNIVERSITY, New Haven, Conn.; Harold C. Conklin; *Ethnocoological Study of the Philippines*; 4 years; \$122,100
 Isidore Dyen; *Lexicostatistical Classification of Related Languages*; 4 years; \$59,900
 Leopold Pospisil; *Law and Informal Social Control*; 1 year; \$19,100
 Charles A. Reed; *Paleoecology of the Nile*; 2 years; \$41,400
 Irving Rouse; *Dating of Caribbean Cultures*; 1 year; \$2,400

ASTRONOMY

ASSOCIATION OF UNIVERSITIES FOR RESEARCH IN ASTRONOMY, INC., Tucson, Ariz.; C. D. Shane; *Site Survey in Chile*; 1 year; \$125,000

CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena; Fritz Zwicky; *Supernova Search*; \$2,400

CARNEGIE INSTITUTION OF WASHINGTON, Washington D.C.; Merle A. Tuve; *Radio Astronomy H-Line Installation in South America*; 2 years; \$58,000

Merle A. Tuve; *Development of Image Tubes for Telescopes*; 1 year; \$120,000

CASE INSTITUTE OF TECHNOLOGY, Cleveland, Ohio; S. W. McCuskey; *Low Dispersion Stellar Spectroscopy*; 19 months; \$51,700

COLGATE UNIVERSITY, Hamilton, N.Y.; Harold H. Lane; *Observation of Flare Stars*; 1 year; \$14,900

GEORGETOWN UNIVERSITY, Washington, D.C.; Francis J. Heyden and Carl C. Kless; *Analysis of the Solar and Sunspot Spectra*; 1 year; \$33,200

HARVARD UNIVERSITY, Cambridge, Mass.; Sergel Gaposchkin and Cecilia Payne Gaposchkin; *Variable Stars in the Small Magellanic Cloud*; 3 years; \$32,400

Leo Goldberg; *Vacuum Ultraviolet Spectroscopy*; 1 year; \$50,000

David Layzer; *Spatial Distribution of Galaxies and Radio Sources*; 1 year; \$16,000

David Layzer; *Atomic Energy Levels and Transition Probabilities*; 3 months; \$33,300

A. Edward Lilley; *Hydrogen-Line Radio Astronomy*; 1 year; \$150,000

Alan Maxwell, Fort Davis, Tex.; *Research with a C-Band Radiometer*; 1 year; \$75,000

Fred L. Whipple; *Harvard Radio Meteor Project*; 1 year; \$125,000

INDIANA UNIVERSITY FOUNDATION, Bloomington; James Cuffey; *Short Period Variable Stars in the Globular Cluster Messier 53*; 2 years; \$12,700

Frank K. Edmondson; *Observations of Asteroids on I.A.U. "Critical List"*; 2 years; \$25,000

Stuart R. Pottasch; *Transition Region Between the Solar Chromosphere and Solar Corona*; 1 year; \$7,400

LOWELL OBSERVATORY, Flagstaff, Ariz.; Frank Holden; *Visual Observations of Close Double Stars*; 2 years; \$25,100

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge; George R. Harrison; *Extension of Techniques of Ruling Large Diffraction Gratings*; 2 years; \$74,400

Henry J. Zimmermann and Sander Weinreb; *To Detect the Galactic Deuterium Line*; 6 months; \$2,000

NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL, Washington, D.C.; S. D.

Cornell; *Committee on Radio Frequency Allocations for Scientific Research*; 1 year; \$13,000

S. D. Cornell; *Committee on Radio Frequency Allocations for Scientific Research*; 1 year; \$30,800

Hugh Odishaw; *IOSU Committee on Space Research (COSPAR)*; 1 year; \$10,000

OHIO STATE UNIVERSITY RESEARCH FOUNDATION, Columbus; John D. Kraus; *Completion of the 360-foot Standing-Parabola, Tilttable-Flat-Sheet-Reflector, Radio Telescope*; 1 year; \$16,700

John D. Kraus; *Radio Astronomy Using the 360-foot Radio Telescope*; 1 year; \$51,800

Walter E. Mitchell, Jr.; *The Solar Spectrum in the Range 0.295-5.0 Microns*; 3 years; \$12,100

OHIO WESLEYAN UNIVERSITY, Delaware; John D. Kraus; *Observatory Facility for 360-Foot Radio Telescope*; 1 year; \$1,025

PAN AMERICAN COLLEGE, Edinburg, Tex.; Paul R. Engle; *Photoelectric Stellar Photometry*; 1 year; \$12,700

PRINCETON UNIVERSITY, Princeton, N.J.; Martin Schwarzschild; *Project Stratoscope II*; 1 year; \$792,900

RENSSELAER POLYTECHNIC INSTITUTE, Troy, N.Y.; J. Mayo Greenberg; *The Scattering of Light by Small Particles*; 2 years; \$60,000
 RIPON COLLEGE, Ripon, Wis.; Dino Zel; *Possible Turbulence in Sunspots*; 1 year; \$5,600

UNIVERSITY OF SOUTHERN CALIFORNIA; Willard Van Tuyl Rusch; *Millimeter-Wavelength Radio Astronomy*; 6 months; \$2,600
 SAN DIEGO STATE COLLEGE FOUNDATION; San Diego, Calif.; Burt Nelson; *Photoelectric Study of Eclipsing Binary Stars*; 6 months; \$11,000

SMITH COLLEGE; Northampton, Mass.; Edward C. Olson; *Spectrographic Investigation of Selected Eclipsing Binary Systems*; 2 years; \$14,600

STANFORD UNIVERSITY; Stanford, Calif.; Ronald N. Bracewell; *Microwave Spectroheliotograms*; 1 year; \$10,500

Ronald N. Bracewell; *Microwave Radio Telescope Design Study*; 1 year; \$222,000

V. R. Eshleman; *Radar Studies of the Cis-lunar Medium and the Lunar Surface*; 1 year; \$40,000

U.S. DEPARTMENT OF COMMERCE, NATIONAL BUREAU OF STANDARDS; Washington, D.C.; Lewis M. Branscomb; *Joint Institute for Laboratory Astrophysics*; 14 months; \$90,000

U.S. OFFICE OF NAVAL RESEARCH, Washington, D.C.; Wayne C. Hall; *Laboratory High Temperature Spectroscopy*; 1 year; \$75,000

U.S. SMITHSONIAN INSTITUTION, Washington, D.C.; Charles A. Whitney; *Astrophysical Observatory, Cambridge, Mass.; Stellar Atmospheres*; \$21,100

UNIVERSIDAD NACIONAL DE LA PLATA, Argentina; Carlos Oton Rudiger Jaschek; *Photoelectric Photometry*; 1 year; \$12,500

UNIVERSITY OF ARIZONA, Tucson; Harold L. Johnson; *Infrared Photometry*; 1 year; \$18,000

Harold L. Johnson; *UBVRIJK Photometry of the Brightest Stars*; 6 months; \$51,000

Hugh M. Johnson; *The Orion Nebula and the Associated Star Cluster*; 2 years; \$3,750
Gerard P. Kuiper; *Asteroids Research*; 9 months; \$9,600

UNIVERSITY OF CALIFORNIA, Berkeley; Geoffrey Burbidge and E. Margaret Burbidge, San Diego; *Structure and Dynamics of External Galaxies*; 2 months; \$4,600
George H. Herbig, Mt. Hamilton; *High Dispersion Stellar Spectrography*; 3 years; \$16,000

Stanislav Vasilevskis, Lick Observatory, Mt. Hamilton; *Equipment for Surveying and Automatic Measurement of Astrographic Plates*; \$2,000

Stanislav Vasilevskis, Lick Observatory, Mt. Hamilton; *Yellow-Corrected Lens for Carnegie Astrograph*; 1 year; \$38,000

Harold Weaver; *Determination of Kinematic Properties of Stars in the Solar Neighborhood and the Distribution of Mass in the Galaxy*; 1 year; \$11,100

UNIVERSITY OF CHICAGO, Chicago, Ill.; W. Albert Hiltner; *Image Tube Spectrograph*; 2 years; \$38,500

W. A. Hiltner; *Purchase of a Rotatable Telescope*; 1 year; \$80,000

George Van Blesbroeck; *Astrometric Investigations*; 1 year; \$15,600

UNIVERSITY OF COLORADO, Boulder; George Gamow; *Properties of Spherical and Elliptical Galaxies*; 1 year; \$11,300

UNIVERSITY OF ILLINOIS, Urbana; Ivan R. King; *Dynamics of Stellar Systems*; 2 years; \$23,400

George C. McVittie; *Completion of the 600x400 ft. Parabolic Cylinder Radio Telescope at the Vermilion River Observatory*; 6 months; \$25,900

G. S. Swenson, Jr.; *Latitude Dependence of Radio Star Scintillation*; 1 year; \$14,100

UNIVERSITY OF KANSAS, Lawrence; Henry G. Horak; *Investigations and Computations in Radiative Transfer*; 3 years; \$21,400

UNIVERSITY OF MICHIGAN, Ann Arbor; Fred T. Haddock; *Solar Radio Bursts*; 1 year; \$25,600

George Makhov; *Design and Construction of an X-Band Ruby Maser Radiometer*; 1 year; \$100,000

Charles W. Mautz; *Measurement of F-Values Using a Shock Tube*; 1 year; \$34,500

Freeman D. Miller; *Plate Holders for Curtis Schmidt Telescope*; 1 year; \$2,200

Freeman D. Miller; *Photographic Studies of Comets*; 15 Months; \$18,600

UNIVERSITY OF MINNESOTA, Minneapolis; Willem J. Luyten; *Proper Motion Survey*; 3 years; \$39,600

UNIVERSITY OF OREGON, Eugene; E. G. Ebbighausen; *Period Changes of Algol and Orbital Elements of Spectroscopic Binaries*; 1 year; \$750

E. G. Ebbighausen; *The Spectroscopic Orbital Elements and the Rotation Effect for alpha Coronae Borealis*; 2 months; \$3,200

UNIVERSITY OF PENNSYLVANIA, Philadelphia; Frank Bradshaw Wood; *Site Survey in New Zealand*; 1 year; \$10,200

UNIVERSITY OF ROCHESTER, N.Y.; H. Lawrence Helder; *Interaction of Stellar and Interstellar Material*; 2 years; \$35,800

UNIVERSITY OF SYDNEY, Sydney, Australia; B. Y. Mills; *Extension of Mills Cross Radio Telescope*; 5 years; \$149,000

UNIVERSITY OF TEXAS, Austin; Gerard H. de Vaucouleurs; *Isophotometry of Bright Southern Galaxies*; 18 months; \$11,900

Charles W. Tolbert; *Design Study of a Large Millimeter Wave Antenna*; 1 year; \$10,000

UNIVERSITY OF WISCONSIN, Madison; Julian E. Mack; *Interference Spectroscopic Study of the Zodiacal Light*; 1 year; \$25,500

Donald E. Osterbrock; *Photoelectric Photometry of Comets and Nebulae*; 2 years; \$22,100

WESLEYAN UNIVERSITY, Middletown, Conn.; Heinrich K. Eichhorn; *Measurement of Parallaxes and Proper Motions*; 2 years; \$30,100

YALE UNIVERSITY, New Haven, Conn.; Harlan H. Smith and James N. Douglas; *Planetary Non-thermal Radio Emission*; 1 year; \$64,000

ATMOSPHERIC SCIENCES

COLORADO STATE UNIVERSITY, RESEARCH FOUNDATION, Fort Collins; Richard A. Schlessener; *Hailstorms in the High Plains*; 18 months; \$115,800

CORNELL UNIVERSITY, Ithaca, N.Y.; Carl W. Gartin; *Support of WDC-A Aurora Visual Center*; 1 year; \$16,500

DARTMOUTH COLLEGE, Hanover, N.H.; Millett G. Morgan; *Study of Atmospheric Whistlers*; 1 year; \$45,000

GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta; Clyde Orr, Jr.; *Photophoresis as Related to Meteorological Phenomena*; 2 years; \$25,900

HIGH ALTITUDE OBSERVATORY OF THE UNIVERSITY OF COLORADO, Boulder; Richard T. Hansen; *Operation of IGY World Data Center A-Solar Activity*; 1 year; \$17,700

HOKKAIDO UNIVERSITY, Sapporo, Japan; Ukihiro Nakaya; *The Formation and Structure of Snowfall*; 3 years; \$49,000

INSTITUTO GEOFISICO DE HUANCAYO, Lima, Peru; Mateo Casaverde; *Geomagnetic Investigations in Peru, Bolivia, and Chile*; 18 months; \$19,000

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge; Jule G. Charney; *Application of High-Speed Computers to Dynamical Meteorology and Oceanography*; 3 years; \$50,000

Jule G. Charney; *Application of High-Speed Computers to Dynamical Meteorology and Oceanography*; \$520,800

Raymond Hide; *Hydrodynamics of Rotating Fluids*; 1 year; \$170,000

Henry G. Houghton and Pauline M. Austin; *Role of Cellular Activity in the Precipitation Process*; 3 years; \$241,000

NATIONAL ACADEMY OF SCIENCES, National Research Council, Washington, D.C.; Hugh Odishaw; *World Data Center A-Coordination Center*; 1 year; \$19,630

Hugh Odishaw; *Operation of World Data Center A-Rockets and Satellites*; 1 year; \$23,150

Hugh Odishaw; *Support of World Data Center A-Rockets and Satellites Subcenter*; 1 year; \$19,800

John R. Slevers; *Activities of the Com-*

mittee on Atmospheric Sciences; 1 year; \$45,100

M. A. Tuve; *Support of the Committee for the International Year of the Quiet Sun*; 1 year; \$7,500

NEW YORK UNIVERSITY, New York, N.Y.; Serge A. Korff; *Energetic Neutrons at High Altitudes*; 1 year; \$50,000

OREGON STATE UNIVERSITY, Corvallis; Fred W. Decker and Lyle D. Calvin; *Showers of Small Hail and Related Atmospheric Phenomena in the Oregon Coast Range*; 1 year; \$26,000

PENNSYLVANIA STATE UNIVERSITY, University Park; Sidney A. Bowhill; *Theoretical Studies of Ionospheric Recombination During Solar Eclipses*; 2 years; \$43,000

E. R. Schermerling; *Region F Processes*; 1 year; \$25,000

A. H. Waynick; *Ionospheric Investigations*; 3 years; \$69,700

RESEARCH FOUNDATION OF STATE UNIVERSITY OF NEW YORK, Albany; Vincent J. Schaefer; *Cloud Physics Field Research*; 1 year; \$17,400

STANFORD UNIVERSITY, Stanford, Calif.; R. A. Helliwell; *Synoptic Study of Whistlers and VLF Emissions*; 2 years; \$62,300

U.S. ATOMIC ENERGY COMMISSION, New York, N.Y.; Morris Goldberg; *Use of AEC-7090 Computer*; 1 year; \$3,600

U.S. DEPARTMENT OF COMMERCE, National Bureau of Standards, Washington, D.C.; F. W. Brown, Boulder, Colo.; *Operation of IGY World Data Center A for Airglow and Ionosphere*; 1 year; \$50,250

F. W. Brown, Boulder, Colo.; *IGY World Data Center A for Airglow and Ionosphere*; 1 year; \$50,000

Howard F. McMurdie; *Study of Silver Iodide in Connection With Its Use in Weather Control*; 2 years; \$50,000

U.S. DEPARTMENT OF COMMERCE, Weather Bureau, Washington, D.C.; F. W. Reichelderfer; *Support of World Data Center A for Meteorology and Nuclear Radiation*; 1 year; \$5,000

U.S. NAVAL RESEARCH LABORATORY, Washington, D.C.; H. Friedman and T. A. Chubb; *Upper Air Research Rocket Evaluation*; 1 year; \$48,700

U.S. OFFICE OF NAVAL RESEARCH, Washington, D.C.; James Hughes; *NOMAD Weather Station for the International Indian Ocean Expedition*; 1 year; \$50,000

UNIVERSITY COLLEGE, Ibadan, Nigeria; C. A. Onwumechilli; *Equatorial Electrojets*; 1 year; \$22,000

UNIVERSITY OF ALASKA, College; Carl S. Benson; *Snow Survey on the Arctic Slope of Alaska*; 1 year; \$24,000

Leif Owen; *Auroral Sound Waves*; 1 year; \$22,800

Merle J. Young; *Operation of IGY World Data Center A for Aurora (Instrumental)*; 1 year; \$57,400

Merle J. Young; *Extension of Ascaplotting Work at IGY World Data Center A-Aurora (Instrumental)*; 5 months; \$3,732

UNIVERSITY OF ARIZONA, Tucson; A. M. J. "Tom" Gehrels; *Diffuse Radiation Within Planetary Atmospheres*; 2 years; \$179,800

A. Richard Kassander, Jr. and Louis J.

Battan; *Physics of Clouds and of Cloud Modification*; 2 years; \$92,500

UNIVERSITY OF CALIFORNIA, Berkeley; Charles D. Keeling, La Jolla; *Carbon Dioxide in Atmosphere and Its Exchange with the Ocean*; 3 years; \$244,400

Jorgen Holmboe, Los Angeles; *The Instability Mechanism of Large Scale Atmospheric Flow*; 3 years; \$137,500

Zdenek Sekera, Los Angeles; *Diffuse Radiation Within Planetary Atmospheres Using Balloons*; 2 years; \$60,000

UNIVERSITY OF CANTERBURY, Christchurch, New Zealand; John B. Gregory; *Procurement of Equipment for Upper Atmosphere Research*; 1 year; \$19,600

UNIVERSITY OF CHICAGO, Chicago, Ill.; Roscoe R. Braham, Jr.; *Physical Effects of Silver Iodide Seeding in Cumulus Clouds*; 1 year; \$200,000

Horace R. Byers; *Research in Cloud Physics*; 2 years; \$300,000

Tetsuya Fujita; *Mesoscale Disturbances*; 3 years; \$50,000

Tetsuya Fujita; *Mesoscale Disturbances*; \$94,000

UNIVERSITY OF COLORADO, Boulder; William A. Rense; *Theoretical Physics of Upper Air and Solar Atmosphere*; \$4,860

UNIVERSITY OF HAWAII, Honolulu; Colin S. Ramage; *Support of United States Meteorology Program of the Indian Ocean Expedition*; 3 years; \$97,200

Colin S. Ramage; *Atmospheric Circulation Project for the International Indian Ocean Expedition*; 1 year; \$146,600

Walter R. Steiger; *Cosmic Ray Neutron Monitor*; 5 years; \$24,500

UNIVERSITY OF MICHIGAN, Ann Arbor; Edward S. Epstein; *Dynamics of the Stratosphere*; 3 years; \$59,800

Donald J. Portman; *Heat and Water Vapor Exchange for the International Indian Ocean Expedition*; 3 years; \$231,900

UNIVERSITY OF MINNESOTA, Minneapolis; George D. Freler; *Basic Field Quantities Arising from Electricity in the Earth's Atmosphere*; 2 years; \$47,200

Paul J. Kellogg; *Operation of IGY World Data Center A for Cosmic Rays*; 1 year; \$17,000

Alfred O. C. Nier; *Composition of Upper Atmosphere with Rocket-Borne Magnetic Mass Spectrometers*; 6 months; \$5,000

John R. Winckler and Edward P. Ney; *Balloon Monitoring of Cosmic Rays, Solar Phenomena, and Particles from the Earth's Exosphere*; 1 year; \$219,000

John R. Winckler and Edward P. Ney; *Balloon Monitoring of Cosmic Rays, Solar Phenomena, and Particles from the Earth's Exosphere*; 1 year; \$200,000

UNIVERSITY OF MISSOURI, Columbia; Wayne L. Decker; *Analysis of Records from Rain Gauges Obtained During 1961 by The University of Chicago Cumulus Cloud Research Project*; 1 year; \$7,500

UNIVERSITY OF NEVADA, Reno; Wendell A. Mordy; *Numerical Computation of the Growth of Cloud Droplets*; 2 years; \$44,800

UNIVERSITY OF NEW ENGLAND, Armidale, New South Wales, Australia; Neville H. Fletcher; *Extension of Ice Crystal Nucleation Theory*; 2 years; \$12,500

UNIVERSITY OF NEW HAMPSHIRE, Durham; John A. Lockwood; *Intensity-Time Variations in the Nucleonic Component of the Cosmic Radiation*; 3 years; \$26,100

UNIVERSITY OF OKLAHOMA RESEARCH INSTITUTE, Norman; Yoshikazu Sasaki; *Numerical-Dynamical Studies of Mesometeorological Phenomena*; 2 years; \$84,300

UNIVERSITY OF PITTSBURGH, Pa.; Thomas M. Donahue; *Sodium and Hydrogen Resonance Radiation in the Atmosphere and the Exosphere*; 2 years; \$90,000

UNIVERSITY OF TEXAS, Austin; John R. Gerhardt; *Radar Precipitation Studies*; 2 years; \$50,000

UNIVERSITY OF UTAH, Salt Lake City; Franklin S. Harris, Jr.; *Heterogeneous Nucleation of Ice*; 3 Years; \$59,400

UNIVERSITY OF WASHINGTON, Seattle; Phil E. Church; *Winter Cloud Characteristics and Micrometeorology Studies on Blue Glacier*; 2 years; \$64,400

Robert G. Fleagle; *Wind, Temperature and Humidity Profiles at Sea*; 3 months; \$4,950

Robert G. Fleagle; *Energy Transfer Near the Earth's Surface*; 1 Year; \$100,000

UNIVERSITY OF WISCONSIN, Madison; Julian E. Mack; *Upper Atmosphere High Resolution Spectroscopy*; 2 Years; \$95,000

UTAH STATE UNIVERSITY, Logan; Clayton Clark; *Measurement of Motion of Sporadic E Patches*; 3 Years; \$22,500

WOODS HOLE OCEANOGRAPHIC INSTITUTION; Woods Hole, Mass.; Andrew F. Bunker; *Air-Sea Interaction for the International Indian Ocean Expedition*; 1 year; \$97,000

Andrew F. Bunker; *Research Aircraft for Meteorological Program of the International Indian Ocean Expedition*; 1 year; \$100,000

A. H. Woodcock and D. C. Blanchard; *Origin of Raindrop Spectra and Shower Rains and Electrical Properties of Oceanic Air and Rains*; 1 year; \$33,000

YALE UNIVERSITY, New Haven, Conn.; Peter P. Wegener; *Rate of Condensation of Water Vapor in the Metastable State*; \$14,200

CHEMISTRY

BOSTON COLLEGE, Chestnut Hill, Mass.; Joseph Bornstein; *Mechanism of the Rearrangement Accompanying the Addition of Fluorine to 1, 1-Diarylethylenes*; 3 years; \$21,600

BOSTON UNIVERSITY, Mass.; Walter J. Gensler; *Migration of Atoms in Vinyl Ethers Under Heterogeneous Catalysis*; 3 years; \$23,300

BRANDEIS UNIVERSITY, Waltham, Mass.; Myron Rosenblum; *Thermal Decomposition of Oxadiazinones*; 3 years; \$28,600

BRIGHAM YOUNG UNIVERSITY, Provo, Utah; H. Tracy Hall; *High Pressure, High Temperature Studies*; 3 years; \$150,000

J. Bevan Ott; *Thermodynamic Investigation of Complex Formation in Solutions of Nonelectrolytes*; 2 years; \$17,000

BROWN UNIVERSITY, Providence, R.I.; J. F. Bunnett; *Mechanism and Reactivity in Substitution at Unsaturated Centers*; 8 months; \$4,600

Joseph F. Bunnett; *Mechanism of Acid Catalyzed Reactions*; 3 years; \$33,400

Richard L. Carlin; *Electronic Behavior in*

Transition Metal Complexes; 2 years; \$21,600

Robert H. Cole; *Dielectric Properties and Molecular Interactions in Compressed Gases*; 2 years; \$30,000

J. F. Neumer; *Proton Transfer Process Between Azo and Hydraso Compounds*; 3 years; \$17,000

BRYN MAWR COLLEGE, Bryn Mawr, Pa.; Ernst Berliner; *Relative Reactivities of Polynuclear Aromatic Systems*; 3 years; \$11,000

CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena; Fred C. Anson; *Electron Transfer Mechanisms in the Electrooxidation of Inorganic Cations*; 3 years; \$35,600

George S. Hammond; *Mechanisms of Photochemical and Radical Reactions*; 5 years; \$93,800

Harden M. McConnell; *Radiation Effects in Organic Crystals*; 2 years; \$88,500

CARLETON COLLEGE, Northfield, Minn.; Richard W. Ramette; *Thermodynamic Studies of Solubility in Protium and Deuterium Oxides*; 3 years; \$17,600

CARNEGIE INSTITUTE OF TECHNOLOGY, Pittsburgh, Pa.; Albert A. Caretto, Jr.; *Radiochemical Studies of High Energy Nuclear Reactions*; 2 years; \$26,700

Allan K. Colter; *Chemical Behavior of Charge-Transfer Complexes*; 3 years, \$39,300

Loren G. Hepler; *Thermochemical Investigations*; 2 years; \$31,600

Robert R. Holmes; *Pentacoordinated Molecules*; 2 years; \$15,600

CASE INSTITUTE OF TECHNOLOGY, Cleveland, Ohio; Peter Kovacic; *Reactions of Metal Halides with Organic Compounds*; 2 years; \$18,900

CLEMSON COLLEGE, Clemson, S.C.; Frederick Lindstrom; *Glyoxal bis-(2-hydroxyanil) Derivatives as Analytical Reagents*; 3 years; \$18,500

COLUMBIA UNIVERSITY, New York, N.Y.; Charles O. Beckmann; *Nuclear Magnetic Resonance Spectrometer*; 1 year; \$16,000

Ronald Breslow; *d-Orbital Conjugation*; 3 years; \$56,200

CORNELL UNIVERSITY, Ithaca, N.Y.; Alfred T. Blomquist; *Highly Unsaturated Small Carbon-Ring Systems*; 3 years; \$85,500

David H. Geske; *Electron Spin Resonance of Electrochemically Generated Free Radicals*; 2 years; \$28,900

James L. Hoard; *Structural Analysis of Multidentate Chelates of Ferric Iron and the Rare Earths*; 3 years; \$72,800

Jerrold Meinwald; *Highly Strained Bridged Systems*; 3 years; \$58,100

William T. Miller, Jr.; *Reaction of Fluoroolefins with Nucleophiles; Chemistry of Fluoroarbitants*; \$4,000

Charles F. Wilcox, Jr.; *Chemical and Physical Properties of Bicyclo (2.2.1) Heptane Derivatives*; 3 years; \$32,800

DARTMOUTH COLLEGE, Hanover, N.H.; Walter H. Stockmayer; *Physical Chemistry of High Polymers*; 2 years; \$55,800

DUKE UNIVERSITY, Durham, N.C.; Charles K. Bradsher; *Aromatic Cations and Aromatic Cyclization*; 3 years; \$35,800

William R. Krigbaum; *Thermodynamic Investigation of Crystalline Poly (1-Olefins)* 2 years; \$25,200

- EARLHAM COLLEGE, Richmond, Ind.; Wilmer J. Stratton; Unusual Metal Chelate Compounds with Amine Ligands; 30 months; \$22,000
- EMORY UNIVERSITY, Atlanta, Ga.; J. H. Goldstein and Leon Mandell; Purchase of Nuclear Magnetic Resonance Spectrometer; 1 year; \$14,000
Leon Mandell; *Synthesis of Medium Sized Rings*; 2 years; \$13,100
- FLORIDA STATE UNIVERSITY, Tallahassee; Michael Kasha; Purchase of a Proton Magnetic Resonance Spectrometer; 1 year; \$19,000
- GEORGETOWN UNIVERSITY, Washington, D.C.; Joseph E. Earley; *Oxidation States in Metal-Ic Ions—II*; 2 years; \$23,800
- GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta; James R. Cox, Jr.; *Mechanisms of Homolytic Reactions of Aromatic Diazo Compounds*; 2 years; \$26,900
William H. Eberhardt; *Magnetic Rotation Spectra of Simple Molecules*; 2 years; \$57,700
Hermenegild A. Flaschka; *Application of Chelons in Analytical Chemistry*; 2 years; \$29,500
Henry M. Neumann and Harold R. Hunt; *Electron Transfer Reactions of Complex Ions of Transition Metals*; 2 years; \$27,800
- HAMILTON COLLEGE, Clinton, N.Y.; Donald J. Denney and James W. Ring; *Dielectric Relaxation in Polar Liquids and their Solutions*; 2 years; \$11,300
- HARVARD UNIVERSITY, Cambridge, Mass.; Paul D. Bartlett; *Mechanisms of Organic Reactions*; 3 years; \$10,000
Paul D. Bartlett; *Mechanisms of Organic Reactions*; \$55,200
G. B. Kistlakowsky; *Unstable Intermediates in Gas Phase Reactions*; \$10,000
William N. Lipscomb; *Crystal and Molecular Structure Studies at Very Low Temperatures*; \$5,000
E. Bright Wilson, Jr.; *Acoustic Relaxation in Gases*; 2 years; \$27,700
- HOWARD UNIVERSITY, Washington, D.C.; Kelso B. Morris; *Electrical Conductivities and Densities for Certain Molten Systems*; \$2,000
- ILLINOIS INSTITUTE OF TECHNOLOGY, Chicago; John E. Frey; *Interaction of Halogens With Borazine and Some of Its Derivatives*; 2 years; \$24,500
Arthur E. Martell; *Metal Chelate Compounds in Homogeneous Catalysts*; 2 years; \$23,800
- INDIANA UNIVERSITY FOUNDATION, Bloomington; Edward J. Bair; *Spectrometric Studies of Atomic Flames*; 2 years; \$18,400
Harry G. Day; *Purchase of a Nuclear Magnetic Resonance Spectrometer*; 1 year; \$18,700
Ernest Wenkert; *Diterpenoid Natural Products*; 2 years; \$44,900
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- KANSAS STATE UNIVERSITY, Manhattan, Kans.; Warren W. Brandt; *Spectrofluorimetric Examination of Luminescence Phenomena*; 2 years; \$20,600
Warren W. Brandt; *Purchase of a Proton Magnetic Resonance Spectrometer*; 1 year; \$16,000
Kenneth Conrow; *Covalent Tropilidene and Tropylum Ions: Kinetics and Equilibria*; 3 years; \$22,800
- LAFAYETTE COLLEGE, Easton, Pa.; Thomas G. Miller; *Rearrangements of 4,4-Disubstituted-2,5-cycloheptadienes*; 2 years; \$8,400
- LOS ANGELES STATE COLLEGE FOUNDATION, Los Angeles, Calif.; David H. Klein; *Coprecipitation by Mixed Crystal Formation*; 2 years; \$11,900
Thomas P. Onak; *Rearrangement of a Substituted Pentaborane System*; 2 years; \$10,800
- LOUISIANA STATE UNIVERSITY, Baton Rouge; Paul E. Koenig; *Applications of Metal Nitrides in the Field of Organic Synthesis*; 2 years; \$16,100
- MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge; Glenn A. Berchtold; *Reactions of Enamines*; 3 years; \$27,500
Klaus Biemann; *High Resolution Mass Spectra of Complex Organic Molecules*; 3 years; \$77,400
George H. Buchi; *Photochemical Reactions*; 3 years; \$70,100
Richard C. Lord; *Methods and Applications of Far Infrared Spectroscopy*; 2 years; \$109,800
Dietmar Seyferth; *Unsaturated Organometallics*; 2 years; \$29,100
David P. Shoemaker; *Low-Energy Electron Diffraction Study of Metal Surfaces and Chemisorbed Molecules*; 2 years; \$19,300
Meyers, Cal Y.; *Participation in the 140th Meeting of the American Chemical Society*; \$875
- MICHIGAN STATE UNIVERSITY, East Lansing; Gerasimos J. Karabatsos; *Mechanisms of Organic Reactions by Use of Isotopes*; 3 years; \$19,000
Max T. Rogers; *Application of NMR Spectroscopy to Problems in Molecular Structure*; 2 years; \$43,800
Max T. Rogers; *Purchase of Electron Paramagnetic Resonance Spectrometer*; 1 year; \$30,200
- MONTANA STATE COLLEGE, Bozeman; Charles N. Caughlan; *Structures of Mixed Alkoxides of Titanium*; 2 years; \$15,700
Ray Woodruff; *Atomic Absorption Spectrometry for Quantitative Rare Earth Analyses*; 2 years; \$6,500
- NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY, Socorro; K. R. Brower; *Measurement and Interpretation of the Volume Change of Activation in Various Organic Reactions*; 2 years; \$12,300
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- OHIO STATE UNIVERSITY RESEARCH FOUNDATION, Columbus; Jack G. Calvert; *Mechanism of Heterogeneous Reactions Photosensitized at the Surface of Solids*; 3 years; \$44,900
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- Michael P. Cava; *Condensed Cyclobutane Aromatic Compounds*; \$65,000
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- Alfred B. Garrett, *Purchase of a Proton Magnetic Resonance Spectrometer*; 1 year; \$20,000
- Sheldon G. Shore; *Synthesis and Studies of Boron Heterocycles and Derivatives*; 2 years; \$23,000
- William N. White; *Mechanisms of Aromatic Rearrangements*; 3 years; \$56,500
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- Elliot N. Marvell; *Intramolecular Thermal Isomerizations*; 3 years; \$33,600
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- J. G. Aston and J. J. Fritz; *Low Temperature Research in Chemistry*; \$60,000
- Norman C. Deno; *Carbonium Ions*; 3 years; \$38,900
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- Maurice Shamma; *Chemistry of Nitrogen Heterocycles*; 2 years; \$17,500
- Robert W. Taft, Jr.; *Electronic Interactions of Substituents in Aromatic Systems*; 2 years; \$26,100
- Thomas Wartik; *Nuclear Magnetic Resonance Spectrometer*; 1 year; \$12,500
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- Dale W. Margerum; *Coordination Kinetics of Multidentate Ligand Complexes*; 2 years; \$29,600
- REED COLLEGE, Portland, Oreg.; Arthur F. Scott; *Carbonyl Complexes of Cu(I), Ag(I), Au(I) and Hg(II)*; 2 years; \$19,500
- RENSSELAER POLYTECHNIC INSTITUTE, Troy, N.Y.; George J. Janz; *Vibrational Spectroscopic Studies of Fused Salts*; 2 years; \$26,300
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- Robert L. Strong; *Oxidation and Hydrogen Atom Abstraction Reactions of Boron Hydrides*; 2 years; \$32,900
- RESEARCH FOUNDATION, OKLAHOMA STATE UNIVERSITY, Stillwater; K. Darrell Berlin; *Pyrolytic Eliminations Involving Trityl Esters*; 2 years; \$20,000
- RESEARCH FOUNDATION OF STATE UNIVERSITY OF NEW YORK, Albany; Fausto Ramirez, Oyster Bay; *Mechanisms of Reactions of Phosphorus Compounds*; 3 years; \$32,400
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- Michael Szwarc, Syracuse; *Chemistry of Free Radicals*; 2 years; \$13,000
- Michael Szwarc, Syracuse; *Chemistry of Free Radicals*; — \$60,000
- RUTGERS, THE STATE UNIVERSITY, New Brunswick, N.J.; Ronald R. Sauer; *7-Substitutes Norbornenes*; 2 years; \$15,700
- Peter A. van der Meulen; *Nuclear Magnetic Resonance Spectrometer*; 1 year; \$14,000
- ST. LOUIS UNIVERSITY, St. Louis, Mo.; Paul E. Peterson; *Addition and Elimination Reactions in Trifluoroacetic Acid*; 31 months; \$20,300
- SOUTHERN ILLINOIS UNIVERSITY, Carbondale; R. F. Trimble; *Reactions of Diacidotetramine Complexes*; 2 years; \$13,900
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- Frank R. Mayo; *Comparison of Liquid-Phase and Vapor-Phase Reactions of Free Radicals*; 21 months; \$22,100
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- Henry Taube; *Complex Ions*; 2 years; \$40,400
- STEVENS INSTITUTE OF TECHNOLOGY, Hoboken, N.J.; Everett R. Johnson; *Radiation Induced Decomposition of Inorganic Nitrates*; 2 years; \$19,500
- SWARTHMORE COLLEGE, Swarthmore, Pa.; Gilbert P. Haight, Jr.; *Halide Complexes of Positive Ions of Post Transition Elements*; 28 months; \$17,100
- SYRACUSE UNIVERSITY RESEARCH INSTITUTE, N.Y.; Harry Brumberger; *Critical Phenomena in Binary Systems*; 2 years; \$32,400
- UNIVERSITY OF AKRON, Ohio; Maurice Morton; *Mechanism of Homogeneous Anionic Polymerization*; 1 year; \$20,300
- UNIVERSITY OF ARIZONA, Tucson; Quintus Fernando; *Metal Complexing Properties of Nitrogen Containing Heterocyclic Compounds*; 3 years; \$29,800

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Reynold C. Fuson; *Addition of Grignard Reagents to Enolates*; 2 years; \$17,400

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Robert W. Parry, Robert C. Taylor and Christer E. Nordman; *Chemistry of the Bridge and Coordinate Bond in Inorganic Systems*; 2 years; \$103,200

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Robert E. Lyle; *The Chemistry of Oximes*; 3 years; \$18,200

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Ernest L. Ellef; *Conformational Analysis*; 3 years; \$37,700

Daniel J. Pasto; *Carbonyl Oxygen Interactions with Incipient Carbonium Ions*; 3 years; \$23,500

Louis Pierce; *Molecular Microwave Spectroscopy*; \$5,000

Louis Pierce; *Molecular Microwave Spectroscopy*; 2 years; \$56,200

UNIVERSITY OF OREGON, Eugene; Marshall Fixman; *Theoretical Chemistry*; 2 years; \$36,000

Terrell L. Hill; *Application of Statistical Thermodynamics to Problems in Physical Chemistry*; 3 years; \$66,800

Richard M. Noyes; *Mechanisms of Ion and Ion-Pair Processes*; 2 years; \$33,500

UNIVERSITY OF THE PACIFIC, Stockton, Calif.; Carl E. Wuifman; *Molecular Shape and Individual Particle Interactions*; 1 year; \$7,500

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Charles C. Price; *New Heterocyclic Systems Related to Thiazobenzene and Phosphabenzene*; 2 years; \$23,300

UNIVERSITY OF PITTSBURGH, Pittsburgh, Pa.; Theodore Cohen; *Unstable Intermediates in Aromatic Diazonium Ion Decomposition*; 3 years; \$22,300

UNIVERSITY OF ROCHESTER, Rochester, N.Y.; Bernard R. Baker; *Kinetics and Mechanism of Direct Electron Transfer Reactions*; 2 years; \$15,000

William H. Saunders, Jr.; *Mechanisms of Elimination Reactions*; 2 years; \$31,700

David J. Wilson; *Energy Transfer in Gas Reactions*; 2 years; \$20,000

UNIVERSITY OF SOUTH CAROLINA, Columbia; Stanley I. Goldberg; *Multi-Nuclear Ferrrocenes*; 27 months; \$17,000

UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles; Sidney W. Benson; *Kinetic and Thermodynamic Studies of Free Radicals*; 2 years; \$44,500

Ronald F. Brown; *Purchase of Proton Magnetic Resonance Spectrometer*; 1 year; \$20,000

Norman Kharasch; *Photolysis of Aromatic Iodo Compounds*; 2 years; \$32,900
Karol J. Mysels; *Electrodiffusion Method for Rapid Ionic Reactions*; \$900

Marjorie J. Vold; *Computer Simulation of Colloidal Systems*; 2 years; \$20,900

James C. Warf; *Non-Existence of Perbromates and Arsenic (V) Chloride*; 2 years; \$19,100

UNIVERSITY OF TENNESSEE, Knoxville; Antonio F. Saturno; *Ground State Electronic Wave Functions of Simple Atoms and Molecules*; 2 years; \$23,300

UNIVERSITY OF TEXAS, Austin; Nathan L. Bauld; *The Mechanisms of Metalation Reactions at Carbon-Halogen and Carbon-Oxygen Bonds*; 3 years; \$21,200

James E. Boggs; *Temperature Variation of Atomic Polarization*; 2 years; \$27,800

William C. Gardiner, Jr.; *Field Ionization Mass Spectrometry and Chemical Kinetics*; 2 years; \$23,000

Leon O. Morgan; *Electron Spin Resonance Spectroscopy of Paramagnetic Solutions*; 2 years; \$38,200

Rowland Pettit; *Organic Chemistry of Metal-Organic Complexes*; 2 years; \$33,200

UNIVERSITY OF VERMONT, Burlington; Andrew P. Krapcho; *Total Synthesis of Isocaryophyllene*; 3 years; \$9,800

UNIVERSITY OF WASHINGTON, Seattle; Hyp J. Dauben, Jr.; *Stable Carbonium Ions*; 3 years; \$61,900

Norman W. Gregory; *Vaporization Reactions*; 3 years; \$40,900

Y. Pocker; *Kinetics and Mechanisms of Addition of Acids to Olefins in Polar Non-Aqueous Media*; 3 years; \$29,800

David M. Ritter; *Non-tetrahedral Complex Metal Hydrides*; 2 years; \$25,500

UNIVERSITY OF WISCONSIN, Madison; Frank C. Andrews; *Non-Equilibrium Statistical Mechanics*; 3 years; \$20,900

C. F. Curtiss; *Theoretical Extensions of the Kinetic Theory of Gases*; 2 years; \$29,600

John D. Ferry; *Nuclear Magnetic Resonance and Infrared Spectrometers*; 1 year; \$31,000

Harlan L. Goering; *Stereochemistry and Mechanisms of Rearrangement and Solvolytic Reactions*; 2 years; \$23,800

Hans Muxfeldt; *Structure and Synthesis of Natural Products*; 3 years; \$33,800

Eugene E. van Tamelen; *Biogenetically-Patterned Syntheses of Natural Products and Related Substances*; 3 years; \$38,300

Worth E. Vaughan; *Characterization of Dielectric Relaxation*; 2 years; \$22,800

Robert C. West; *New Aromatic Anions*; 3 years; \$27,500

Howard W. Whitlock, Jr.; *Homologation of Carbonium Ions*; 3 years; \$21,600

VANDERBILT UNIVERSITY, Nashville, Tenn.; Larry C. Hall; *Electrochemistry of Rare Earths in Non-Aqueous Media*; 2 years; \$13,600

Donald E. Pearson; *Electrophilic Reactions*; 3 years; \$21,600

WASHINGTON STATE UNIVERSITY, Pullman; Donald S. Matteson; *Unsaturated Organoboron Compounds*; 3 years; \$42,700

Carl J. Nyman; *Polynuclear Periodate Complexes of Cobalt (III)*; 2 years; \$14,400

WASHINGTON UNIVERSITY, St. Louis, Mo.; C. David Gutsche; *Intramolecular and Pseudo-intramolecular Reactions*; 3 years; \$63,400

Lindsay Helmholtz; *Electronic Structure of Inorganic Complex Ions*; 2 years; \$23,100

Arthur C. Wahl; *Kinetics of Oxidation-Reduction Reactions*; 3 years; \$55,800

Samuel I. Weissman, Richard E. Norberg and Jonathan Townsend; *Electronic Processes by Magnetic Resonance*; 3 years; \$97,300

WAYNE STATE UNIVERSITY, Detroit, Mich.; Stanley Kirschner; *Rotatory Dispersion of Asymmetric Complex Inorganic Compounds*; 2 years; \$28,500

WESLEYAN UNIVERSITY, Middletown, Conn.; Donald K. Sebera; *Organic Ligands in Electron Transfer Reactions*; 2 years; \$11,100

WEST VIRGINIA UNIVERSITY, Morgantown; Jack D. Graybeal; *Nuclear Quadrupole Coupling Constants in Coordination Compounds*; 2 years; \$20,800

YALE UNIVERSITY, New Haven, Conn.; Andrew Patterson, Jr.; *Physical Chemistry of Solutions of Alkali Metals in Amine-Type Solvents*; 2 years; \$28,000

Martin Saunders; *Structural Interpretation of Physical Properties of Organic Systems*; 3 years; \$63,200

Okta Sinanoglu; *Many Electron Theory of Atoms and Molecules*; 2 years; \$45,400

Julian M. Sturtevant; *Mass Spectrometer*; 1 year; \$35,000

Julian M. Sturtevant; *Purchase of Proton Magnetic Resonance Spectrometer*; 1 year; \$19,200

DEVELOPMENTAL BIOLOGY

ALAMEDA COUNTY STATE COLLEGE FOUNDATION, Hayward, Calif.; Harrison D. Heath; *Nematocyst Distribution During Hydra Morphogenesis*; 2 years; \$8,600

BRANDEIS UNIVERSITY, Waltham, Mass.; Lawrence Levine and Maurice Sussman; *Immunochemistry of Cellular slime Mold Development*; 5 years; \$103,400

Gordon Sato; *Culture of Chick Embryo Cells*; 2 years; \$40,200

BYRN MAWR COLLEGE, Bryn Mawr, Pa.; Jane M. Oppenheimer; *The Optic Cup-Lens Induction System in Teleostean and Amphibian Embryos*; 3 years; \$25,000

COLUMBIA UNIVERSITY, New York, N.Y.; Arthur W. Pollister and Marian M. Himes; *Nuclear Competition During Cell Differentiation*; 2 years; \$12,300

CORNELL COLLEGE, Mount Vernon, Iowa; Francis A. Pray; *Development of Certain Selected Rotifers*; 2 years; \$7,400

CORNELL UNIVERSITY, Ithaca, N.Y.; John M. Anderson; *The Digestive System of Starfishes*; 2 years; \$13,100

Harold F. Parks; *Ultrastructural Basis of Metabolic Phenomena*; 3 years; \$128,700

DARTMOUTH COLLEGE, Hanover, N.H.; Melvin Spiegel; *Protein Changes in Development*; 3 years; \$81,300

FORDHAM UNIVERSITY, New York, N.Y.; Charles A. Berger; *Cytological Aspects of Development*; 2 years; \$6,600

FRANKLIN & MARSHALL COLLEGE, Lancaster, Pa.; Harry K. Lane; *Boric Acid Effects on the Developing Chick Embryo*; 2 years, \$13,800

GLENVILLE STATE COLLEGE, Glenville, W. Va.; Max Ward; *Morphogenesis in Ferns and Mosses*; 2 years; \$14,100

HARVARD UNIVERSITY, Cambridge, Mass.; Robert H. Barth, Jr.; *Reproductive Processes in Insects*; 3 years; \$33,500

Keith R. Porter; *Wall Formation in Cells of Meristematic Plant Tissues*; 3 years; \$67,400

John G. Torrey; *Cultural and Biochemical Studies of Immature Plant Embryos*; 3 years; \$32,000

Ralph H. Wetmore; *Effects of Polyploidy on Plant Development*; 3 years; \$61,200

INDIANA UNIVERSITY FOUNDATION, Bloomington; Charles W. Hagen, Jr.; *Chemical Differentiation in Flower Parts*; 2 years; \$31,900

JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; Hans Laufer; *Differentiation of Macromolecular Patterns During Development*; 3 years; \$66,400

Clement L. Markert; *Biochemical Problems of Cell Differentiation*; 5 years; \$246,700

Frank H. Moyer; *Control of Melanocyte Differentiation*; 3 years; \$50,100

Bernard Roizman; *Virus Induced Functions of Mammalian Cells*; 2 years; \$33,500

Malcolm S. Steinberg; *Selective Adhesion in Embryonic Cells*; 2 years; \$40,900

Theodore R. F. Wright; *Ontogeny of Gene-Enzyme Systems in Drosophila*; 3 years; \$46,600

LEMOYNE COLLEGE, Syracuse, N.Y.; Louis D. De Gennaro; *Differentiation of the Chick Glycogen Body*; 2 years; \$6,400

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge; Corrado Baglioni; *Fetal and Adult Hemoglobin Types*; 1 year; \$7,300

MISSOURI BOTANICAL GARDENS, St. Louis; Norton Nickerson; *Plant Growth Substances*; 2 years; \$16,500

NORTH DAKOTA STATE UNIVERSITY, Fargo; Erwin Goldberg; *Lactic Dehydrogenases from Spermatozoa*; 2 years; \$26,700

OREGON STATE UNIVERSITY, Corvallis; Victor J. Brookes, Robert W. Newburgh and Vernon

- H. Cheldelin; *Biochemistry of Insect Morphogenesis*; 1 year; \$16,300
- Robert W. Newburgh and Vernon H. Cheldelin; *Enzyme Patterns in Embryo and Adult Tissues*; 3 years; \$37,300
- R. W. Newburgh; *Biochemistry and Embryology of Insects*; 1 year; \$9,400
- PURDUE RESEARCH FOUNDATION, Lafayette, Ind.; Charles E. Hess; *Naturally Occurring Root Initiating Substances*; 2 years; \$22,300
- RESEARCH FOUNDATION OF STATE UNIVERSITY OF NEW YORK, Albany; Robert T. Ward, Brooklyn; *Cytological Studies of Oogenesis and Development*; 2 years; \$28,300
- SETON HALL UNIVERSITY, South Orange, N.J.; Robert L. Curtis and Pinckney J. Harman, Jersey City; *Electromyographic Development of Mouse Muscle*; 2 years; \$6,000
- SOUTHERN ILLINOIS UNIVERSITY, Carbondale; Frank J. Finamore; *Nucleic Acids of Amphibian Eggs*; 2 years; \$34,000
- Dan O. McClary; *Cytology of Saccharomyces*; 2 years; \$19,500
- STATE UNIVERSITY OF IOWA, Iowa City; Eleanor H. Slifer; *Fine Structure of Insect Sense Organs*; 1 year; \$5,400
- TEMPLE UNIVERSITY, Philadelphia, Pa.; S. Robert Hilfer; *Functional Stability of Thyroid Cells*; 2 years; \$27,400
- Mann-Chiang Niu; *Induction of Specific Protein Synthesis*; 3 years; \$97,200
- TEXAS SOUTHERN UNIVERSITY, Houston; Robert J. Terry and James Race, Jr.; *Development and Metamorphosis in Amphibians*; 3 years; \$23,400
- TEXAS WOMAN'S UNIVERSITY, Denton; Robert Fuerst; *Morphogenesis in Neurospora*; 2 years; \$14,500
- TULANE UNIVERSITY, New Orleans, La.; S. Meryl Rose; *Characterization of Substances Controlling Differentiation*; 3 years; \$67,000
- UNIVERSITY OF CALIFORNIA, Berkeley; Max Alfert; *Cytochemical Studies of Cell Nuclei*; 2 years; \$23,100
- C. W. Asling; *Morphogenesis of the Inner Ear*; 1 year; \$7,200
- William A. Jensen; *Ultrastructure of the Developing Megagametophyte and Embryo in Plants*; 2 years; \$32,600
- Reed A. Flickinger, Davis; *Differentiation of Embryonic Cells*; 2 years; \$45,200
- E. M. Gifford, Jr., Davis; *Histochemistry of Vegetative and Flowering Shoot Apices*; 2 years; \$10,500
- Lucille S. Hurley, Davis; *Nutritional Factors and Mammalian Development*; 2 years; \$21,400
- Roy M. Sachs, Davis; *Chemical Control of Cell Division in Plant Tissues*; 2 years; \$20,000
- F. Murray Scott, Los Angeles; *Electron Microscopic Studies of Plant Cells*; 1 year; \$13,800
- T. Elliot Weier and Katherine Esau, Davis; *Ultramicroscopic Morphology of Plant Structures*; 3 years; \$90,500
- Thomas W. James, Los Angeles; *Cell Division Studies on Cultures of Protozoa*; 2 years; \$42,300
- A. M. Schechtman, Los Angeles; *Macromolecular Background of Embryonic Development*; 1 year; \$10,700
- Marletta Voge, Los Angeles; *Development of Cestodes*; 2 years; \$28,200
- William K. Purves, Santa Barbara; *Properties of a Plant Growth Promoter*; 3 years; \$41,800
- UNIVERSITY OF CHICAGO, Chicago, Ill.; A. A. Moscona; *Biochemical Aspects of Cellular Differentiation*; 3 years; \$122,700
- UNIVERSITY OF DELAWARE, Newark; R. R. Ronkin; *Cytochemical Studies of Aging Cell Populations*; 3 years; \$43,800
- G. Fred Somers; *Chemical Properties of Plant Cell Wall Components*; 2 years; \$22,300
- UNIVERSITY OF FLORIDA, Gainesville; James A. Gavan; *Growth and Development: Rhesus Monkey*; 1 year; \$33,200
- Mildred M. Griffith; *Anatomy and Histogenesis in Conifers*; 2 years; \$14,200
- S. H. West and H. C. Harris; *RNA Metabolism in Plants*; 3 years; \$28,500
- UNIVERSITY OF GEORGIA, Athens; Elon E. Byrd; *Host Specificity and Development of Trematodes*; 2 years; \$22,000
- UNIVERSITY OF ILLINOIS, Urbana; Pierson J. Van Alten, Chicago; *Development of the Immune Response in the Chick*; 2 years; \$28,000
- UNIVERSITY OF KANSAS, Lawrence; J. Eugene Fox; *Chemistry and Biology of a Plant Growth Regulator*; 3 years; \$31,000
- UNIVERSITY OF MAINE, Orono; Alton M. Mun; *Donor-host Spleen Cell Interaction in Inbred Embryos*; 3 years; \$37,000
- UNIVERSITY OF MICHIGAN, Ann Arbor; Norman E. Kemp; *Differentiation of Sub-Microscopic Structure During Development*; 2 years; \$26,500
- UNIVERSITY OF MINNESOTA, Minneapolis; Mykola H. Haydak and Narayan G. Patel; *Caste Development in Honeybees*; 2 years; \$16,900
- Nelson T. Spratt, Jr.; *Developmental Potentialities of the Early Chick Blastoderm*; 3 years; \$28,900
- UNIVERSITY OF OREGON MEDICAL SCHOOL, Portland; Richard B. Lyons; *Chemical Differentiation in Developing Sea Urchin Embryos*; 2 years; \$17,900
- UNIVERSITY OF PITTSBURGH, Pittsburgh, Pa.; Joan Elger Gottlieb; *Vegetative Dimorphism in the Shoot System of Vascular Plants*; 3 years; \$14,800
- Peter Gray; *Improved Techniques of Electron Microscopy*; 3 years; \$18,200
- UNIVERSITY OF SOUTH CAROLINA, Columbia; John M. Herr, Jr.; *Rearrangement of Nuclei in the Immature Megagametophyte*; 2 years; \$13,000
- UNIVERSITY OF VIRGINIA, Charlottesville; Dietrich Bodenstern; *The Role of Hormones and Nerves in Insect Growth*; 4 years; \$43,700
- UNIVERSITY OF WASHINGTON, Seattle; Edward C. Roosen-Runge; *Gametogenesis in Hydromedusae*; 3 years; \$9,700
- UNIVERSITY OF WISCONSIN, Madison; Robert Auerbach; *Control Mechanisms in Lymphoid Differentiation*; 3 years; \$61,600
- Hans Ris; *Tissue Culture Research*; 3 years; \$29,000
- VILLANOVA UNIVERSITY, Villanova, Pa.; Roman Maksymowych; *Cell Division and*

Tissue Differentiation in Leaf Development; 2 years; \$13,000

WESTERN RESERVE UNIVERSITY, Cleveland, Ohio; Allison L. Burnett; *Growth and Cell Differentiation in Hydra*; 3 years; \$75,700

Howard A. Schneiderman; *Studies of Insect Pine Structure*; 5 years; \$148,800

WILLIAM MARSH RICE UNIVERSITY, Houston, Tex.; Allen C. Enders; *Mechanisms of Implantation in Mammals*; 2 years; \$37,700

WILSON COLLEGE, Chambersburg, Pa.; M. Jean Allen; *Studies of Polychaete Development*; 2 years; \$25,200

WITTEBERG UNIVERSITY, Springfield, Ohio; Knut J. Norstog; *Growth and Differentiation of Barley Embryos*; 2 years; \$9,000

YALE UNIVERSITY, New Haven, Conn.; John H. Miller and Pauline M. Miller; *Patterns of Cell Expansion in Fern Gametophytes*; 1 year; \$9,000

Ian K. Ross; *Cytology, Morphogenesis and Heterothallism in the Mycomycetes*; 2 years; \$16,300

EARTH SCIENCES

ALFRED UNIVERSITY, Alfred, N.Y.; Taro Takahashi; *Solubility of Lead Sulfide in Water at Elevated Temperatures and Pressures*; 1 year; \$17,000

AMERICAN GEOGRAPHICAL SOCIETY, New York, N.Y.; William O. Field; *Continuation of World Data Center A: Glaciology*; 6 months; \$12,950

AMHERST COLLEGE, Amherst, Mass.; Bruce B. Benson; *Mass Spectrometric Studies of Atmospheric Gases, of Gases Dissolved in the Oceans, and of Sea Water*; 2 years; \$59,000

BRIGHTMAN YOUNG UNIVERSITY, Provo, Utah; Kenneth C. Bullock; *Acquisition of a Vertical Reflecting Projector*; 1 year; \$5,660

David L. Clark; *Biostratigraphic Study of the Eastern Great Basin Paleozoic*; 3 years; \$31,000

BROWN UNIVERSITY, Providence, R.I.; Richard A. Yund; *Equilibrium-Phase Relations in the System Cu-Fe-O-S and Their Geologic Application*; 2 years; \$49,800

CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena; Arden L. Albee; *Chemical Equilibrium in Coexisting Phases of Quartz-Muscovite Rock*; 3 years; \$34,900

Arden L. Albee; *The Boundary of the Timiskaming and Grenville Subprovinces Near Lake Temagami, Ontario*; 2 years; \$2,300

Clarence R. Allen and Frank Press; *Geophysical Investigations of Geologic Structures in the Western United States*; 2 years; \$63,500

Clarence R. Allen and Robert V. Sharp; *Field Study of the San Jacinto Fault System in Southeastern California*; 2 years; \$2,400

Arthur J. Boucot; *Silurian and Lower Devonian Shelly Faunas*; 3 years; \$50,000

W. Barclay Kamb; *Crystal Structures of the High-Pressure Forms of Ice*; 2 years; \$27,500

Robert P. Sharp; *Methods of Chemical Analyses*; 1 year; \$14,500

Hugh P. Taylor, Jr.; *Oxygen Isotopic Composition of Silicate Rocks and Minerals*; 2 years; \$16,600

G. J. Wasserburg; *Rare Gases in Nature*

and *Problems in Absolute Age Determination*; 3 years; \$59,300

COLORADO SCHOOL OF MINES, Golden; M. A. Klugman; *Primary Dispersion Haloes in Wall-Rock and Ore Bodies*; 2 years; \$27,000

COLUMBIA UNIVERSITY, New York, N.Y.; Wallace S. Broecker, Pallsades; *Development of an Alpha-Spectrometer for Use in U In-equilibrium Studies*; 1 year; \$15,500

Wallace S. Broecker, Pallsades; *Application of the Radiocarbon Method to the Precise Dating of Late and Post Glacial Events*; 3 years; \$27,200

William A. Cassidy, Pallsades; *Study of Meteoritic Impact Sites*; 1 year; \$22,800

David B. Ericson, Pallsades; *Pleistocene Oceanography as Recorded in Deep-Sea Sediment Cores*; 3 years; \$49,800

Maurice Ewing, Pallsades; *Participation in the International Indian Ocean Expedition*; 1 year; \$150,000

Maurice Ewing, Pallsades; *Support for Research Vessel VEMA*; 1 year; \$180,000

CORNELL UNIVERSITY, Ithaca, N.Y.; E. P. Wheeler, 2d; *Anorthosite and Adamellite Bodies of Northern Labrador*; 1 year; \$6,000

FLORIDA STATE UNIVERSITY, Tallahassee; Lyman D. Toulmin; *Paleocene and Eocene Foraminifera from the Chattahoochee River, Alabama and Georgia*; 2 years; \$11,900

FRANKLIN AND MARSHALL COLLEGE, Lancaster, Pa.; John H. Moss; *Glacial Geology of the Boulder River Drainage Basin, Northern Beartooth Mountains, Montana*; 2 years; \$11,500

GEOLOGICAL SURVEY OF ISRAEL, Jerusalem, Israel; David Neev; *Submarine Geology and Physical Oceanography of the Eastern Mediterranean*; 3 years; \$30,000

HARVARD UNIVERSITY, Cambridge, Mass.; Elso S. Barghoorn; *Pre-Cambrian Plant Fossils and the Organic Geo-chemistry of Pre-Cambrian Sediments*; 3 years; \$26,900

Alan V. Jopling; *Origin of Caliche*; 1 year; \$1,000

Bernhard Kummel; *Zonation, Faunal Evolution, and Paleogeography of the Lower Triassic*; 3½ years; \$36,700

Henry Stommel; *Research in Oceanic Physics*; 1 year; \$40,000

Harry B. Whittington; *Preparation and Publication of Monographs on Ordovician Trilobites from Western Newfoundland*; 3 years; \$13,000

IOWA STATE UNIVERSITY, Ames; Wayne H. Scholtes; *Genesis of Soils and Soil Landscapes in the Cary and Iowan Drift Areas in Iowa*; 2 years; \$19,500

JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; Ernst Cloos; *Purchase of a Caesar-Saltzman Vertical Reflecting Projector*; 1 year; \$5,600

Hans P. Eugster; *Low Grade Metamorphic Reactions*; 2 years; \$22,700

Richard S. Fiske and Aaron C. Waters; *Chemical and Mineralogical Variations of the Columbia River Basalts, and of the Andesites of the Cascade Mountains*; 2 years; \$53,640

Clifford A. Hopson, Johns Hopkins University, and William S. Wise, University of California, Santa Barbara; *Mineralogy, Chemistry and Field Associations of Pyroxene Andesite at Mt. Hood and Mt. Rainier*; 2 years; \$26,000

- LEHIGH UNIVERSITY, Bethlehem, Pa.; Dale R. Simpson; *Synthesis and Stability of the Mineral Apatite*; 2 years; \$20,000
Bradford Willard; *The Harvey Bassler Collection*; 1 year; \$3,500
- LOS ANGELES STATE COLLEGE FOUNDATION, Los Angeles, Calif.; James N. Gundersen; *Stratigraphy and Mineralogy of Biwabik Iron Formation, Northern Minnesota*; 2 years; \$8,800
- LOUISIANA STATE UNIVERSITY, Baton Rouge; John C. Ferm; *Study of the Kittanning Formation*; 3 years; \$22,700
- MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge; M. J. Buerger; *Structures and Properties of Crystals*; 2 years; \$59,900
William H. Dennen; *The Abundance and Distribution of Trace Elements in Quartz*; 2 years; \$14,250
- MONTANA STATE COLLEGE, Bozeman; William J. McMannis, John de la Montagne and Robert A. Chadwick; *Geology of Gallatin Range, Montana*; 2 years; \$30,000
- MONTANA STATE UNIVERSITY, Missoula; John Hower; *Chemical Composition and Structure of Natural Illites and Synthesis of Illite*; 3 years; \$35,000
- NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL, Washington, D.C.; Linn Hoover; *Experimental Drilling in Deep Water*; 1 year; \$147,200
Linn Hoover; *Support of the Coordinator, International Indian Ocean Expedition*; 1 year; \$44,200
- NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY, Socorro; Frederick J. Kuellmer; *Structural Variation of Alkali Feldspars, Micas, and Silica Minerals Within Some Igneous and Metamorphic Rocks*; 2 years; \$32,500
- NEW YORK UNIVERSITY, New York; Willard J. Pierson, Jr.; *The Breaking of Waves in Deep Water as Related to Particle Motions in Long Created Random Seas*; 6 months; \$19,300
- NORTHWESTERN UNIVERSITY, Evanston, Ill.; E. H. Timothy Whitten; *The Quantitative Composition, Variation, and Structure of Rock-Masses, Particularly Granitoid Rocks*; 1 year; \$22,900
- OBERLIN COLLEGE, Oberlin, Ohio; Fred Foreman; *Pleistocene-Pliocene Stratigraphy*; 2 years; \$10,300
- OCCIDENTAL COLLEGE, Los Angeles, Calif.; Joseph H. Birman; *Late Wisconsin and Post Wisconsin Glacial History in the Middle East*; 3 months; \$3,000
- OHIO STATE UNIVERSITY RESEARCH FOUNDATION, Columbus; Richard P. Goldthwait; *A Quantitative Analysis of Possible Factors Contributing to Slope Form in Relation to Micro-Climate*; 1 year; \$4,440
Richard P. Goldthwait and R. J. Price; *Ice-contact Deposits at Terminus of Case-ment Glacier, Alaska*; 1 year; \$10,800
- OREGON STATE UNIVERSITY, Corvallis; Joseph W. Berg, Jr. and Wayne V. Burt; *Gravitational Studies in Oregon*; 2 years; \$28,300
Wayne V. Burt; *Oregon Oceanographic Studies*; 1 year; \$140,000
- PENNSYLVANIA STATE UNIVERSITY, University Park; I. L. Barnes; *Solubilities of Ore Minerals in Hydrothermal Sulfide Solutions*; 2 years; \$80,000
- Thomas F. Bates; *X-ray Amorphous Mineral Materials and Their Role in the Weathering Process*; \$5,000
- C. Wayne Burnham and Richard H. Jahns; *Role of Water and Other Volatiles in Magmatic Processes*; 2 years; \$112,900
- MacKenzie L. Keith; *Isotopic Composition of Fossils and Limestones*; 2 years; \$28,900
- Rustum Roy; *Phase Transition Studies. The Influence of Defects and Strain*; 3 years; \$40,800
- William Spackman; *Characteristics of Modern Organic Sediments and Their Use in the Identification, Description and Interpretation of Carbonaceous Rocks and Rock Sequences*; 2 years; \$29,200
- O. F. Tuttle; *Pressure-Temperature Conditions Required for Melting in the Earth's Crust*; 2 years; \$67,200
- Harold D. Wright; *Distribution and Solubilities of Trace Elements in Sulfide Minerals*; 2 years; \$30,000
- P. J. Wyllie; *The Petrogenetic Links Between Carbonatites and Alkali Peridotite Magmas*; 2 years; \$47,900
- POMONA COLLEGE, Claremont, Calif.; Alexander K. Baird and Donald B. McIntyre; *Distributions of Major Elements in Batholith Rocks in Southern California and Their Petrogenetic Significance*; 2 years; \$46,600
- PRINCETON UNIVERSITY, Princeton, N.J.; William E. Bonini; *Analysis of Gravity Anomalies in Northwestern United States*; 2 years; \$14,250
William E. Bonini; *Seismic Crustal Measurements*; 1 year; \$10,850
- Erling Dorf; *Floras and Age Relationships of the Late Volcanic Sequence in the Absaroka Mountains, Wyoming*; 2 years; \$9,900
- PRINCIPIA COLLEGE, Elmhurst, Ill.; Forbes Robertson; *A Petrographic and Chemical Investigation of Brazilian Lateritic Products*; 3 years; \$9,950
- RESEARCH ASSOCIATION OF THE UNIVERSITY OF TOKYO, Tokyo, Japan; Keitzi Aki; *Earthquake Mechanism from Surface Waves*; 2 years; \$23,000
- RESEARCH FOUNDATION OF STATE UNIVERSITY OF NEW YORK, Albany; Hugh E. Hunter, Binghamton; *Petrology of the Basic Intrusive Rocks of the Wichita Mountains*; 1 year; \$16,200
- ROBERT S. PEABODY FOUNDATION FOR ARCHAEOLOGY, Andover, Mass.; Frederick Johnson; *Preparation and Distribution of Radiocarbon Dates*; 1 year; \$15,000
Clyde P. Ross, Denver, Colo.; *The Origin of the Idaho Batholith*; 18 months; \$9,000
- ST. LAWRENCE UNIVERSITY, Canton, N.Y.; Robert O. Bloomer; *Geology of the Grenville Complex in Northwestern New York*; 3 years; \$15,350
- STANFORD UNIVERSITY, Stanford, Calif.; John W. Harbaugh; *Dolomite in Modern Sediments*; 18 months; \$23,500
- TEXAS AGRICULTURAL & MECHANICAL RESEARCH FOUNDATION, College Station; Robert O. Reid; *Exchange Characteristics and Salinity Regime of Shallow Coastal Bay Systems*; 2 years; \$39,700
- TEXAS TECHNOLOGICAL COLLEGE, Lubbock; John G. Dennis; *Basic English Terminology for the International Tectonic Dictionary*; 1 year; \$11,400

U.S. DEPARTMENT OF COMMERCE, COAST AND GEODETIC SURVEY, Washington, D.C.; J. H. Nelson; *World Data Center A for Geomagnetism, Seismology, and Gravity*; 1 year; \$38,000

U.S. DEPARTMENT OF THE NAVY, OFFICE OF NAVAL RESEARCH, Washington, D.C.; W. T. Sawyer; *Support of the Committee on Oceanography of the National Academy of Sciences*; 1 year; \$18,000

U.S. INFORMATION AGENCY, Washington, D.C.; Turner B. Shelton; *Partial Funding of Documentary Film of Operation Mohole*; 1 year; \$25,000

U.S. NAVY HYDROGRAPHIC OFFICE, Washington, D.C.; R. D. Fusselman; *National Oceanographic Data Center*; 1 year; \$80,000

UNIVERSIDAD MAYOR DE SAN ANDRES, La Paz, Bolivia; Reynaldo Salguero; *Gravity and Geomagnetism Studies in Bolivia*; 3 years; \$33,000

UNIVERSIDAD NACIONAL AUTONOMA DE MEXICO, Mexico City; Guillermo P. Salas and Fred B. Phleger; *Oceanography and Sedimentology of Coastal Lagoons on the East Coast of Mexico*; 3 years; \$27,500

UNIVERSITY COLLEGE OF RHODESIA & NYASALAND, Salisbury, Southern Rhodesia; Dennis I. Gough; *Paleomagnetic Studies in Southern Rhodesia*; \$2,300

UNIVERSITY OF ALASKA, College; Troy L. Pewé; *Glaciological Investigation in Central Alaska*; 1 year; \$11,300

UNIVERSITY OF ARIZONA, Tucson; John W. Anthony; *X-Ray Diffractometer for Use in Current Research*; 1 year; \$10,700

John F. Lance; *Paleontology and Stratigraphy of Pleistocene Deposits, San Pedro Valley, Arizona*; 2 years; \$21,500

Mark A. Melton; *Fluvial and Related Geomorphic Processes of Arid and Semi-Arid Regions*; 2 years; \$40,000

William G. McGinnies; *Dendrochronology of Bristlecone Pine (*Pinus aristata* Engelm) as a Basis for the Extension of Dendroclimatic Indices*; 2 years; \$50,000

Joseph F. Schreiber, Jr.; *Environments of Sedimentation, Wilcox Playa*; 2 years; \$12,500

UNIVERSITY OF CALIFORNIA, Berkeley; Perry Byerly; *The Energy in Earthquakes*; 1 year; \$10,000

Richard L. Hay; *Occurrence and Origin of Authigenic Aluminosilicate Minerals in Saline Lakes*; 2 years; \$17,400

Stanley H. Ward; *Polarizations of Natural Magneto Fields by Major Geological Structures*; 1 year; \$25,000

J. J. Jurinak, Davis; *Surface Chemistry of Clay Minerals*; 2 years; \$14,350

Edward D. Goldberg, La Jolla; *Atlantic Ocean-Mediterranean Sea Research Program During the Scripps Institution of Oceanography Expedition Zephyrus*; 4 months; \$100,800

John D. Isaacs, La Jolla; *Research Surveys of the California Current System*; 1 year; \$99,000

M. N. Bramlette, La Jolla; *Diatom Distribution in Oceans*; 1 year; \$6,300

Tsaihua J. Chow, La Jolla; *Chemical Speciation of Trace Metallic Elements in the Sea*; 2 years; \$81,600

Harmon Craig, La Jolla; *Geochemistry of Volcanic Gases and Waters*; 1 year; \$24,700

Albert E. J. Engel, La Jolla; *Properties and Origin of Graywacke Sediments as a Guide to Crustal Evolution*; 2 years; \$30,000

Robert L. Fisher, La Jolla; *Participation in the International Indian Ocean Expedition*; 1 year; \$150,000

W. R. Riedel, Y. R. Nayudu, and R. L. Fisher, La Jolla; *General Survey and Publication of the Lithology and Stratigraphy of Deep-Sea Sediment Cores, and of Bathymetric Data, Collected by Scripps' Expeditions*; 2 years; \$50,000

Margaret K. Robinson, La Jolla; *Computation of Seasonal Variation in Sea Temperature from Incomplete Time Series*; 2 years; \$28,600

George G. Shor, Jr., La Jolla; *Investigations of Crustal Structure Along the Alaskan Coast*; 1 year; \$94,400

George G. Shor, Jr., La Jolla; *Mohole Site Selection Studies*; 1 year; \$169,000

Richard P. Von Herzen, La Jolla; *Heat Flow Through the Ocean Floor*; 2 years; \$198,800

Leason H. Adams and George C. Kennedy, Los Angeles; *Rapidly Running Transitions at Very High Pressures*; 1 year; \$25,000

Daniel I. Axelrod and William S. Ting, Los Angeles; *Acquisition of a Polarizing Photomicroscope*; 1 year; \$7,100

Gerhard Oertel, Los Angeles; *Mechanical Anisotropy of Solids During Deformation*; 2 years; \$27,200

Ronald L. Shreve, Los Angeles; *Surface Velocity and Changes in Level of Austerdals Glacier, Norway, 1957-1960*; 1 year; \$1,700

George Tunell, Los Angeles; *Ore-Forming Processes in Mercury and Antimony Ore Deposits*; 2 years; \$28,000

Frank W. Dickson, Riverside; *Ore-Forming Processes*; 2 years; \$40,000

Frank W. Dickson, Riverside; *Geochemistry and Field Studies of Borate Mineral Genesis*; 2 years; \$15,400

P. F. Pratt, Riverside; *The Chemistry of Nickel in Soils*; 2 years; \$12,000

Robert L. Fisher and William R. Riedel, San Diego; *Detailed Field Study of Topography and Stratigraphy in Parts of the Western Pacific*; 1 year; \$370,000

UNIVERSITY OF CHICAGO, Ill.; Robert N. Clayton; *Stable Isotope Fractionation in Nature*; 2 years; \$78,500

Julian R. Goldsmith; *The Crystal Chemistry of Some Carbonates and Silicates*; 2 years; \$33,400

John C. Jamieson; *Physical Behavior of Solids Under Very High Pressures*; 3 years; \$48,800

James McLelland; *Mechanics of Dike Formation and the Relationship to Tectonic Environment of Igneous Rocks*; 2 years; \$12,000

Joseph V. Smith and Hans Ramberg; *X-Ray Microprobe Analyzer*; 1 year; \$88,700

UNIVERSITY OF COLORADO, Boulder; William C. Bradley; *Bedrock Form and Deformation of Marine Terraces Near Santa Cruz, California*; 2 years; \$10,750

UNIVERSITY OF FLORIDA, Gainesville; Per Bruum; *Determination of Sediment Transportation by Means of Fluorescent Tracers*; 2 years; \$35,100

- UNIVERSITY OF GEORGIA, Athens; Charles A. Salotti; *High-Temperature Sulfide Deposits of the Southern Appalachians*; 2 years; \$17,500
- UNIVERSITY OF HAWAII, Honolulu; Martin J. Vltousek; *Physical Oceanographic Research in Connection with the Fanning Island Expedition, 1962*; 1 year; \$11,800
- UNIVERSITY OF HOUSTON, Tex.; Jules R. Du Bar; *Geologic Relationship of Pleistocene Terraces and Shorelines in the Carolinas*; 2 years; \$25,000
- UNIVERSITY OF ILLINOIS, Urbana; Arnold Klute; *Soil Water Diffusivity and Conductivity Functions of Unsaturated Soils*; 3 years; \$36,400
- UNIVERSITY OF KANSAS, Lawrence; William Kenneth Hamblin; *Origin and Significance of Reverse Drag, Fault-Flexure Displacements*; \$1,700
- UNIVERSITY OF MAINE, Orono; Harold W. Borns, Jr.; *Late Glacial and Early Post Glacial Geologic History of Portions of the Kennebec and Penobscot River Valleys of Maine*; 18 months; \$14,620
- UNIVERSITY OF MIAMI, Coral Gables; Cesare Emiliani and G. A. Rusnak, Miami; *Caribbean Deep-Sea Cores and Associated Research Problems*; 2 years; \$75,000
Cesare Emiliani, Miami; *Geochemistry of Marine Sediments*; 1 year; \$18,200
Friedrich E. Koczy, Miami; *The Geochemistry of Radioactive Elements in the Marine Environment*; 2 years; \$45,400
G. A. Rusnak and Cesare Emiliani; *Late Pleistocene Stratigraphy in Deep-Sea Cores*; 1 year; \$9,200
Gene A. Rusnak, Miami; *Radiocarbon Dating Laboratory*; \$5,000
Gene A. Rusnak, Miami; *Rates Sedimentation and Chronology of Late Pleistocene Events by Radiocarbon Dating*; 1 year; \$25,000
- UNIVERSITY OF MICHIGAN, Ann Arbor; Edwin N. Goddard and Louis I. Briggs; *Crustal Deformation in the Sangre de Cristo Range, Colorado*; 2 years; \$13,500
- UNIVERSITY OF MINNESOTA, Minneapolis; Paul W. Gast; *Contact Metamorphic Effects on Isotopic Mineral Ages*; 2 years; \$40,000
Peter Signer; *Rare Gases in Meteorites*; 2 years; \$88,900
Frederick M. Swain; *Carbon Cycles of the Geologic Past*; 2 years; \$35,600
H. E. Wright, Jr.; *Pleistocene Limnology in the Western United States*; 3 years; \$34,000
- UNIVERSITY OF MISSOURI, Columbia; C. Edmund Marshall; *Equilibria and Kinetics of Reactions Between Aluminosilicate Minerals and Aqueous Solutions*; 2 years; \$46,850
- UNIVERSITY OF NORTH DAKOTA, Grand Forks; Wilson M. Laird; *Alaskan Dead-Ice Deposits, Land Forms, and Limnology of Supraglacial and Proglacial Freshwater Lakes and Streams*; 2 years; \$38,000
- UNIVERSITY OF OKLAHOMA, Research Institute, Norman; Charles J. Mankin; *Mineralogy and Chemistry of Permian Shale, Anadarko Basin, Oklahoma, Kansas, and Texas*; 2 years; \$35,500
Leonard R. Wilson; *Palynology of Pennsylvanian Coals in Oklahoma and Adjacent States*; 2 years; \$21,300
- UNIVERSITY OF OTAGO, Dunedin, New Zealand; Douglas S. Coombs; *Evolution of the New Zealand Geosyncline and Related Problems Bearing on Low Grade Metamorphism*; 1 year; \$10,000
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Takeshi Nagata; *Chemical and Piezo-Remanent Magnetism*; 1 year; \$12,000
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- UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles; George V. Chilingar; *Overburden Pressure and Moisture Content of Siliceous Acid, Organic Colloids, and Various Clays*; 1 year; \$4,250
Paul Saltman and K. O. Emery; *Amino Acids in Basin Sediments off Southern California*; \$2,250
- UNIVERSITY OF TASMANIA, Hobart, Tasmania, Australia; S. Warren Carey and Gordon H. Newstead; *Research on Seismological Instrumentation and Techniques in Tasmania*; 3 years; \$30,900
- UNIVERSITY OF TEXAS, Austin; Peter T. Flawn and Earle F. McBride; *Middle Tertiary Volcanism and Igneous Intrusion in South Texas and Northeastern Mexico*; 2 years; \$18,000
- UNIVERSITY OF WASHINGTON, Seattle; M. Grant Gross; *X-Ray Diffraction and X-Ray Spectrographic Studies of Marine Sediments*; 1 year; \$50,500
Maurice Rattray, Jr.; *Dynamics of Estuarine Circulation*; 1 year; \$12,600
Francis A. Richards; *Mass Spectrometric, Gas Chromatographic, and Related Studies of Dissolved Gases in the Ocean*; 2 years; \$60,000
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- UNIVERSITY OF WISCONSIN, Madison; Lewis M. Chene; *Late Paleozoic Sedimentation in the Ouachita Geosyncline, Oklahoma*; 3 years; \$33,500
Robert M. Gates; *Gneiss Domes in the Western Highlands of Connecticut*; 3 years; \$40,000
Robert P. Meyer and George P. Woollard; *The Seismic Study of Crustal Structure Utilizing Recent Technological Advances*; 1 year; \$79,500
John C. Rose; *Definitive Establishment of an International Gravity Standard*; 2 years; \$20,900
George P. Woollard and Robert P. Meyer; *Seismic Study of Crustal Structure*; 1 year; \$97,400
G. P. Woollard and N. A. Ostensio; *Gravity Investigations of the Arctic Ocean Basin*; 1 year; \$18,500
- UNIVERSITY OF WYOMING, Laramie; Ronald B. Parker; *Fabrics of Argillaceous Rocks*; 3 years; \$28,500
- WESTERN WASHINGTON COLLEGE OF EDUCATION, Bellingham; Donald J. Easterbrook; *Fossiliferous Marine Glacial Drifts of Northern Puget Sound, Washington*; 2 years; \$7,000
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Radiocarbon Concentration of Wood; 3 years; \$41,900

WICHITA FOUNDATION, INC., Wichita, Kans.; Fred Wendorf, Fort Burgwin Research Center, Taos, N. Mex.; *A Paleocological Study of Late Pleistocene and Early Recent Deposits of the Northern Llano Estacado, Eastern New Mexico and Adjacent West Texas*; 18 months; \$34,000

WOODS HOLE OCEANOGRAPHIC INSTITUTE, Woods Hole, Mass.; Carl O. Bowin; *Reconnaissance Gravity Survey of the Republic of Haiti*; 1 year; \$7,700

T. Ferris Webster; *Transfer of Momentum and Kinetic Energy in the Gulf Stream*; 1 year; \$85,400

YALE UNIVERSITY, New Haven, Conn.; Elwyn L. Simons; *Late Cretaceous and Early Cenozoic Faunas, Southern Bighorn Basin, Wyoming*; 1 year; \$6,400

Minze Stulver; *Isotopic Carbon, with Special Reference to Geochronometry*; 2 years; \$33,900

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Kenneth L. Webb; *Physiology of Salt Marsh Halophytes*; 2 years; \$19,300

UNIVERSITY OF HAWAII, Honolulu; Robert W. Hlatt; *Zoogeographic Status of an Eastern Equatorial Pacific Atoll*; 1 year; \$25,800

Sidney J. Townsley; *Recolonization and Ecological Succession on Recent Lava Flows*; 3 years; \$47,100

UNIVERSITY OF ILLINOIS, Urbana; William R. Horsfall; *Epigamic Stress Effects on Dimorphism in Aedes*; 3 years; \$30,700

UNIVERSITY OF KANSAS, Lawrence; Robert R. Sokal; *Natural Selection During Population Growth of Tribolium*; 3 years; \$25,300

UNIVERSITY OF KANSAS CITY, Kansas City, Mo.; William W. Milstend; *Preliminary Observations on Chihuahuan Desert Ecology*; 1 year; \$1,400

UNIVERSITY OF MANITOBA, Winnipeg, Manitoba, Canada; J. C. Ritchie; *Late- and Post-Glacial Vegetation and Flora of Manitoba*; 3 years; \$13,000

UNIVERSITY OF MASSACHUSETTS, Amherst; William B. Nutting; *Biology, Ecology and Systematics of Demodex*; 3 years; \$35,900

UNIVERSITY OF MIAMI, Coral Gables, Fla.; Hilary B. Moore; *Food Preferences and Energy Balance in Sagittia*; 2 years; \$18,600

Donald P. de Sylva, Miami; *Growth, Reproduction and Mortality of Ictiophorid Fishes*; 2 years; \$20,500

Gilbert L. Voss; *The Thalassia Community*; 2 years; \$37,700

UNIVERSITY OF MICHIGAN, Ann Arbor; William R. Dawson; *Temperature Compensation in Reptiles*; 1 year; \$17,900

Robert R. Miller; *Ecology of Endemic Fishes of the Colorado River Basin*; 1 year; \$700

Harrison B. Tordoff; *Biology of the Fringillids*; 3 years; \$18,600

UNIVERSITY OF MINNESOTA, Minneapolis; Eville Gorham; *Fossil Plant Pigments as Indices to Productivity*; 3 years; \$17,500

Edwin L. Schmidt; *Ecology of Soil Microorganisms*; 3 years; \$33,000

UNIVERSITY OF NEW MEXICO, Albuquerque; Howard J. Dittmer; *Root Systems of Desert and Semi-Arid Plants*; 2 years; \$11,400

UNIVERSITY OF NORTH CAROLINA, Chapel Hill; Frederick S. Barkalow, Jr. and W. Scott Overton; *Population Phenomena of Sciurus C. Carolinensis*; 3 years; \$31,000

UNIVERSITY OF OKLAHOMA RESEARCH INSTITUTE, Norman; Elroy L. Rice; *Role In Plant Succession of Antibacterial Substances in the Soil*; 3 years; \$29,800

UNIVERSITY OF OREGON, Eugene; Richard W. Castenholz; *Ecology of Thermophilic Blue-Green Algae*; 3 years; \$22,800

Robert W. Morris; *Oxygen Consumption by Fish in Relation to Temperature*; 2 years; \$9,600

UNIVERSITY OF THE PACIFIC, Stockton, Calif.; Joel W. Hedgpeth; *Biology of Certain Elasmobranchs*; 1 year; \$1,700

Raymond A. Underhill; *Life History and Ecology of Chone Mollis (Bush)*; 1 year; \$1,600

UNIVERSITY OF RHODE ISLAND, Kingston; John McN., Sieburth; *Psychrotolerant Bac-*

teria in Boreal and Temperate Marine Waters; 8 years; \$44,800

UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles; Robert M. Chew; *Evaporative Water Losses in Terrestrial Vertebrates*; 3 years; \$30,200

John S. Garth and Jay M. Savage; *Ecological Survey of Mid-Water Marine Populations*; 3 years; \$43,400

UNIVERSITY OF TEXAS, Austin; Bassett Maguire, Jr.; *Dispersal and Colonization by Small Aquatic Organisms*; 3 years; \$19,600

Austin Phelps; *Ecology of a Thermal Stream*; 2 years; \$23,800

UNIVERSITY OF UTAH, Salt Lake City; Arden R. Gauhn; *Ecology of Intermountain Plecoptera*; 3 years; \$18,800

Albert W. Grundmann; *Endoparasites of Rodents in a Succession of Habitats*; 2 years; \$19,000

Irving B. McNulty; *Salt Metabolism of Halophytes*; 2 years; \$24,200

UNIVERSITY OF WASHINGTON, Seattle; John Liston; *Distribution and Activities of Heterotrophic Marine Bacteria*; 2 years; \$39,900

Michael Neushul; *Reproductive Physiology of Certain Algae in Relation to Habitat*; 2 years; \$28,100

Richard Van Cleve; *Ecology of Demersal Marine Species*; 1 year; \$29,500

UNIVERSITY OF WISCONSIN; Madison; Andrew McClary; *Statoyst Function in Gastropods*; 2 years; \$7,200

J. T. Medler; *Biology of Bumblebees*; 3 years; \$31,400

William G. Reeder; *Determinants of Rodent Distribution*; 2 years; \$16,900

UNIVERSITY OF WYOMING, Laramie; Glenn A. Noble, Moran; *Environmental Influences on Parasitic Infection*; 3 years; \$12,800

UTAH STATE UNIVERSITY, Logan; William F. Sigler; *Distribution and Abundance of Bear Lake Fish*; 1 year; \$12,700

VANDERBILT UNIVERSITY, Nashville, Tenn.; Elsie Quarterman; *Controlled Environment Equipment for Plant Research*; 1 year; \$26,500

VIRGINIA INSTITUTE OF MARINE SCIENCE, Gloucester Point; Edwin B. Joseph; *Ecology of the Pelagic Embryos and Larvae of Marine Fishes*; 3 years; \$16,500

WASHINGTON STATE UNIVERSITY, Pullman; Richard A. Parker; *Influence of Light on Daphnid Growth and Reproduction*; 3 years; \$24,700

WAYNE STATE UNIVERSITY, Detroit, Mich.; Wayne L. Thompson; *Behavior in Richmondine Species*; 3 years; \$17,000

WEST VIRGINIA UNIVERSITY, Morgantown; H. L. Barnett and V. G. Lilly; *Parasitism of Biotrophic Fungi on Other Fungi*; 3 years; \$23,000

WHEATON COLLEGE, Wheaton, Ill.; Raymond H. Brand; *Ecology and Behavior of Collembola*; 3 years; \$7,900

WILLIAM MARSH RICE UNIVERSITY, Houston, Tex.; Earl Segal; *Physiological Variation in Geographically Separated Populations*; 3 years; \$33,700

WILLAMETTE UNIVERSITY, Salem, Oreg.; Donald Ray Breakey; *Determination of Age in Microtine Rodents*; 2 years; \$8,700

WILLIAMS COLLEGE, Williamstown, Mass.; William T. Fox; *Quantitative Paleocological Analysis of the Richmond Group*; 3 years; \$21,900

WOODS HOLE OCEANOGRAPHIC INSTITUTION, Woods Hole, Mass.; Richard H. Backus; *Biology of Deep-Sea Animals*; 2 years; \$34,900

Robert J. Conover; *Food Relations and Behavior of Zooplankton*; 3 years; \$65,100

William C. Schroeder; *Biology of Larger Pelagic Fishes of the Northwestern Atlantic*; 3 years; \$125,200

YALE UNIVERSITY, New Haven, Conn.; Philippe F. Bourdeau and Francols Mergen; *Genetic and Environmental Components of Phenotypic Expression in Trees*; 2 years; \$35,400

Edward S. Deevey; *Paleolimnology*; 3 years; \$50,000

Kaare Elgmork; *Ecological Studies of Freshwater Copepods*; 1 year; \$12,100

W. R. Henson; *Density-related Behavior in Neodiprion*; 3 years; \$43,900

Gordon A. Riley; *Particulate Organic Matter in the Sea*; 2 years; \$21,700

G. K. Voigt; *Soil-Root Relationships*; 3 years; \$47,800

Talbot H. Waterman; *Quantitative Evaluation of Deepwater Closing-Net Plankton Hauls*; 1 year; \$8,300

GENETIC BIOLOGY

ARLINGTON STATE COLLEGE, Arlington, Tex.; William F. Pyburn; *Hybridization and Evolutionary Divergence in Treefrogs*; 1 year; \$5,500

BROWN UNIVERSITY, Providence, R.I.; Stanley Zimmering; *Intra- and Interchromosomal Factors Determining the Meiotic Behavior of Chromosomes*; 3 years; \$42,400

CHILDREN'S CANCER RESEARCH FOUNDATION, Inc., Boston, Mass.; George Yerganian; *Somatic Cell Genetics*; 2 years; \$50,000

DICKINSON COLLEGE; Carlisle, Pa.; Daniel J. McDonald; *Genetic Variability in Tribolium Populations*; 1 year; \$4,500

DUKE UNIVERSITY, Durham, N.C.; Lewis E. Anderson; *Chromosome Behavior in Bryophytes*; 2 years; \$18,800

FREDERIC BURK FOUNDATION FOR EDUCATION, San Francisco, Calif.; Sarane T. Bowen; *Genetics of Artemia Salina*; 1 year; \$9,700

HARTNELL COLLEGE, Salinas, Calif.; James F. Wilson; *Micurgical Investigation of Neurospora*; 2 years; \$41,300

HARVARD UNIVERSITY, Cambridge, Mass.; George Lefevre, Jr.; *Induced Mutation in Drosophila*; 2 years; \$50,000

R. P. Levine; *Genetics of Chlamydomonas Reinhardtii*; \$3,312

John R. Raper; *Incompatibility Factors in Schizophyllum*; 2 years; \$29,700

Herman M. Kalckar, Boston; *Biochemical Genetics with Special Reference to Galactose Metabolism*; 1 year; \$10,000

Haverford College, Haverford, Pa.; Irving Finger; *Genetic Control of Protein Synthesis in Paramecium*; 3 years; \$27,200

INSTITUTE FOR CANCER RESEARCH, Philadelphia, Pa.; G. T. Rudkin; *Intrachromosomal Metabolism and Function*; 3 years; \$67,300

IOWA STATE UNIVERSITY, Ames; Oscar Kempthorne and L. N. Hazel; *Monte Carlo*

Studies of Genetic Selection; 2 years; \$70,800

Donald S. Robertson; *Pigment Deficient Mutants of Maize*; 2 years; \$21,600

JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; Andrzej W. Kozlinski and Philip E. Hartman; *Transfer and Replication of DNA in Phage*; 3 years; \$47,300

KANSAS STATE UNIVERSITY, Manhattan; Abraham Eisenstark; *Genetic Control of Protein Specificity in Bacteriophage T3*; 2 years; \$50,600

A. M. Guhl and James V. Craig; *Genetic and Social Influences on Behavior in Chickens*; 2 years; \$17,600

Thad H. Pittenger; *Genetic Control of Heterokaryosis*; 2 years; \$22,000

LONG ISLAND BIOLOGICAL ASSOCIATION, Cold Spring Harbor, N.Y.; Paul Margolin and Frank H. Mukai; *Mutation Analysis of the Base Pair Structure of a Bacterial Gene*; 2 years; \$41,000

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge; S. E. Luria and P. W. Robbins; *Genetic Control of Macromolecules*; 2 years; \$15,000

MEDICAL COLLEGE OF VIRGINIA, Richmond; J. Ives Townsend; *Genic Variability in Drosophila Willistone Sibling Group*; 2 years; \$24,700

MINNEAPOLIS WAR MEMORIAL BLOOD BANK, Minn.; G. Albin Matson; *Hereditary Blood Factors*; 2 years; \$41,000

NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY, Socorro; F. Clifford Johnson; *Variability in Natural Populations*; 2 years; \$15,700

NEW YORK ZOOLOGICAL SOCIETY, New York; Klaus D. Kallman; *Population Genetics of a Gynogenetic Vertebrate*; 1 year; \$8,800

NORTHERN ILLINOIS UNIVERSITY, DeKalb; Cecil Jackson Bennett; *Possible Hereditary Effects of Early Transplantation of Hematopoietic Elements*; 1 year; \$7,500

OHIO STATE UNIVERSITY RESEARCH FOUNDATION, Columbus; William B. McIntosh; *Comparative Genetics of the Deermouse and the Laboratory Mouse*; 1 year; \$8,300

OREGON STATE UNIVERSITY, Corvallis; J. D. Mohler; *Gene Action in Polygenic Systems of Drosophila Melanogaster*; 2 years; \$15,600

PENNSYLVANIA STATE UNIVERSITY, University Park; Paul Grun; *Cytology and Genetics of Varying Plasmion Factors of Species of Solanum*; 2 years; \$14,400

James E. Wright, Jr.; *Immunogenetic Studies in Salmonidae and Esocidae*; 2 years; \$14,000

PRINCETON UNIVERSITY, Princeton, N.J.; Bruce M. Eberhart; *Control of B-Glucosidase Activity in Neurospora Crassa*; 2 years; \$16,400

PURDUE RESEARCH FOUNDATION, Lafayette, Ind.; Seymour Benzer; *Genetic Fine Structure*; 5 years; \$490,000

RESEARCH FOUNDATION, OKLAHOMA STATE UNIVERSITY, Stillwater; Margaret H. Brooks; *Gene Action in Cytoplasmic Male Sterility in Sorghum*; 2 years; \$12,900

RUTGERS, THE STATE UNIVERSITY, New Brunswick, N.J.; Oved Shifriss; *Genetics of Seed Expression in Plants*; 3 years; \$48,300

SAN DIEGO STATE COLLEGE FOUNDATION, San Diego, Calif.; Frank J. Ratty; *Position Effect and Mutation in Drosophila Melanogaster*; 1 year; \$10,800

STANFORD UNIVERSITY, Stanford, Calif.; Charles Yanofsky; *Mutational Alterations of Tryptophan Synthetase*; 3 years; \$122,500

UNIVERSITY OF ALBERTA, Edmonton, Alberta, Canada; Royal F. Ruth; *Estimation of Immunogenetic Incompatibilities*; 2 years; \$15,600

UNIVERSITY OF CALIFORNIA, Berkeley; G. Ledyard Stebbins, Davis; *Developmental Genetics of Single Gene Differences in Barley*; 2 years; \$78,800

Hans Abplanalp, Davis and Everett R. Dempster, Berkeley; *Radiation-Induced Variability in Selection for Polygenic Traits*; 3 years; \$73,100

Elof Axel Carlson, Los Angeles; *Induced and Spontaneous Mutations*; 2 years; \$53,300

Bernard O. Phinney, Los Angeles; *Dwarf Mutants of Zea Mays*; 3 years; \$98,500

James L. Walters, Santa Barbara; *Hybrids in Natural Population Paonia*; 1 year; \$8,100

UNIVERSITY OF CHICAGO, Ill.; John Lee Hubby and Lynn H. Throckmorton; *Pteridine Metabolism in Drosophila*; 2 years; \$22,000

Robert Williams Tuveson; *Heterocaryosis and Parasexual Recombination Within and Between Presumed Fungal Species*; 2 years; \$11,800

UNIVERSITY OF FLORIDA, Gainesville; John R. Edwardson; *Cytoplasmic Male Sterility in Higher Plants*; 2 years; \$26,800

UNIVERSITY OF HAWAII, Honolulu; James L. Brewbaker; *Genetic Studies of Pollen Cell Elongation*; 2 years; \$37,300

Newton E. Morton; *Genetic Studies of Human Populations*; 2 years; \$16,200

UNIVERSITY OF MIAMI, Coral Gables, Fla.; Sheldon Greer; *Chemical Studies of Deoxyribonucleic Acids*; 1 year; \$13,400

UNIVERSITY OF MICHIGAN, Ann Arbor; Robert R. Miller; *Speciation in Poeciliid Fishes*; 2 years; \$31,900

Erich Steiner; *Incompatibility Studies in Oenothera*; 3 years; \$13,400

UNIVERSITY OF MISSOURI, Columbia; Charles Shields Gowans; *Mutation and Genetic Fine Structure in Chlamydomonas*; 2 years; \$32,600

UNIVERSITY OF NORTH CAROLINA, Chapel Hill; D. U. Gerstel, Raleigh; *Genetic Instability in Nicotiana*; 2 years; \$22,400

Walton C. Gregory, Raleigh; *Cytogenetics of Arachis*; 2 years; \$30,000

H. F. Robinson, Raleigh; *Genetic and Cytological Studies in the Fungi*; 2 years; \$27,900

Ben W. Smith; *Evolution of Sex-Determining Mechanisms in Rumex*; 1 year; \$17,500

UNIVERSITY OF OKLAHOMA, Norman; Alice M. Brues; *Test of Selection Hypotheses for ABO Blood Groups*; 1 year; \$1,900

UNIVERSITY OF PENNSYLVANIA, Philadelphia; Joseph S. Gots; *Gene-Enzyme Interactions in Bacteria*; 2 years; \$29,800

P. W. Whiting; *Cytology and Genetics of Polyploids in Mormonella Vitripennis*; 1 year; \$10,300

UNIVERSITY OF ROME, Rome, Italy; Giuseppe Montalenti; *Population and Biochemical Genetics of Humans in Italy*; 2 years; \$57,900

UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles; Henry Drexler; *Mechanism of Prophage Immunity*; 1 year; \$3,300

UNIVERSITY OF TEXAS, Austin; David P. Bloch; *Histone Synthesis and Role of Histones in Cell Division and Cell Development*; 1 year; \$18,900

Felix L. Haas, Houston; *Induction of Genetic Change*; 1 year; \$6,100

UNIVERSITY OF UTAH, Salt Lake City; Robert K. Vickery, Jr.; *Cytogenetic Studies of the Patterns of Evolution in *Mimulus**; 3 months; \$1,100

Robert K. Vickery, Jr.; *The Genetic Control of Anthocyanin Pigment Production and Distribution in *Mimulus**; 1 year; \$4,600

UNIVERSITY OF WASHINGTON, Seattle; David R. Stadler; *Genetic Fine Structure of Neurospora*; 3 years; \$49,100

UNIVERSITY OF WISCONSIN, Madison; Seymour Abrahamson; *Genetic Effects of Irradiation in *Drosophila**; 3 years; \$65,700

W. H. Gabelman; *Interactions of Genes and Cytoplasm in Pollen Sterile Plants*; 1 year; \$9,500

Hans Ris; *Ultrastructure of Genetic Systems in Plasmids*; 3 years; \$26,800

VIRGINIA POLYTECHNIC INSTITUTE, Blacksburg; Joyce M. Howell and J. Clark Osborne; *Genetic Basis of Skeletal Defects*; 1 year; \$4,000

F. Clifford Johnson; *Variability in Natural Populations*; 2 years; \$15,700

WASHINGTON STATE UNIVERSITY, Pullman; Calvin F. Konzak; *A Mutable Genetic System in *Triticum**; 2 years; \$19,400

WASHINGTON STATE UNIVERSITY, St. Louis, Mo.; Harrison D. Stalker and Hampton L. Carson; *Evolutionary Studies in *Drosophila**; 3 years; \$67,100

WAYNE STATE UNIVERSITY, Detroit Mich.; James Maniatis; *Biological Studies of Pyrenomycetous Fungi*; 1 year; \$11,800

WESTERN RESERVE UNIVERSITY, Cleveland, Ohio; Boris Ephrussi; *Genetics of Normal and Abnormal Cell Variation*; 5 years; \$349,100

WILLIAM MARSH RICE UNIVERSITY, Houston, Tex.; Val W. Woodward; *Comparison of Genetic and Complementation Maps in *Neurospora Crassa**; 1 year; \$16,100

WISTAR INSTITUTE OF ANATOMY AND BIOLOGY, Philadelphia, Pa.; Andrzej W. Kozinski; *Transfer and Replication of DNA in Phage*; 1 year; \$34,700

WOMAN'S MEDICAL COLLEGE OF PENNSYLVANIA, Philadelphia; Max Levitan; *Linkage Associations and Chromosome Aberrations*; 3 years; \$37,000

YALE UNIVERSITY, New Haven, Conn.; Edward A. Adelberg; *Genetic Regulation of Governing Amino Acid Biosynthesis in Bacteria*; 3 years; \$85,100

Harry P. Rappaport; *Transforming Principles and Protease Enzymes of *Bacillus Subtilis**; 3 years; \$41,900

Charles L. Remington; *Evolutionary Processes in Insects*; 2 years; \$57,700

HISTORY AND PHILOSOPHY OF SCIENCE

AMERICAN INSTITUTE OF PHYSICS, New York, N.Y.; John A. Wheeler; *The Quantum Revolution*; 3 years; \$203,000

AMERICAN UNIVERSITY, Washington, D.C.; Eduard Farber; *The Chemistry of Oxidation*; 1 year; \$13,500

BROWN UNIVERSITY, Providence, R.I.; David Joravsky; *A History of Michurinist Biology*; 2 years; \$9,100

CITY COLLEGE, New York, N.Y.; Edward Rosen; *Kepler's Lunar Astronomy*; 1 year; \$21,400

COLUMBIA UNIVERSITY, New York, N.Y.; Daniel A. Greenberg and Daniel E. Gershenson; *The Physical Theories of Aristotle*; 1 year; \$12,000

CORNELL UNIVERSITY, Ithaca, N.Y.; Howard B. Adelman; *Malpighi's Correspondence and Protocols*; 2 years; \$38,500

Max Black; *Foundations of Logic and Mathematics*; 2 years; \$17,200

HARVARD UNIVERSITY, Cambridge, Mass.; Israel Scheffler; *Theory of Scientific Structure*; 1 year; \$2,300

PRINCETON UNIVERSITY, Princeton, N.J.; Charles C. Gillispie; *Science in Revolutionary and Napoleonic France*; 2 years; \$34,800

ST. LOUIS UNIVERSITY, St. Louis, Mo.; John F. Daly; *Analysis of Mathematical Manuscripts*; 1 year; \$12,600

SOUTHERN METHODIST UNIVERSITY, Dallas, Tex.; Claude C. Albritton, Jr.; *Bibliography of the Philosophy of Geology*; 1 year; \$3,900

SYRACUSE UNIVERSITY RESEARCH INSTITUTE, Syracuse, N.Y.; Albert D. Menut; *Critical Edition of Oresme's *Le Livre du ciel et du monde**; 1 year; \$11,500

U.S. SMITHSONIAN INSTITUTION, Washington, D.C.; Walter F. Cannon; *Scientific Community in England, 1820-1860*; 2 years; \$18,100

UNIVERSITY OF CALIFORNIA, Berkeley; Benson Mates; *History of Ancient Formal Logic*; 2 years; \$12,500

Rudolf Carnap, Los Angeles; *Theory of Inductive Probability*; 3 years; \$73,200

UNIVERSITY OF CHICAGO, Ill.; Henryk Mehlberg; *Philosophical Foundations of Atomic Physics*; 2 years; \$20,000

UNIVERSITY OF MICHIGAN, Ann Arbor; Arthur W. Burks; *Cause, Chance, and Reason*; 2 years; \$6,500

Phillip S. Jones; *Development of the Concept of Complex Numbers*; 1 year; \$17,400

UNIVERSITY OF MINNESOTA, Minneapolis; Herbert Feigl; *The Foundations of Probability*; 1 year; \$26,300

UNIVERSITY OF NEVADA, Reno; William T. Scott; *Writings of Erwin Schrodinger*; 2 years; \$8,000

UNIVERSITY OF PITTSBURGH, Pittsburgh, Pa.; Nicholas Rescher; *Arabic Contributions to Logic*; 2 years; \$16,400

UNIVERSITY OF TEXAS, Austin; Alex Berman; *Science and French Pharmacy: 1800-1875*; 2 years; \$16,400

Richard M. Martin; *Meaning, Belief, and Behavior*; 1 year; \$9,800

UNIVERSITY OF WISCONSIN, Madison; Marshall Claggett; *Medieval Mathematics and Physics*; 1 year; \$27,900

Marshall Claggett; *Euclid in the Middle Ages*; 1 year; \$4,500

William D. Stahlman; *The Writings of Ptolemy*; 2 years; \$20,400

Julius R. Weinberg; *Theories of Induction*; 2 years; \$5,900

MATHEMATICAL SCIENCES

AMERICAN MATHEMATICAL SOCIETY, Providence, R.I.; Gordon L. Walker; *Relativity and Differential Geometry*; 1 year; \$79,000

BRANDEIS UNIVERSITY, Waltham, Mass.; Arnold S. Shapiro; *Topology*; 1 year; \$45,000

BROWN UNIVERSITY, Providence, R.I.; Katsumi Nomizu; *Geometric Structures on Differentiable Manifolds*; 2 years; \$40,000

R. S. Rivlin; *Nonlinear Continuum Physics*; 2 years; \$60,000

M. Rosenblatt; *Random Processes*; 1 year; \$44,000

BUCKNELL UNIVERSITY, Lewisburg, Pa.; Herbert F. Eckberg; *Expansion of Computer Center*; 1 year; \$25,000

CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena; R. P. Dilworth; *Group, Lattice, and Matrix Theory*; 1 year; \$53,000

A. Erdelyi; *Functional Analysis and Its Applications*; 1 year; \$40,000

G. D. McCann; *Methods for Parallel Use of a Computer*; 1 year; \$100,000

CARNEGIE INSTITUTE OF TECHNOLOGY, Pittsburgh Pa.; Henry S. Leonard, Jr.; *Finite Linear Groups*; 2 years; \$5,300

Victor J. Mizel; *A Quasi-Linear Wave Equation*; 2 years; \$10,500

Roger N. Pederson; *Elliptic Partial Differential Equations*; 2 years; \$15,000

CLARKSON COLLEGE OF TECHNOLOGY, Potsdam, N.Y.; H. L. Shulman; *Establishment of a Computing Center*; 1 year; \$24,000

COLORADO STATE UNIVERSITY RESEARCH FOUNDATION, Fort Collins; Donald L. Bentley; *Mathematical Models for Transportation of Nerve Impulses*; 2 years; \$9,500

Kenzo Seo; *A Sequential Three Decision Problem*; 2 years; \$9,200

COLUMBIA UNIVERSITY, New York, N.Y.; S. Ellenberg; *Functional Analysis*; 2 years; \$93,000

CORNELL UNIVERSITY, Ithaca, N.Y.; W. H. J. Fuchs; *Mathematical Analysis*; 2 years; \$120,000

Israel N. Herstein; *Rings and Groups*; 1 year; \$14,000

Geoffrey S. S. Ludford; *Hydromagnetics*; 2 years; \$30,000

Wolfgang Rindler; *Relativity Theory*; 1 year; \$6,400

Lionel Weiss; *Probabilistic Models in Industrial Engineering*; 2 years; \$38,000

DARTMOUTH COLLEGE, Hanover, N.H.; Thomas E. Kurtz; *Maintenance and Operation of a Computing Center*; 18 months; \$15,000

DUKE UNIVERSITY, Durham, N.C.; Thomas M. Gallie, Jr.; *Translation of Mechanical Languages*; 1 year; \$10,600

FLORIDA STATE UNIVERSITY, Tallahassee; Nicholas Heerema; *Valuation Rings*; 1 year; \$11,000

GALLAUDET COLLEGE, Washington, D.C.;

George E. Detmold; *Establishment of a Computing Center*; 1 year; \$30,000

HARVARD UNIVERSITY, Cambridge, Mass.; R. Bott; *Differential Geometry and Topology*; 1 year; \$50,000

Richard Brauer; *Groups and Algebraic Geometry*; 2 years, \$110,000

George W. Mackey; *Group Representations*; 1 year; \$11,800

HARVEY MUDD COLLEGE, Claremont, Calif.; Courtney S. Coleman; *The Qualitative Theory of Ordinary Differential Equations*; 2 years; \$8,200

Joseph B. Platt; *Establishment of a Computing Center*; 1 year; \$15,000

Haverford College, Haverford, Pa.; Louis C. Green; *Establishment of a Computing Center*; 1 year; \$40,000

ILLINOIS INSTITUTE OF TECHNOLOGY, Chicago; Abe Sklar; *Summation Formulae*; 2 years; \$20,400

INDIANA UNIVERSITY FOUNDATION, Bloomington; J. W. T. Youngs and L. C. Young; *Measure Theory*; 2 years; \$45,000

INSTITUTE FOR ADVANCED STUDY, Princeton, N.J.; Deane Montgomery; *Problems in Algebra and Topology*; 1 year; \$90,000

Hassler Whitney; *Problems in Analysis*; 1 year; \$90,000

IOWA STATE UNIVERSITY, Ames; Oscar Kempthorne; *Optimization*; 1 year; \$17,800

Bernard Vinograd; *Coefficient Fields for Local Algebras*; 2 months; \$3,900

JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; F. I. Mautner; *Functional Analysis and Groups*; 2 years; \$53,000

Clifford A. Truesdell; *Nonlinear Mechanics of Materials*; 19 months; \$37,000

KENTUCKY RESEARCH FOUNDATION, Lexington; Wimberly C. Royster; *Univalent Functions and Faber Series*; 8 months; \$6,800

KENYON COLLEGE, Gambier, Ohio; Otton M. Nikodym; *Boolean Lattices*; 2 years; \$13,900

MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge; Warren Ambrose; *Geometry and Number Theory*; 1 year; \$70,000

Kenkichi Iwasawa; *Problems in Algebra*; 1 year; \$53,000

Norman Levinson and Irving E. Segal; *Problems in Analysis*; 1 year; \$85,000

Chia-Chiao Lin, Eric Reissner, and Gerald B. Whitham; *Problems in Mechanics*; 1 year; \$73,000

Philip M. Morse; *Computer Time-Sharing Techniques*; 1 year; \$71,500

MICHIGAN STATE UNIVERSITY, East Lansing; Leo Katz; *Problems in Statistics and Probability*; 2 years; \$90,000

Lawrence W. Von Tersch; *Expansion of Computing Center*; 1 year; \$400,000

NEW MEXICO STATE UNIVERSITY, University Park; Edward O. Thorp and Seymour Goldberg; *Linear Operators*; 2 years; \$24,000

NEW YORK UNIVERSITY, New York; Chia-Kun Chu; *Problems in Magnetohydrodynamics Using Higher Order Theory*; 2 years; \$14,000

Morris Kline; *Electromagnetic Theory*; 1 year; \$110,000

Wilhelm Magnus; *Combinatorial Group Theory*; 1 year; \$33,000

NEWARK COLLEGE OF ENGINEERING, N.J.; Frederick G. Lehman; *Establishment of a Computing Center*; 1 year; \$15,000

- NORTHWESTERN UNIVERSITY, Evanston, Ill.; Hsien Chung Wang; *Transformation Groups*; 1 year; \$30,300
 Harry R. Rymer; *Expansion of a Computer Center*; 1 year; \$200,000
- OREGON STATE UNIVERSITY, Corvallis; R. G. Buschman; *Integral Transformations*; 1 year; \$7,000
 William J. Flrey; *Means of Convex Bodies*; 2 years; \$15,900
 Watson Fulks; *Parabolic Partial Differential Equations*; 1 year; \$16,400
- PENNSYLVANIA STATE UNIVERSITY, University Park; Carl Faith; *Theory of Rings*; 2 years; \$9,000
 William J. Pervin; *Syntopogenic Structures*; 2 years; \$14,400
- PORTLAND STATE COLLEGE, Portland, Oreg.; John B. Butler, Jr.; *Vibration Problems of Infinite Beams and Plates of Non-Uniform Section*; 2 years; \$5,400
- PRATT INSTITUTE, Brooklyn, N.Y.; Gideon Peyser; *Differentiability Theorems for Partial Differential Equations*; 2 years; \$6,800
- PRINCETON UNIVERSITY, Princeton, N.J.; Alonzo Church; *Mathematical Logic*; 1 year; \$49,000
 Gilbert Hunt; *Potential Theory and Probability*; 3 months; \$5,100
 John C. Moore; *Problems in Topology and Algebra*; 1 year; \$50,000
 Donald C. Spencer; *Continuous Pseudogroups*; 1 year; \$12,900
 Donald C. Spencer; *Differentiable Manifolds and Sheaves*; 1 year; \$13,400
- PURDUE RESEARCH FOUNDATION, Lafayette, Ind.; Casper Goffman; *Topics in Real Functions*; 2 years; \$73,500
 Michael Golomb; *Differential Equations*; 2 years; \$66,000
- QUEENS COLLEGE, Flushing, N.Y.; Edward Paulson; *Sequential Procedures for Multiple Decision Problems*; 15 months; \$9,000
- REED COLLEGE, Portland, Oreg.; J. B. Roberts; *Polynomial Identities*; 2 years; \$13,700
- RUTGERS, THE STATE UNIVERSITY, New Brunswick, N.J.; Richard M. Cohn; *Finite Differences*; 1 year; \$20,400
 Kenneth G. Wolfson; *Endomorphism Rings*; 1 year; \$6,000
- ST. MARY'S UNIVERSITY OF SAN ANTONIO, Tex.; James F. Gray; *Establishment of a Computing Center*; 1 year; \$10,000
- SOUTH DAKOTA SCHOOL OF MINES AND TECHNOLOGY, Rapid City; Louis C. Barrett; *Establishment of a Computing Center*; 1 year; \$15,000
- STANFORD UNIVERSITY, Stanford, Calif.; Stefan Bergman; *Theory of Several Complex Variables*; 2 years; \$72,000
 Isidore Heller; *Incidence Matrices*; 1 year; \$18,000
 John G. Herriot; *Algorithmic Methods in Numerical Analysis*; 2 years; \$14,000
 John Myhill; *Cardinal Arithmetic*; 2 years; \$21,000
 Ingram Olkin; *Multivariate Theory*; 1 year; \$37,000
 Halsey Royden; *Function Theory*; 1 year; \$76,000
 Hans Samelson; *Topology and Complex Manifolds*; 2 years; \$66,000
- Charles M. Stein; *Statistical Theory and Probability Models*; 1 year; \$49,000
 William W. Tait; *Quantifier Elimination*; 1 year; \$6,300
- STEVENS INSTITUTE OF TECHNOLOGY, Hoboken, N.J.; Anthony Ralston; *Establishment of a Computing Center*; 1 year; \$40,000
 Lawrence H. Russell; *Interpolation Formulae*; 1 year; \$5,350
- SYRACUSE UNIVERSITY RESEARCH INSTITUTE, N.Y.; Carl W. Kohls; *Rings of Continuous Functions*; 1 year; \$16,700
- TULANE UNIVERSITY, New Orleans, La.; Alfred H. Clifford and Alexander D. Wallace; *Augmented Algebraic Systems*; 1 year; \$63,000
 Fred B. Wright; *Banach Algebras and Ergodic Theory*; 2 years; \$74,000
- UNIVERSITY OF ALASKA, College; Francis D. Parker; *Establishment of a Computer Center*; 3 years; \$40,000
- UNIVERSITY OF ARIZONA, Tucson; M. S. Cheema; *Combinatorial Problems in Number Theory*; 2 years; \$8,000
 Harvey Cohn; *Biquadratic Fields*; 2 years; \$61,000
 Berthold Schweizer; *Geometric Characterization of Associative Functions*; 1 year; \$9,000
 Edwin W. Titt; *Partial Differential Equations*; 1 year; \$17,000
- UNIVERSITY OF ARKANSAS, Fayetteville; James E. Scroggs; *Singularities of Vector-Valued Functions*; 2 years; \$9,500
- UNIVERSITY OF BUFFALO, N.Y.; Raymond Ewell; *Establishment of a Computing Center*; 1 year; \$75,000
- UNIVERSITY OF CALIFORNIA, Berkeley; S. S. Chern; *Riemannian Geometry*; 1 year; \$69,000
 William Craig; *Mathematical Logic*; 2 years; \$37,000
 Bernard Friedman; *Field Theories*; 1 year; \$44,000
 George B. Dantzig; *Programming Under Uncertainty*; 2 years; \$47,500
 John L. Kelley; *Functional Analysis*; 2 years; \$90,000
 Tilla S. Klotz; *Conformal Structure of Surfaces in E^3* ; 1 year; \$3,600
 Antoni A. Kosinski; *Acyclic Multivalent Mappings*; 3 years; \$11,440
 Charles B. Morrey, Jr.; *Continuum Mechanics*; 1 year; \$15,700
 Jerzy Neyman; *Stochastic Models*; 1 year; \$74,000
 Edwin H. Spanier; *Algebraic Topology and Differential Geometry*; 1 year; \$62,000
 Alfred Tarski; *Metamathematics*; 18 months; \$95,000
 Robert L. Vaught; *Theory of Models in Metamathematics*; 2 years; \$25,000
 Frantisek Wolf; *Operator Theory*; 2 years; \$80,000
 Richard F. Arens, Los Angeles; *Functional Analysis and Applications*; 2 years; \$77,000
 Richard Montague, Los Angeles; *Meta-mathematics*; 1 year; \$13,000
 Barrett O'Neill, Los Angeles; *Differential Geometry in the Large*; 1 year; \$10,300
 Charles B. Tompkins, Los Angeles; *Expansion of Computing Center*; 1 year; \$375,000
 Clay L. Perry, San Diego; *Support of Computing Center*; 1 year; \$40,000

- Andrew M. Bruckner, Santa Barbara; *Superadditive Functions*; 1 year; \$4,700
- Paul J. Kelly, Santa Barbara; *Projective-Metric Properties of Convex Bodies*; 1 year; \$8,400
- UNIVERSITY OF CHICAGO, Ill.; A. A. Albert and Irving Kaplansky; *Problems in Algebra*; 1 year; \$45,000
- William Kruskal; *Statistical Inference*; 1 year; \$40,000
- Saunders MacLane; *Algebraic Topology*; 1 year; \$49,000
- Richard G. Swan; *Algebraic Topology*; 2 years; \$17,000
- Antoni Zygmund; *Real Variables and Singular Integrals*; 1 year; \$69,000
- UNIVERSITY OF CINCINNATI, Ohio; Campbell Crockett; *Expansion of a Computer Center*; 1 year; \$39,500
- F. J. Wagner; *Compactifications of Topological Spaces*; 3 months; \$2,650
- UNIVERSITY OF COLORADO, Boulder; Sarvadam Chowla; *Dirichlet L-Series*; 2 years; \$70,000
- Burton W. Jones; *Quadratic Forms and Algebraic Curves*; 2 years; \$62,000
- Eugene H. Wilson; *Expansion of Computing Center*; 1 year; \$300,000
- UNIVERSITY OF DELAWARE, Newark; C. C. Braunschweiler; *Linear Space Geometry*; 2 years; \$6,400
- Robert F. Jackson; *Expansion of Computing Center*; 1 year; \$40,000
- UNIVERSITY OF ILLINOIS, Urbana; Colin R. Blyth; *Sequential Probability*; 2 years; \$82,000
- David G. Bourgin; *Manifolds and Topological Spaces*; 1 year; \$55,000
- Donald L. Burkholder; *Conditional Expectation and Sufficient Statistics*; 7 months; \$10,000
- Mahlon M. Day; *Functional Analysis*; 1 year; \$34,000
- Richard P. Jerrard; *The Knaster Conjecture*; 2 years; \$7,000
- W. J. Trjitzinsky; *Metric Theory*; 15 months; \$19,400
- Herbert S. Wilf; *The Theory of Entire Functions*; 2 years; \$6,600
- UNIVERSITY OF MARYLAND, College Park; Robert E. Fullerton; *Problems in Functional Analysis*; 1 year; \$15,000
- John M. Horvath; *Algebraic Geometry*; 1 year; \$5,500
- Bruce L. Reinhard; *Pseudogroups in the Large*; 2 years; \$23,000
- UNIVERSITY OF MASSACHUSETTS, Amherst; Richard S. Stein; *Expansion of Computing Center*; 3 years; \$40,000
- UNIVERSITY OF MIAMI, Coral Gables, Fla.; John H. Curtiss; *Establishment of a Computing Center*; 1 year; \$40,000
- Andrew Sobczyk; *Topological Spaces and Algebras*; 2 years; \$20,000
- Paul M. Swingle; *Connected Sets*; 2 years; \$34,300
- UNIVERSITY OF MICHIGAN, Ann Arbor; Arthur W. Burks; *Theory of Automata*; 2 years; \$46,000
- Paul S. Dwyer; *Finite Sampling*; 1 year; \$13,000
- Paul R. Halmos; *Hilbert Space and Ergodic Theory*; 1 year; \$33,000
- Donald G. Higman; *Problems in Finite Groups*; 2 years; \$64,700
- Yukihiko Kodama; *Topology of Manifolds*; 10 months; \$8,000
- Maxwell O. Reade; *Quasi-Conformal Mapping*; 2 years; \$64,500
- Ronald H. Rosen; *Structure of Manifolds*; 1 year; \$8,800
- Joseph L. Ullman; *Approximation Theory*; 1 year; \$12,000
- Oscar Wesler; *Stochastic Programming*; 2 years; \$68,000
- UNIVERSITY OF MINNESOTA, Minneapolis; Erwin Engeler; *Theory of Models*; 1 year; \$4,200
- Laurence R. Harper; *Structure of Simple Power-Associative Algebras*; 2 years; \$7,000
- Jesus Gil de Lamadrid; *Topological Vector Spaces*; 1 year; \$7,000
- Lawrence Markus; *Problems in Analysis*; 1 year; \$72,000
- Milton Sobel; *Decision Theory*; 1 year; \$39,000
- Marvin L. Stein; *Expansion of a Computing Center*; 1 year; \$500,000
- James G. Wendel; *Algebraic Approach to Probability*; 1 year; \$14,500
- UNIVERSITY OF MISSISSIPPI, University; Charles F. Haywood; *Expansion of a Computing Center*; 1 year; \$18,000
- UNIVERSITY OF MISSOURI, Columbia; Ralph E. Lee, Rolla; *Expansion of Computing Center*; 3 years; \$20,000
- UNIVERSITY OF NEW HAMPSHIRE, Durham; Robert J. Silverman; *Problems in Functional Analysis and Algebra*; 2 years; \$24,000
- UNIVERSITY OF NEW MEXICO, Albuquerque; Julius R. Blum; *Problems in Probability and Stochastic Processes*; 2 years; \$63,000
- Ignace I. Kolodner; *Differential Equations and Related Problems in Analysis*; 2 years; \$70,000
- UNIVERSITY OF NOTRE DAME, Notre Dame, Ind.; Wilhelm F. Stoll; *Differentiable and Complex Manifolds*; 2 years; \$66,000
- UNIVERSITY OF OREGON, Eugene, Frank W. Anderson; *Rings of Quotients*; 2 years; \$26,500
- Fred C. Andrews and Donald R. Truax; *Several-Sample Problems*; 2 years; \$34,000
- Ivan Niven; *Sequences of Integers*; 2 years; \$29,900
- UNIVERSITY OF PENNSYLVANIA, Philadelphia; Edwin J. Akutowicz; *Theory of Distributions*; 3 months; \$5,000
- David K. Harrison; *Extensions of Fields and Algebras*; 2 years; \$9,250
- I. J. Schoenberg; *Number Theory*; 1 year; \$85,000
- I. J. Schoenberg; *Schlicht Functions*; 1 year; \$13,700
- Alan Wilson; *Functions with Harmonic Support*; 2 years; \$11,700
- Chung-Tao Yang; *Transformation Groups*; 1 year; \$9,000
- UNIVERSITY OF ROCHESTER, Rochester, N.Y.; Leonard Gillman; *Rings of Continuous Functions*; 14 months; \$12,700
- Thomas A. Keenan; *Expansion of a Computing Center*; 1 year; \$200,000
- Arthur H. Stone; *Metric Spaces*; 2 years; \$30,000
- Dorothy M. Stone; *Function Spaces*; 1 year; \$14,400
- UNIVERSITY OF SOUTH CAROLINA, Columbia; Charles A. Nicol; *The Ramanujan Function*; 1 year; \$4,000

UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles; Richard L. Williamson; *Operation of a Computing Center*; 3 years; \$75,000

UNIVERSITY OF TENNESSEE, Knoxville; John H. Barrett; *Boundary Value Problems*; 2 years; \$13,000

Eckford Cohen; *Arithmetical Functions of Several Variables*; 2 years; \$15,600

UNIVERSITY OF TEXAS, Austin; H. S. Vandiver; *Theory of Numbers*; 2 years; \$30,000

UNIVERSITY OF UTAH, Salt Lake City; W. J. Coles; *Behavior of Solutions of Certain Differential Equations*; 1 year; \$7,000

UNIVERSITY OF VERMONT, Burlington; Howard M. Smith, Jr.; *Expansion of Computing Center*; 1 year; \$15,000

UNIVERSITY OF VIRGINIA, Charlottesville; Alan Batson; *Expansion of Computing Center*; 3 years; \$13,000

Gordon T. Whyburn; *Problems in Analysis and Topology*; 2 years; \$52,000

Victor L. Klee, Jr.; *Convexity and Functional Analysis*; 2 years; \$60,000

UNIVERSITY OF WASHINGTON, Seattle; Ross A. Beaumont and Richard S. Pierce; *Modules, Rings, and Groups*; 1 year; \$38,000

Frank Brownell; *Differential Operators and Stochastic Processes*; 1 year; \$46,000

Douglas G. Chapman; *Statistical Models for Exploited Populations*; 2 years; \$39,000

Edwin Hewitt; *Problems in Functional Analysis*; 2 years; \$80,000

UNIVERSITY OF WISCONSIN, Madison; A. N. Feldzamen; *Operator Theory*; 2 years; \$23,600

Jacob Korevaar and Wolfgang Wasow; *Classical Analysis*; 1 year; \$34,000

J. Marshall Osborn; *Matrices*; 2 years; \$33,000

Van Der Corput, J. G.; *Asymptotic Expansions*; 2 years; \$30,000

VILLANOVA UNIVERSITY, Villanova, Pa.; Emil Amelotti; *Establishment of Computing Center*; 1 year; \$20,000

WASHINGTON STATE UNIVERSITY, Pullman; K. A. Bush; *Combinatorial Problems*; 2 years; \$15,000

Ottis W. Recharad; *Expansion of a Computing Center*; 1 year; \$200,000

WAYNE STATE UNIVERSITY, Detroit, Mich.; Walter Hoffman; *Expansion of Computing Center*; 3 years; \$250,000

WESLEYAN UNIVERSITY, Middletown, Conn.; Thornton L. Page; *Expansion of a Computing Center*; 1 year; \$24,000

WEST VIRGINIA UNIVERSITY, Morgantown; Henry W. Gould; *Binomial Coefficient Summations*; \$1,455

WESTERN MICHIGAN UNIVERSITY, Kalamazoo; George G. Mallinson; *Establishment of a Computing Center*; 1 year; \$15,000

WESTERN RESERVE UNIVERSITY, Cleveland, Ohio; William M. Huebsch; *Differential Topology*; 2 years; \$30,600

WESTERN WASHINGTON STATE COLLEGE, Bellingham; James E. McFarland; *Establishment of a Computing Center*; 1 year; \$10,000

YALE UNIVERSITY, New Haven, Conn.; Felix E. Browder; *Partial Differential Equations*; 2 years; \$37,500

G. A. Hedlund and William S. Massey; *Topology and Topological Dynamics*; 2 years; \$46,200

Nathan Jacobson; *Research in Algebra*; 2 years; \$47,000

Nathan Jacobson; *Topics in Jordan Algebras*; 9 months; \$6,500

Shizuo Kakutani and Charles E. Rickart; *Functional Analysis*; 2 years; \$46,000

George D. Mostow; *Lie Groups*; 2 years; \$45,000

YESHIVA UNIVERSITY, New York, N.Y.; Harry E. Rauch; *Differential Geometry in the Large*; 2 years; \$70,000

METABOLIC BIOLOGY

ALBERT EINSTEIN MEDICAL CENTER, Philadelphia, Pa.; David H. Ezekiel; *Structure and Function of Bacterial Nuclear Bodies*; 2 years; \$45,000

Herman Friedman; *Nucleoproteins and Subcellular Particles in Antibody Formation*; 2 years; \$33,600

Albert S. Kaplan; *Nucleic Acids Synthesized by Pseudorabies Virus-Infected Cells*; 2 years; \$57,200

Henry C. Reeves; *Alpha-Hydroxyglutarate Synthetase*; 2 years; \$36,000

Murray Strassman; *Biosynthesis of Valine, Leucine and Lysine*; 2 years; \$32,500

ARIZONA STATE UNIVERSITY, Tempe; John N. Aronson; *Sporulating Bacilli*; 2 years; \$10,000

BIO-RESEARCH INSTITUTE, Inc., Cambridge, Mass.; Peter Bernfeld; *Macroanionic Enzyme Inhibition*; 2 years; \$18,000

BRANDEIS UNIVERSITY, Waltham, Mass.; Jerome A. Schiff; *Sulfur Metabolism in Algae*; 2 years; \$33,000

BRIGHAM YOUNG UNIVERSITY, Provo, Utah; Jay V. Beck; *Metabolism of Thiobacillus Autotrophic Bacteria*; 2 years; \$24,000

Willard H. Bradshaw and Jay V. Beck; *Low Potential Electron Transfer Systems in Purine Fermenting Clostridia*; 2 years; \$31,750

Richard D. Sagers; *Acetate Formation in Anaerobic Microorganisms*; 2 years; \$25,400

BROWN UNIVERSITY, Providence, R.I.; Frank G. Rothman; *Structural Studies on E. coli Alkaline Phosphatase in Relation to Genetic Phenomena*; 3 years; \$53,800

CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena; James Bonner; *Chemical Study of Plant Growth and Development*; 3 years; \$80,000

COLORADO STATE UNIVERSITY RESEARCH FOUNDATION, Fort Collins; Arthur R. Schulz; *Mechanism of Photophosphorylation*; 2 years; \$18,000

COLUMBIA UNIVERSITY, New York, N.Y.; Philip Feigelson; *Mechanisms of Mammalian Substrate and Hormonal Induced Enzyme Formation*; 3 years; \$73,600

Alvin I. Krasna; *Enzyme Hydrogenase in Hydrogen Photosynthesis*; 2 years; \$33,400

I. B. Wilson; *Studies in Enzyme Theory*; 3 years; \$41,100

CORNELL UNIVERSITY, Ithaca, N.Y.; James L. Gaylor; *Biosynthetic Precursors of Bile Acids and Steroidal Hormones*; 2 years; \$16,900

Martin Gibbs; *Pathways of Carbohydrate Metabolism*; 3 years; \$86,000

Robert B. Reeves; *Metabolic Control in Working Anaerobic Muscle*; 2 years; \$37,900

Shoichi Steven Hotta, New York, N.Y.; *Cellular Sulfhydryl Groups*; 2 years; \$21,700

- CREIGHTON UNIVERSITY, Omaha, Nebr.; W. C. Cordes; *Fatty Acid Synthesis in Elodea*; 1 year; \$2,000
- DARTMOUTH COLLEGE, Hanover, N.H.; Samuel F. Conti; *Development and Physiology of Photosynthetic Bacteria*; 2 years; \$13,000
- DICKINSON COLLEGE, Carlisle, Pa.; Barbara B. McDonald; *DNA Metabolism in Macro and Micronuclei of Tetrahymena Pyriformis*; 3 years; \$18,700
- FORDHAM UNIVERSITY, New York, N.Y.; Friedrich F. Nord; *Structural, Biochemical and Physico-chemical Studies on Lignins*; 2 years; \$30,000
- FOUNDATION FOR RESEARCH ON THE NERVOUS SYSTEM, Boston, Mass.; Robert F. Giffillan; *Phagocytosis, Selection Growth, and Survival of Primary and Established Cell Cultures*; 2 years; \$28,700
- FUND FOR ADVANCEMENT OF EDUCATION AND RESEARCH IN THE UNIVERSITY OF KENTUCKY MEDICAL CENTER, Lexington; J. W. Archdeacon; *Bone Marrow Cells and Relation to Adenosinetriphosphatase Activity*; 2 years; \$16,000
- GOUCHER COLLEGE, Baltimore, Md.; Helen B. Funk and Helene A. Nathan; *Conversions of Pteridines by Enzymes*; 2 years; \$15,000
- Clifford R. Noll, Jr.; *Diphosphopyridine Nucleotide Linked Dehydrogenases*; 2 years; \$13,000
- HAHNEMAN MEDICAL COLLEGE AND HOSPITAL, Philadelphia, Pa.; Albert G. Moat; *Site and Mode of Action of Biotin in Metabolic Reactions*; 2 years; \$37,400
- HARVARD UNIVERSITY, Cambridge, Mass.; Albert E. Renold; *Hormonal and Nutritional Control of Amino Acid and Protein Metabolism in Adipose Tissue*; 3 years; \$50,000
- INDIANA UNIVERSITY FOUNDATION, Bloomington; Donald J. Niederpruem, Indianapolis; *Metabolism of Schizophyllum Commune*; 2 years; \$9,400
- INSTITUT PASTEUR, Paris, France; Melvin Cohn; *Investigations of Antibody and Enzyme Synthesis*; 1 year; \$6,700
- INSTITUTE FOR CANCER RESEARCH, Philadelphia, Pa.; Murray Strassman and Sidney Weinhouse; *Biosyntheses of Valine, Leucine and Lysine*; 3 years; \$35,200
- INSTITUTE FOR MUSCLE DISEASE, INCORPORATED, New York, N.Y.; Alexander Sandow and Maurice B. Feinstein; *Metabolism in Skeletal Muscle Contraction*; 2 years; \$21,500
- JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; Manfred M. Mayer; *Cytotoxic Reactions Mediated by Antibody and Complement, and Related Phenomena*; 3 years; \$78,000
- KAISER FOUNDATION RESEARCH INSTITUTE; Oakland Calif.; Morton Rothstein; *Lysine Metabolism in Algae*; 2 years; \$20,000
- LOUISIANA STATE UNIVERSITY, Baton Rouge; A. D. Larson; *Bacterial Metabolism of Iso-propylamine and Alpha-aminoisobutyric Acid*; 2 years; \$11,700
- MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge; Edward Herbert; *Synthesis of Ribonucleic Acid and Role of Ribonucleic Acid in Protein Synthesis*; 2 years; \$64,000
- Richard I. Mateles; *Dynamics of Microbial Response and Accommodation*; 2 years; \$25,000
- MICHIGAN STATE UNIVERSITY, East Lansing; Robert Bandurski; *Metabolism of Microorganisms*; 3 years; \$58,900
- Edward C. Cantino; *Relation Between Biochemical and Morphological Differentiation in Water Fungus, Blastocladiella Emersoni*; 3 years; \$39,200
- N. E. Tolbert; *The Glycolate Pathway in Plant Metabolism*; 3 years; \$60,000
- MONTANA STATE COLLEGE, Bozeman; Donald Reed; *Relation of Carbohydrate Metabolism to Mineral Nutrition of Plants*; 2 years; \$12,000
- MOUNT SINAI MEDICAL RESEARCH FOUNDATION, Chicago, Ill.; S. G. A. Alivisatos; *Metabolism of Histamine and of Related Compounds*; 3 years; \$45,000
- NEW YORK UNIVERSITY, New York; Jerard Hurwitz; *Effect of Viral Infection on RNA Metabolism*; 3 years; \$62,600
- NORTH DAKOTA STATE UNIVERSITY, Fargo; D. Stuart Frear; *Metabolism Studies of Germinating Flax Rust Uredospores*; 3 years; \$24,700
- NORTHWESTERN UNIVERSITY, Evanston, Ill.; Ralph A. Slepceky; *Morphogenesis of Bacterial Spores*; 3 years; \$36,000
- Chiadao Chen, Chicago; *Cardiotonic Steroids in the Toad*; 2 years; \$17,800
- OREGON STATE UNIVERSITY, Corvallis; David W. Loomis; *Equipment for Biosynthesis of Terpenes*; 1 year; \$5,500
- Donald J. Reed; *Relation of Carbohydrate Metabolism to Mineral Nutrition of Plants*; 2 years; \$12,000
- C. H. Wang; *Instrumentation for Carbohydrate Catabolism*; 1 year; \$13,000
- PENNSYLVANIA STATE UNIVERSITY, University Park; L. N. Zimmerman; *Arginine Dihydrolyase Enzyme System*; 2 years; \$19,500
- PURDUE RESEARCH FOUNDATION, Lafayette, Ind.; Joseph Kuc and E. B. Williams; *Metabolic Pathways Controlling Host-Parasite Relationships*; 1 year; \$19,200
- Leonard E. Mortenson; *Electron Transport and Nitrogen Fixation in Anaerobic Bacteria*; 2 years; \$36,000
- RESEARCH FOUNDATION, OKLAHOMA STATE UNIVERSITY, Stillwater; Eric C. Noller; *Effect of Lysozyme-Potentiating Treatments on Gram-Negative Bacteria*; 2 years; \$19,600
- ROCKEFELLER INSTITUTE, New York, N.Y.; Martin A. Rizack; *Enzyme Activity in Adipose Tissue*; 2 years; \$24,000
- RUTGERS, THE STATE UNIVERSITY, New Brunswick, N.J.; Werner Braun; *Effects of Cellular Components*; 3 years; \$72,400
- St. MARGARET'S HOSPITAL, Boston, Mass.; Anthony J. Sbarra and Robert F. Giffillan; *Biochemical Phenomena Associated with Phagocytosis*; 2 years; \$30,000
- SETON HALL COLLEGE OF MEDICINE AND DENTISTRY, Jersey City, N.J.; Katherine F. Lewis; *Lysine Biosynthesis in Fungi*; 2 years; \$19,000
- TEMPLE UNIVERSITY, Philadelphia, Pa.; M. Strassman and S. Weinhouse; *Biosyntheses of Valine, Leucine and Lysine*; 3 years; \$34,000
- TUFTS UNIVERSITY, Medford, Mass.; Louis Shuster, Boston; *Nucleotide Metabolism in Germinating Seeds*; 2 years; \$30,000

- UNIVERSITY OF ARIZONA, Tucson; Irving Yall; *S-Adenosylmethionine and Purine Metabolism in Yeasts*; 2 years; \$22,900
- UNIVERSITY OF CALIFORNIA, Berkeley; Daniel I. Arnon; *Nitrogen Assimilation and Photosynthesis*; 1 year; \$35,000
- I. L. Chaikoff; *Interrelations Between Fatty Acid and Carbohydrate Metabolism*; 3 years; \$81,600
- Michael Doudoroff; *Structure and Formation of Photosynthetic Apparatus in Bacteria and Blue-Green Algae*; 2 years; \$65,700
- Sanford S. Elberg; *Intramonoicytic Metabolism of *Brucella Melitensis**; 2 years; \$25,000
- David P. Hackett; *Respiratory Hydrogen Transport Chain in Plants*; 2 years; \$38,200
- W. Z. Hassid and Raymond A. Dedonder; *Biosynthesis of Saccharides from Sugar Nucleotides*; 1 year; \$18,500
- W. Z. Hassid; *Sugar Nucleotides in Plants*; 5 years; \$175,000
- W. Terry Jenkins; *Decarboxylases and Deaminases of *E. Coli**; 2 years; \$17,200
- Allen G. Marr, Davis; *Biochemical Cytology of Bacteria*; 3 years; \$45,100
- T. E. Weiler and C. R. Stocking, Davis; *Ultrastructure of Chloroplasts*; 3 years; \$46,800
- Rafael J. Martinez, Los Angeles; *Genus *Spirillum**; 2 years; \$30,000
- Leland M. Shannon and Arthur Wallace, Los Angeles; *Malonic Acid and Its Role as a Metabolic Regulator*; 2 years; \$24,000
- Irving Zabin, Los Angeles; *Sphingolipide Metabolism*; 2 years; \$38,400
- Ernest Kun, San Francisco; *Determination of the Biological Role of Enzymes*; 3 years; \$32,000
- Phillip C. Laris, Santa Barbara; *Adenosinetriphosphatase and Sugar Transport Mechanism*; 2 years; \$13,700
- UNIVERSITY OF CHICAGO, Ill.; Lawrence Bogorad & Wayne J. McClrath; *Photocontrol of Certain Metabolic Systems in Plants*; 3 years; \$46,800
- UNIVERSITY OF CINCINNATI, Cincinnati, Ohio; George W. Kittinger; *Regulation of Adrenocortical Hormone Production in the Rat*; 3 years; \$19,000
- Herman C. Lichstein; *Metabolic Control Mechanisms in the Bacterial Cell*; 3 years; \$51,900
- UNIVERSITY OF FLORIDA, Gainesville; W. S. Silver and George J. Fritz; *Analytical Mass Spectrometer*; 1 year; \$33,300
- UNIVERSITY OF GEORGIA, Athens; Milton J. Cormier; *Mechanism of Bioluminescent Reactions*; 3 years; \$4,000
- Robert G. Eagon; *Carbohydrate Metabolism of *Pseudomonas Natriegens**; 2 years; \$20,000
- UNIVERSITY OF HAWAII, Honolulu; Bruce J. Rogers; *Catabolism of 3-amino-1,2,4-triazole and Related Heterocyclic Rings in Plants*; 3 years; \$14,400
- Theodore Winnick; *Mechanisms of Biosynthesis of Polypeptides*; 4 months; \$12,000
- Theodore Winnick; *Biosynthesis and Physiological role of Gramacidin Peptides in *Bacillus Brevis**; 1 year; \$15,000
- UNIVERSITY OF ILLINOIS, Urbana; H. H. Draper; *Metabolism of Alpha Tocopherol in Animals*; 2 years; \$22,200
- I. C. Gunsalus; *Isoprenoid Metabolism: Terpene Biosynthesis and Degradation*; 5 years; \$206,400
- B. L. Larson; *Secretary Activity and Protein Synthesis*; 2 years; \$32,000
- R. S. Wolfe; *Metabolic Reactions in Bacteria*; 3 years; \$42,900
- UNIVERSITY OF MARYLAND, College Park; Leslie C. Costello; *Relationship of Metabolism to Embryological Development of *Ascaris Lumbricoides* Var. Suum*; 2 years; \$20,000
- UNIVERSITY OF MASSACHUSETTS, Amherst; Henry N. Little; *Biosynthesis of Metalloporphyrins and Metalloporphyrin Proteins*; 3 years; \$29,800
- UNIVERSITY OF MICHIGAN, Ann Arbor; I. A. Bernstein; *Biosynthesis of Deoxyribose*; 3 years; \$39,000
- Peter M. Ray; *Metabolic Processes Involved in Growth of Plant Cells*; 3 years; \$38,000
- Alfred S. Sussman; *A Developmental Study of Neurospora*; 3 years; \$57,500
- Conrad S. Yocum; *Biological Nitrogen Fixation*; 2 years; \$35,000
- UNIVERSITY OF OREGON, Eugene; Aaron Novick; *Regulatory Mechanisms*; 3 years; \$90,000
- UNIVERSITY OF PENNSYLVANIA, Philadelphia; Walter D. Bonner; *Mechanisms of Cellular Oxidations in Plant Tissues*; 2 years; \$49,300
- Martin Schwartz; *Light Reaction of Photosynthesis*; 2 years; \$12,000
- UNIVERSITY OF PITTSBURGH, Pittsburgh, Pa.; David S. Feingold; *Utilization of Deoxy- and Dideoxyaldohexoses by Microorganisms*; 2 years; \$40,000
- UNIVERSITY OF ROCHESTER, N.Y.; Wolf Vishniac; *Enzymatic Reactions in Microbial Metabolism*; 4 months; \$3,100
- Wolf Vishniac; *Autotrophic Metabolism*; 2 years; \$34,000
- UNIVERSITY OF TENNESSEE, Knoxville, Guy T. Barry; *Bacteriocin Microorganisms*; 2 years; \$40,000
- Samuel R. Tipton; *Thyroid Binding Capacity of Serum and Tissue Fractions*; 2 years; \$20,000
- William E. Jefferson, Jr., Memphis; *Steroids on Metabolism and Composition of Fungal Mycelium*; 1 year; \$10,000
- UNIVERSITY OF TEXAS, Austin; James L. Larimer; *Respiratory Proteins in Crustacea*; 2 years; \$32,000
- UNIVERSITY OF WISCONSIN, Madison; John W. Porter; *Biosynthesis of Isoprenoid Compounds*; 3 years; \$32,000
- Charles J. Sih; *Enzymatic Mechanism of Steroid Ring A Aromatization*; 2 years; \$27,000
- Folke Skoog; *Regulation of Growth and Morphogenesis in Plants*; 5 years; \$192,700
- UTAH STATE UNIVERSITY, Logan; Frank R. Stermitz; *Alkaloid Biosynthesis and Metabolism*; 2 years; \$16,800
- VANDERBILT UNIVERSITY, Nashville, Tenn.; Jane Harting Park; *Mechanism of Catalysis of 3-Phosphoglycerdehyde Dehydrogenase*; 3 years; \$36,000
- H. C. Meng; *Lipid Metabolism in Adipose Tissue*; 3 years; \$45,000
- John H. Schneider; *Nucleic Acid-Like Diphenylamine Chromogen*; 2 years; \$15,000

WAKE FOREST COLLEGE, Winston-Salem, N.C.; Walter J. Bo; *Synthesis of Glycogen from Uridinediphosphoglucose in the Uterus*; 2 years; \$14,600

WASHINGTON UNIVERSITY, St. Louis, Mo.; Oliver H. Lowry; *Riboflavin Enzymes in Growth and Deficiency*; 3 years; \$61,600

WEST VIRGINIA UNIVERSITY, Morgantown; Jerald L. Connelly; *Oxidative Decarboxylation of α -Keto Acids Derived from Branched-Chain Amino Acids*; 2 years; \$27,500

WORCESTER FOUNDATION FOR EXPERIMENTAL BIOLOGY, INC., Shrewsbury, Mass.; Oscar Hechter; *The Mode of Insulin Action*; 2 years; \$33,400

YESHIVA UNIVERSITY, New York, N.Y.; Abraham White; *Mechanism of Effects of Adrenal Cortical Steroids on Lymphoid Tissue*; 3 years; \$45,000

MOLECULAR BIOLOGY

ALBERT EINSTEIN MEDICAL CENTER, Philadelphia, Pa.; Robert J. Suhadolnik; *Biogenesis of Alkaloids*; 2 years; \$60,000

AMERICAN FOUNDATION FOR BIOLOGICAL RESEARCH, Madison, Wis.; Basile J. Luyet; *Freezing of Biological Material*; 1 year; \$50,000

AUBURN UNIVERSITY, Auburn, Alabama; W. F. Head, Jr.; *Fluorescent Antibody System*; 1 year; \$4,000

Bauer, Hugo; *Histidine Metabolism*; 2 years; \$8,000

BERMUDA BIOLOGICAL STATION FOR RESEARCH, INC., St. George's West, Bermuda; Donald G. Comb; *Biochemistry of Differentiation*; 1 year; \$4,500

BRANDEIS UNIVERSITY, Waltham, Mass.; Max Chretien; *Additional Equipment for Science Shop*; 1 year; \$10,000

Orrle M. Friedman; *Studies on the Reaction of DNA with Diazomethane*; 2 years; \$25,000

Thomas C. Hollocher; *Mechanisms of Enzymatic Reactions*; 2 years; \$50,000

Helen Van Vunakis; *Structure of Functional Groups in Biologically Active Molecules*; 2 years; \$35,000

BROWN UNIVERSITY, Providence, R.I.; Paul R. Gross; *Nucleic Acid Synthesis During the Cell Cycle of Sea Urchin Eggs*; 1 year; \$1,600

CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena; Richard E. Marsh and Robert B. Corey; *Structure of Crystals*; 2 years; \$30,000

A. Van Harreveld; *Water and Electrolyte Distribution in Central Nervous Tissue*; 2 years; \$25,000

Carl Niemann; *Synthesis and Degradation of Peptides*; 2 years; \$38,000

CHICAGO MEDICAL SCHOOL, Ill.; Robert K. Crane; *Mechanism of Intestinal Absorption*; 2 years; \$90,000

COLUMBIA UNIVERSITY, New York, N.Y.; Jay Glasel and D. Rittenberg; *Biochemical Studies Utilizing Nuclear Magnetic Resonance Spectroscopy*; 2 years; \$100,000

Irving Goodman; *Biological Action in Low Molecular Weight Compounds*; 2 years; \$30,000

Elvin A. Kabat; *Immunochemical Studies on Polysaccharides*; 3 years; \$180,000

David Shemin; *Synthesis and Function of Porphyrins and Related Compounds; Synthesis of Enzymes*; 3 years; \$175,000

F. R. Srinivasan; *The Mechanism of Transfer of Genetic Information Between Nucleus and Cytoplasm*; 2 years; \$11,000

CORNELL UNIVERSITY, Ithaca, N.Y.; Thomas C. Bruce; *Mechanism of Transamination of Amino Acids*; 2 years; \$50,000

Robert W. Holley; *Biosynthesis of Proteins*; 3 years; \$50,000

DARTMOUTH COLLEGE, Hanover, N.H.; Shinya Inoue; *Analysis of Fine Structure of Living Cells*; 2 years; \$125,000

Arthur J. Samuels; *Optical Rotatory Dispersion of Muscle Enzymes and Sub-Units*; 1 year; \$6,000

Andrew G. Szent-Gyorgyi; *Proteins, Contraction, and Morphogenesis of Muscle*; 2 years; \$200,000

DUKE UNIVERSITY, Durham, N.C.; John W. Moore; *Ionic Conductance Studies*; 2 years; \$50,000

DUQUESNE UNIVERSITY, Pittsburgh, Pa.; Norman C. Li; *Metal Binding to Biologically Important Compounds*; 2 years; \$26,000

EASTERN PENNSYLVANIA PSYCHIATRIC INSTITUTION, Philadelphia; Samuel B. Horowitz; *Non-Electrolyte Permeability*; 2 years; \$28,000

EDSEL B. FORD INSTITUTE FOR MEDICAL RESEARCH, Detroit, Mich.; Thomas P. Singer and Edna B. Kearney; *Mechanism of Mitochondrial Oxidations*; 2 years; \$50,000

FUND FOR ADVANCEMENT OF EDUCATION AND RESEARCH IN THE UNIVERSITY OF KENTUCKY MEDICAL CENTER, Lexington; Richard S. Schweet; *Amino Acids to Protein*; 3 years; \$60,000

HAHNEMANN MEDICAL COLLEGE AND HOSPITAL, Philadelphia, Pa.; Peter Oesper; *Molecular Weights and Enzyme-Substrate Dissociation Constants of Glycolytic Enzymes; The Preparation of Some New Substrates and Inhibitors*; 2 years; \$17,000

HARVARD UNIVERSITY, Cambridge, Mass.; Oleg Jardetzky; *Nuclear Magnetic Resonance Studies of Biologically Important Molecules*; 2 years; \$80,000

Herman M. Kalckar; *Molecular Basis of Enzyme Synthesis and Activity*; 3 years; \$140,000

John H. Law; *Bacterial Lipids*; 2 years; \$25,000

Matthew S. Meselson; *Structural Basis of Genetic Recombination*; 3 years; \$150,000

A. K. Solomon; *Permeability of Cellular Membranes*; 2 years; \$70,000

George Wald; *Biology and Evolution of Vision*; 3 years; \$84,000

James D. Watson; *Structure and Function of Bacterial Ribosomes*; 1 year; \$30,000

HEBREW UNIVERSITY, Jerusalem, Israel; Michael Schramm; *Enzyme Secretion by Cell*; 2 years; \$35,000

HUNTER COLLEGE, New York, N.Y.; Richard C. Mawe; *Glucose Penetration in Human Red Blood Cell*; 3 years; \$15,000

ILLINOIS INSTITUTE OF TECHNOLOGY, Chicago; Robert Filler; *Synthetic Polymers of Unnatural Amino Acids*; 2 years; \$25,000

INDIANA UNIVERSITY FOUNDATION, Bloomington; Walter L. Meyer; *Synthetic Approaches to C-18 Functional Steroids*; 2 years; \$21,000

- JOHANN-WOLFGANG - GOETHE - UNIVERSITÄT, Frankfurt-am-Main, West Germany; Erich Heinz; *Mechanism of Active Transport Across Cellular Membranes*; 2 years; \$28,000
- JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; Howard M. Dintzis; *Crystalline Proteins*; 1 year; \$29,000
- Albert L. Lehninger; *Active Transport by Mitochondria*; 3 years; \$80,000
- W. D. McElroy; *Conversion of Chemical Energy into Light Energy by Biological Systems*; 3 years; \$99,000
- Gifford B. Pinchot; *Mechanisms of Oxidative Phosphorylation*; 3 years; \$57,000
- KAISER FOUNDATION RESEARCH INSTITUTE, Richmond, Calif.; Ilse Dorothea Raacke and Mary Belle Allen; *Protein Synthesis in Algae*; 2 years; \$20,000
- KYOTO UNIVERSITY, Yoshidamachi, Kyoto, Japan; Itaru Watanabe; *Transfer of Genetic Information in Bacterial DNA System*; 2 years; \$30,000
- LANGLEY PORTER NEUROPSYCHIATRIC INSTITUTE, San Francisco, Calif.; George L. Ellman; *Protein Changes in Brain Tissues*; 2 years; \$20,000
- MANHATTAN COLLEGE, New York, N.Y.; C. William Batt; *Purification and Kinetics of Esterases from Various Seeds*; 2 years; \$10,000
- MARINE BIOLOGICAL LABORATORY, Woods Hole, Mass.; Albert Szent-Gyorgyi; *Electronic Interactions Between Molecules*; 2 years; \$80,000
- J. Woodland Hastings; *Scientific Equipment for Physiology and Biochemistry*; 1 year; \$65,000
- MASSACHUSETTS INSTITUTE OF TECHNOLOGY, Cambridge; Vernon M. Ingram; *Genetic Control of Protein Structure and Its Relation to Protein Synthesis*; 2 years; \$65,000
- Alexander Rich and John M. Buchanan; *Electron Spin Resonance Studies*; 1 year; \$50,000
- MELLON INSTITUTE, Pittsburgh, Pa.; Robert V. Rice; *Macromolecular Conformations*; 1 year; \$9,000
- MICHIGAN STATE UNIVERSITY, East Lansing; Willis A. Wood; *Synthesis of Enzyme Families*; 2 years; \$25,000
- MOUNT HOLYOKE COLLEGE, South Hadley, Mass.; Curtis G. Smith; *Control of RNA Synthesis*; 2 years; \$10,000
- MOUNT SINAI HOSPITAL, New York, N.Y.; J. D. Chanley and Harry Sobotka; *Steroid Compounds from Invertebrates*; 2 years; \$82,000
- NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL, Washington, D.C.; Frank L. Campbell; *Support of NAS-NRC Ad Hoc Committee on International Relations in Biophysics*; 1 year; \$9,000
- NEW YORK UNIVERSITY, New York; B. L. Horecker; *Enzyme Mechanisms in Carbohydrate Metabolism*; 3 years; \$110,000
- OKLAHOMA MEDICAL RESEARCH FOUNDATION, Oklahoma City; Ranwel Caputto; *Chemical Studies on Adenosine-Myonosine Dinucleotide*; 2 years; \$25,000
- OREGON STATE UNIVERSITY, Corvallis; Vernon H. Cheldelin; *Biosynthesis of Essential Metabolites*; 1 year; \$7,000
- Conrad T. O. Fong; *Chemical Aspects of Hormone-Receptor Interaction*; 2 years; \$20,000
- OSAKA UNIVERSITY, Osaka, Japan; Hiroshi Fujita; *Ultracentrifugal Method*; 2 years; \$5,500
- PASTEUR INSTITUTE, Paris, France; Charles W. Todd; *Chemistry of Antibody Proteins*; 2 years; \$15,000
- PENNSYLVANIA STATE UNIVERSITY, University Park; Greenville K. Strother; *Neural Photopigments in Vivo*; 2 years; \$15,000
- PRINCETON UNIVERSITY, Princeton, N.J.; Frank H. Johnson; *Biochemistry of Luminescent Systems*; 2 years; \$38,000
- Walter Kauzmann; *Protein Structure and Behavior*; 3 years; \$160,000
- RESEARCH FOUNDATION, OKLAHOMA STATE UNIVERSITY, Stillwater; George Gorin; *Tertiary Structure of Proteins*; 2 years; \$24,000
- RESEARCH FOUNDATION OF STATE UNIVERSITY OF NEW YORK, Albany; Sumner N. Levine, Oyster Bay; *Electrical Transport in Helical Molecules*; 2 years; \$25,000
- RETINA FOUNDATION, Boston, Mass.; John Gergely; *Biochemistry of Muscle Contraction*; 2 years; \$50,000
- ROCKEFELLER INSTITUTE, New York, N.Y.; Lucien G. Caro and George E. Palade; *Protein Synthesis and Intracellular Transport*; 1 year; \$19,000
- Daniel E. Koshland, Jr.; *Enzyme Structure and Function*; 2 years; \$25,000
- Gertrude E. Perlmann; *Structural Studies on Phosphoproteins*; 2 years; \$30,000
- Theodore Shedlovsky; *Function of Protons in Solutions*; 2 years; \$24,000
- RUTGERS, THE STATE UNIVERSITY, New Brunswick, N.J.; Frank F. Davis; *Low Molecular Weight Ribonucleic Acids from Yeast*; 2 years; \$22,000
- Ekkehard K. F. Bantz; *Fractionation and Characterization of Messenger RNA*; 1 year; \$12,000
- Michael Heidelberger; *Relations Between Chemical Constitution and Immunological Specificity*; 3 years; \$75,000
- David Pramer; *Concentration and Characterization of Nemin*; 2 years; \$21,000
- Walter W. Wainio; *Purification and Characterization of the Cytochromes Oxidase, b and c1 of Mammalian Heart Muscle*; 2 years; \$20,000
- ST. LOUIS UNIVERSITY, Mo.; Walter R. Schlesinger; *Macromolecular and Particulate Elements*; 2 years; \$75,000
- Audrey Stevens; *Ribonucleic Acid in Bacterial Extracts*; 2 years; \$35,000
- A. H. Weber; *Structure Determination of Virus Particles*; 1 year; \$5,000
- SMITH COLLEGE, Northampton, Mass.; Dorothy Wrinch; *Structure of Small Peptides and Peptide Fragments*; 2 years; \$15,000
- STANFORD UNIVERSITY, Stanford, Calif.; M. Weissbluth; *U-V and Mossbauer Studies in Macromolecules*; 2 years; \$40,000
- STATE UNIVERSITY OF IOWA, Iowa City; Charles A. Swenson; *Infrared Spectra of Biologically Important Compounds*; 2 years; \$30,000

- SYRACUSE UNIVERSITY, Syracuse, N.Y.; Roger O. Eckert; *Excitation-Response Coupling in Bioluminescent Cells*; 2 years; \$25,000
- UNIVERSITY OF ARIZONA, Tucson; John A. Rupley; *Studies on Lysozyme*; 2 years; \$35,000
- UNIVERSITY OF CALIFORNIA, Berkeley; Frederick H. Carpenter; *Chemistry of Proteins*; 3 years; \$54,000
James Cason; *Non-Antibiotic Metabolic Products of Molds*; 2 years; \$20,000
Charles A. Dekker; *Structural Studies on Nucleic Acids*; 1 year; \$5,000
Robert I. Macey; *Permeability of Biological Membranes to Non-Electrolytes*; 2 years; \$30,000
Lester Packer; *Function of Sub-Cellular Membranes*; 2 years; \$45,000
Martin D. Kamen, La Jolla; *Biochemistry of Haematin Compounds in Photosynthetic Bacteria*; 3 years; \$140,000
Stanley L. Miller, La Jolla; *Synthesis of Organic Compounds*; 2 years; \$28,000
Andrew A. Benson, Los Angeles; *Radiochemical Studies in Lipid Biochemistry*; 1 year; \$19,000
Fritiof S. Sjostrand, Los Angeles; *Enzymatic Activities Connected with Certain Cytoplasmic Systems*; 2 years; \$100,000
Warren D. Kumler, San Francisco; *Nuclear Magnetic Resonance Spectroscopy*; 1 year; \$25,000
Manuel P. Morales and Shizuo Watanabe, San Francisco; *Molecular Aspects of Muscle Function*; 3 years; \$120,000
Harold Tarver and Richard A. Fineberg, San Francisco; *Structure and Biosynthesis of Ferritin and Apoferritin*; 2 years; \$35,000
- UNIVERSITY OF DELAWARE, Newark; Don Dennis; *Substrate Substituted Cellulose Resins for Enzyme Purification*; 2 years; \$14,000
- UNIVERSITY OF FLORIDA, Gainesville; James L. Nation; *Study of Purine Catabolism in Insects*; 2 years; \$16,000
- UNIVERSITY OF HAWAII, Honolulu; Kerry T. Yasunobu; *Mode of Action of Chymopapain and Chymobromelain*; 2 years; \$25,000
- UNIVERSITY OF ILLINOIS, Urbana; Govindjee Eugene Rabinowitch; *Photochemical Processes*; 2 years; \$50,000
L. P. Hager; *Biological Halogenation Mechanisms*; 3 years; \$90,000
A. C. Ivy, Chicago; *Determination of Histamine*; 1 year; \$1,000
J. Emerson Kempf, Chicago; *Protein Synthesis in Viral Infection*; 2 years; \$20,000
Alfred Nisonoff; *Structural Studies of Antibodies*; 2 years; \$75,000
N. Sueoka; *DNA Replication*; 3 years; \$45,000
Elizabeth Thorogood; *Legume Nodule Hemoproteins*; 1 year; \$2,000
- UNIVERSITY OF KANSAS, Lawrence; Philip Newmark; *Nucleic Acid, Protein and Virus Synthesis*; 2 years; \$35,000
- UNIVERSITY OF LOUISVILLE, Louisville, Ky.; Peter K. Knoefel; *Intermolecular Bonding in a Biological Transport System*; 1 year; \$6,500
Paul G. LeFevre; *Mechanism of Carrier-Mediated Transport of Sugars Through Cell Membranes*; 3 years; \$100,000
- UNIVERSITY OF MAINE, Orono; George R. Pettit; *Alkaloid and Triterpene Components of the Labiatae*; 2 years; \$20,000
- UNIVERSITY OF MARYLAND, College Park; Arthur J. Emery, Jr., Baltimore; *Protein Biosynthesis*; 2 years; \$15,000
Edward J. Herbst, Baltimore; *Molecular Form and Function of Spermine in Animal Tissues*; 2 years; \$20,000
- UNIVERSITY OF MICHIGAN, Ann Arbor; Philipp Gerhardt; *Membrane Ultrastructure in Microorganisms*; 1 year; \$45,000
Philipp Gerhardt; *Membrane Ultrastructure in Microorganisms*; 2 years; \$18,000
- UNIVERSITY OF MINNESOTA, Minneapolis; D. R. Briggs; *Chemical and Physical Properties and Structures of Proteins*; 2 years; \$10,000
Victor Lorber; *Ion Fluxes in Heart Muscle*; 2 years; \$20,000
Rufus Lumry; *Kinetic Studies of Enzyme Mechanisms by High-Speed Methods*; 2 years; \$26,000
C. J. Watson and Colm C. O'hEocha; *Structural Studies of the Phycobilins*; 1 year; \$10,000
- UNIVERSITY OF MISSOURI, Columbia; Charles W. Gehrke; *The Quantitative Determination of Amino Acids by Gas Chromatography*; 2 years; \$16,000
- UNIVERSITY OF NEBRASKA, Lincoln; John H. Pazur; *Thymidine Diphosphate Hexoses and the Synthesis of Carbohydrates*; 2 years; \$30,000
- UNIVERSITY OF NORTH CAROLINA, Chapel Hill; Ralph Penniall; *ATP of Rat Liver Mitochondria Responsive to 2,4-DNP*; 2 years; \$25,000
Claude Plantadosi; *Chemistry and Metabolism and Plasmalogens*; 2 years; \$18,000
- UNIVERSITY OF OREGON, Eugene; Sidney A. Bernhard; *Molecular Structure and Function*; 2 years; \$115,000
F. J. Reithel; *Reversible Association of Proteins and the Relation to Enzymic Activity*; 3 years; \$100,000
- UNIVERSITY OF THE PACIFIC, Stockton, Calif.; Howard K. Zimmerman; *Fundamental Chemistry of Aminoacugars*; 1 year; \$11,000
Howard K. Zimmerman; *Synthesis of New Aminoacugars*; 2 years; \$30,000
- UNIVERSITY OF PENNSYLVANIA, Philadelphia; Mildred Cohn; *Mechanisms of Phosphorylation and Phosphate Transfer Reactions*; 3 years; \$90,000
Georg Czerninski; *Temperature Jump Studies*; 2 years; \$50,000
David L. Drabkin; *Hemin Chromoproteins*; 2 years; \$25,000
Fred Karush; *The Study of the Exchangeable Hydrogen of Proteins with Tritium*; 2 years; \$24,000
Abraham M. Shanes; *A Physicochemical Approach to Natural Membranes*; 2 years; \$30,000
- UNIVERSITY OF PITTSBURGH, Pa.; Klaus Hofmann; *Relation Between Structure and Biological Activity of Synthetic Polypeptides*; 3 years; \$55,000
Max A. Lauffer; *Formation of Virus Particles*; 2 years; \$30,000
Walter S. Vincent; *Deoxyribonucleic Acid-Like Ribonucleic Acid*; 2 years; \$50,000

UNIVERSITY OF SOUTH FLORIDA, Tampa; Frank E. Friedl; *Growth and Nutrition of an Acentic Snail*; 2 years; \$17,200

UNIVERSITY OF TENNESSEE, Knoxville; Alkis J. Sophianopoulos; *Thermodynamics of Reversible Structural Changes in Proteins*; 1 year; \$25,000

UNIVERSITY OF UPPSALA, Uppsala, Sweden; Arne Tiselius; *Methods for the Separation of Particles and Macromolecules in Biological Systems*; 3 years; \$120,000

UNIVERSITY OF UTAH, Salt Lake City; John D. Spikes; *The Physical-Chemical Properties of Tendon and Other Mechanical Tissues in Animals*; 2 years; \$20,000

UNIVERSITY OF VERMONT, Burlington; Thomas B. Tomasi; *Relation of Rheumatoid Factors to 19S Antibodies*; 2 years; \$4,000
Robert C. Woodworth; *Structure of the Specific Binding Sites*; 2 years; \$16,000

UNIVERSITY OF VIRGINIA, Charlottesville; R. Bruce Martin; *Ligand Field and Charge Transfer Spectra*; 2 years; \$20,000

UNIVERSITY OF WASHINGTON, Seattle; Milton P. Gordon; *Modification of Tobacco Mosaic Virus*; 2 years; \$50,000

Donald J. Hanahan; *Complex Lipids*; 3 years; \$40,000
Robert F. Labbe; *Enzymatic Mechanism of Iron-Protoporphyrin Chelation*; 3 years; \$40,000

UNIVERSITY OF WISCONSIN, Madison; Julius Adler; *Biochemistry of Virus Production*; 2 years; \$23,000

Philip P. Cohen; *Biochemistry of Urea Biosynthesis*; 2 years; \$35,000
Stephen A. Kuby; *Glucose 6-Phosphate Dehydrogenase*; 2 years; \$55,000

Henry A. Lardy; *Energy Transfer Reactions*; 3 years; \$160,000

F. M. Strong; *Chemistry and Metabolism of Substances*; 3 years; \$54,000

George C. Webster; *Enzymatic Synthesis of Protein*; 2 years; \$19,000

WASHINGTON UNIVERSITY, St. Louis, Mo.; Luis Glaser; *The Synthesis and Metabolism of Thymidine Diphosphate Rhamnose*; 2 years; \$25,000

Roger G. Hart; *Observation of Particles*; 2 years; \$15,000

Jack L. Strominger; *Structure and Biosynthesis of Bacterial Cell Walls* 3 years; \$90,000

Tung-Yue Wang; *Proteins and Nucleic Acids of Cell Nucleus*; 2 years; \$25,000

UNIVERSITY OF ROME, Rome, Italy; Wyman, Jeffries; *Relation Between Structure and Function in the Hemoglobins, Myoglobins, and Related Substances*; 2 years; \$45,000

YALE UNIVERSITY, New Haven, Conn.; Henry G. Mautner; *Analogous Oxygen, Sulfur, and Selenium Compounds*; 2 years; \$30,000

YESHIVA UNIVERSITY, New York, N.Y.; Nathan W. Penn; *Nature and Role of the Mitochondrial Acceptor Fraction in Protein Metabolism*; 1 year; \$2,000

N. W. Penn; *RNA Synthesis in the Liver Mitochondrial Fraction*; 1 year; \$20,000

Maurice M. Rapport; *The Chemical Structure and Immunochemical Properties of Lipid Haptens*; 2 years; \$40,000

Jonathan B. Wittenberg; *Oxygen Transport; Retia Mirabilia*; 3 years; \$55,000

PHYSICS

ADELPHI COLLEGE, Garden City, N. Y.; Henry Brysk; *Theory of Scattering*; 2 years; \$12,000

Melvin Schwartz; *Canonical Formulation of Electrodynamics*; 2 years; \$12,000

AMERICAN INSTITUTE OF PHYSICS, New York, N.Y.; Elmer Hutchisson; *The Development of Physics Research Opportunities in Small Colleges*; 1 year; \$36,100

AMERICAN UNIVERSITY OF BEIRUT, Beirut, Lebanon; Frans Bruin; *Paramagnetic Resonance of Free Radicals at Weak Magnetic Fields*; 2 months; \$7,800

ANTIOCH COLLEGE, Yellow Springs, Ohio; Robert E. Warner; *Proton Reactions at 18 Mev*; 3 years; \$30,400

ARIZONA STATE UNIVERSITY, Tempe; Arnold G. Melster and Jerome M. Dowling; *Infrared Spectra of Polyatomic Molecules*; 1 year; \$19,000

BOSTON UNIVERSITY, Mass.; Edward C. Booth; *Nuclear Resonance Scattering of Bremsstrahlung*; 2 years; \$25,700

Wolfgang Franzen; *Optical Pumping and Optical Coherence*; 2 years; \$40,000

BOWDOIN COLLEGE, Brunswick, Maine; Myron A. Jeppesen; *Thin Solid Films*; 2 years; \$20,400

BRANDEIS UNIVERSITY, Waltham, Mass.; Stephan Berko; *Positron, Electron and Phonon Interaction Experiments*; 2 years; \$43,500

Edgar Lipworth and Milton Baker; *High Resolution Atomic Beam Study of Rare Earths*; 2 years; \$66,000

BRIGHTON YOUNG UNIVERSITY, Provo, Utah; John H. Gardner; *Gyromagnetic Ratio of the Free Electron*; 2 years; \$22,800

BROWN UNIVERSITY, Providence R.I.; H. E. Farnsworth; *Chemical Reactions at Atomically-Clean Surfaces*; 2 years; \$57,600

Howard A. Snyder; *Quantized Vortex Lines in Liquid Helium*; 2 years; \$43,300

CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena; John R. Pellam; *Low Temperature Physics*; 2 years; \$144,400

Jesse W. M. DuMond, *An Inhomogeneous Field Magnetic Spectrometer*; 3 years; \$108,300

CARLETON COLLEGE, Northfield, Minn.; Robert Kolenkow; *Beam-Beam Atomic Collisions at Thermal Velocities*; 3 years; \$18,200

CARNEGIE INSTITUTE OF TECHNOLOGY, Pittsburgh, Pa.; Sergio DeBenedetti; *Solid State Properties Using Radioactive Techniques*; 2 years; \$41,000

S. A. Friedberg; *Low Temperature Magnetic Measurements on Hydrated Salts of Metals*; 2 years; \$39,500

George W. Hinman; *Extranuclear Effects on Angular Correlation of Gamma Rays*; 2 years; \$39,600

J. M. Radcliffe; *Solid State Theory*; 1 year; \$14,300

Robert T. Schumacher; *Magnetic Resonance Studies in Solids*; 2 years; \$42,500

CITY COLLEGE, New York, N.Y.; Harry Lustig; *Nuclear Reaction Data and Theory of the Mossbauer Effect*; 2 years; \$19,000

COLBY COLLEGE, Waterville, Maine; Dennison Bancroft; *Velocity of Sound in Gases*; 3 years; \$19,300

- COLUMBIA UNIVERSITY, New York, N.Y.; Lawrence C. Krisher; *Molecular Properties Utilizing Microwave and Maser Beam Spectrometers*; 2 years; \$53,000
 Jack Steinberger and Melvin Schwartz; *Precision Film Reader for Bubble Chamber Analysis*; 1 year; \$35,000
- CORNELL UNIVERSITY, Ithaca, N.Y.; Alan J. Bearden; *Mossbauer Investigations of Liquid Helium*; 2 years; \$38,900
 Giuseppe Cocconi and Jay Orear; *Particle Interactions at Ultra Relativistic Energies*; 2 years; \$318,400
 David M. Lee; *Helium Solutions at Low Temperatures*; 2 years; \$29,100
- DARTMOUTH COLLEGE, Hanover, N.H.; William T. Doyle; *Magnetic and Optical Properties of Color Centers in Ionic Crystals*; 2 years; \$29,700
- DUKE UNIVERSITY, Durham, N.C.; L. C. Bledenharn and Eugene Greuling; *Theoretical Nuclear Physics*; 2 years; \$38,000
 Horst Meyer; *Thermal and Magnetic Properties at Low Temperatures*; 2 years; \$56,800
- EMORY UNIVERSITY, Atlanta, Ga.; James W. Simmons; *Electron Spin Resonance*; 1 year; \$28,000
- FLORIDA STATE UNIVERSITY, Tallahassee; Joseph E. Lannutti; *Elementary Particle Physics Using Bubble Chamber Methods*; 2 years; \$87,100
- FORDHAM UNIVERSITY, New York, N.Y.; Alfons Weber; *High-Resolution Raman Spectroscopy of Gases*; 2 years; \$31,400
- GEORGIA INSTITUTE OF TECHNOLOGY, Atlanta; R. Martin Ahrens; *Heisenberg's Non-Linear Field Theory*; 2 years; \$17,200
 Joseph Ford; *Ergodicity and the Approach to Equilibrium*; 2 years; \$18,000
 J. Q. Williams and T. L. Weatherly; *Molecular Constants by Microwave Spectroscopy*; 2 years; \$26,400
- HARVARD UNIVERSITY, Cambridge, Mass.; Francis M. Pipkin; *Dynamic Nuclear Orientation*; 3 years; \$142,500
- HARVEY MUDD COLLEGE, Claremont, Calif.; Graydon D. Bell; *Oscillator Strengths for Heavy Elements*; 3 years; \$51,600
- HOWARD UNIVERSITY, Washington, D.C.; Herman Branson; *Magnetic Susceptibilities of Solidified Aqueous Solutions at Low Temperatures*; 1 year; \$6,900
- ILLINOIS INSTITUTE OF TECHNOLOGY, Chicago; Forrest F. Cleveland; *Spectra of Polyatomic Molecules*; 3 years; \$44,400
- INDIANA UNIVERSITY FOUNDATION, Bloomington; H. J. Martin; *Elementary Particle Interactions Using Bubble Chamber Techniques*; 2 years; \$133,900
- JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; Edwin R. Fitzgerald; *Mechanical Resonance Dispersion in Solids at Audiofrequencies*; 1 year; \$21,900
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- KENT STATE UNIVERSITY, Kent, Ohio; J. W. McGrath and Anthony A. Silvidi; *Resonance Studies in Two-Proton Systems*; 2 years; \$50,300
- LEHIGH UNIVERSITY, Bethlehem, Pa.; Raymond J. Emrich; *Shock Tube Wall-Gas Interactions*; 2 years; \$31,300
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YESHIVA UNIVERSITY, New York, N.Y.; John Ceraso; *Verbal Retention and Transfer*; 2 years; \$21,600

REGULATORY BIOLOGY

AMERICAN UNIVERSITY, Washington, D.C.; Alfred B. Chaet; *Starfish Neural Extracts*; 2 years; \$15,000

BOSTON COLLEGE, Chestnut Hill, Mass.; Robert M. Coleman; *Serology of Dwarf Tapeworm*; 3 years; \$3,200

BOSTON UNIVERSITY, Mass.; John D. Ift; *Gonadotropic Activities of the Pituitary*; 3 years; \$36,300

BOYCE THOMPSON INSTITUTE FOR PLANT RESEARCH, Inc., Yonkers, N.Y.; Lela V. Barton; *Dormancy and After-Ripening of Seeds*; 3 years; \$29,700

Jean Pierre Vite and George L. McNew; *Symbiosis of Ceratocystis Pini and Bark Beetles*; 3 years; \$36,900

CALIFORNIA ARBORETUM FOUNDATION, Arcadia; William Hovanitz; *Host-Plant Specificities*; 2 years; \$29,500

CLARK UNIVERSITY, Worcester, Mass.; Vernon Ahmadjian; *Laboratory Controlled Lichen Synthesis*; \$3,045

COLGATE UNIVERSITY, Hamilton, N.Y.; Roger A. Hoffman; *Changes in Some Endocrine Glands*; 1 year; \$5,700

COLORADO STATE UNIVERSITY RESEARCH FOUNDATION, Fort Collins; Frank B. Salisbury; *Environment in the Flowering Process*; 2 years; \$30,800

COLUMBIA UNIVERSITY, New York, N.Y.; Harry Grundfest; *Bioelectric Activity*; 3 years; \$156,100

Werner R. Lowenstein; *Nature and Localization of Generator Processes in Receptors*; 3 years; \$72,700

CORNELL UNIVERSITY, Ithaca, N.Y.; Martin Alexander; *Symbiosis of Rhizobium with Leguminous Plants*; 3 years; \$45,000

Roger L. Greif; *Thyroxine and Metabolism of Excised Rat Tissues*; 3 years; \$22,100

William A. Wimsatt; *Morphological and Physiological Studies of Chiroptera and Reptiles*; 3 years; \$51,500

Robert B. Musgrave; *Variance in Photosynthetic Capacities*; 2 years; \$29,100

Richard E. Phillips; *Inhibition of Pituitary-Ovary Axis*; 1 year; \$13,900

DARTMOUTH COLLEGE, Hanover, Mass.; Edwin H. Bettle; *Growth-Reaction Equations*; 1 year; \$6,200

David S. Dennison; *Geotropism and Its Relation to Phototropism in Phycomyces Sporangiophores*; 3 years; \$47,900

Thomas B. Roos; *Regulation of Adrenocortical Secretion*; 2 years; \$19,200

DUKE UNIVERSITY, Durham, N.C.; Peter H. Klopfer and Klaus Schmidt-Koenig; *Animal Orientation*; 3 years; \$64,300

Jack L. Kostyo; *Action of Gonadotropins*; 3 years; \$45,900

DUQUESNE UNIVERSITY, Pittsburgh, Pa.; Howard G. Ehrlich; *Host-Parasite Relationships*; 1 year; \$8,050

FLORIDA STATE UNIVERSITY, Tallahassee; Dexter M. Easton; *Synaptic Functions and Connections*; 2 years; \$21,500

FRANKLIN AND MARSHALL COLLEGE, Lancaster, Pa.; John J. McDermott; *Host-Parasite Relations of the Pinnotherid Crabs*; 1 year; \$5,000

GEORGE WASHINGTON UNIVERSITY, Washington, D.C.; Eugene M. Renkin; *Regulatory Mechanisms in Blood Circulation*; 4 years; \$113,000

HARTNELL COLLEGE, Salinas, Calif.; Howard M. Feder; *Starfish Substance Eliciting Protective Responses in Gastropods*; 2 years; \$15,100

HARVARD UNIVERSITY, Cambridge, Mass.; Don W. Fawcett; *Comparative Studies on the Fine Structure of Capillaries and of Striated Muscle*; 2 years; \$23,500

Elwood Henneman; *Functional Significance of the Size of Neurons in the Central Nervous System*; \$5,000

Paul L. Munson; *Regulation of Secretion of Adrenocorticotrophic Hormones*; 5 years; \$111,600

Kenneth V. Thimann; *Plant Growth, Tropisms and Biogenesis of Auxin*; 3 years; \$84,300

Carroll M. Williams; *Insect Physiology*; 3 years; \$117,600

HASKINS LABORATORIES, Inc., New York, N.Y.; S. H. Hutner; *Nutritional Requirements in Chemically Defined Media of Trichomonads from Potkilotherms*; 1 year; \$8,000

INDIANA UNIVERSITY FOUNDATION, Bloomington; Merrill J. Allen; *Human Accommodative Mechanism*; 1 year; \$13,700

Carlos O. Miller; *Chemical Patterns of Plant Growth and Development*; 3 years; \$45,400

JEWISH CHRONIC DISEASE HOSPITAL, Brooklyn, N.Y.; Sydney S. Lazarus and Bruno W. Volk; *Pathogenesis of Pancreatic B Cell Destruction in Metadiabetes*; 3 years; \$74,000

JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; Ernest Bueding; *Biochemical and Physiological Characteristics of Smooth Muscle*; 2 years; \$5,900

KENTUCKY RESEARCH FOUNDATION, Lexington; J. G. Rodriguez; *Nutrition of Plant-Feeding Mites*; 3 years; \$30,500

LOS ANGELES STATE COLLEGE FOUNDATION, Los Angeles, Calif.; Wesley O. Griesel; *Photoperiodism and Endogenous Rhythms in Cestrum*; 3 years; \$19,600

LOUISIANA STATE UNIVERSITY, Baton Rouge; Murray S. Blum; *Dolichoderine Anal Gland Secretions*; 3 years; \$14,600

J. Porter Woodring; *Nutrition of Selected Saprophytic Sarcopitiformic Mites*; 3 years; \$13,200

LYCOMING COLLEGE, Williamsport, Pa.; Bartley C. Block; *Studies of Gypsy Moth Antenna*; 1 year; \$1,200

MCGILL UNIVERSITY, Montreal, Canada; Alfred F. Naylor; *Limiting Factors Influ-*

encing Individual and Population Growth Rates in the Flour Beetle; Tribolium Castaneum; 2 years; \$19,300

MCNEESE STATE COLLEGE, Lake Charles, La.; Ronald D. Crain; *Scent Gland Secretions*; 3 years; \$17,100

MEDICAL AND HEALTH RESEARCH ASSOCIATION OF NEW YORK CITY, INCORPORATED, N.Y.; M. L. Littman; *Requirements of Fungi*; 3 years; \$56,900

MONTANA STATE COLLEGE, Bozeman; Richard H. McBea; *Rodent Caecal and Stomach Fermentations*; 2 years; \$21,700

MONTANA STATE UNIVERSITY, Missoula; R. W. Pfeiffer and R. S. Hoffman; *Endocrine Factors Controlling Behavior and Breeding Plumage*; 1 year; \$7,200

MOUNT HOLYOKE COLLEGE, South Hadley, Mass.; Isabelle B. Sprague; *Wing Polymorphism and Endocrinology of Gerris*; 2 years; \$23,100

NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL, Washington, D.C.; Frank L. Campbell; *Support of the Agricultural Board*; 1 year; \$10,000

NEW YORK UNIVERSITY, New York; Peter A. Miescher and Donald Briggs; *Immunological Studies of Platelets*; 2 years; \$30,500

NORTHWESTERN UNIVERSITY, Evanston, Ill.; Lawrence I. Gilbert; *Lipid Metabolism During Insect Metamorphosis*; 2 years; \$27,600

Ronald R. Novales; *Hormone Action in Cold-Blooded Vertebrates*; 3 years; \$42,700

OHIO STATE UNIVERSITY RESEARCH FOUNDATION, Columbus; Richard A. Popham; *Relation of Tissue Differentiation to Rates of Entrance and Translocation of Tritiated Water and Radioactive Isotopes in Roots*; 3 years; \$34,200

C. A. Swanson; *Sucrose Translocation in Plants*; 3 years; \$26,800

OREGON STATE UNIVERSITY, Corvallis; Edward J. Trione and Vernon H. Cheldelin; *Resistance to Bunt Disease*; 3 years; \$29,900

PURDUE RESEARCH FOUNDATION, Lafayette, Ind.; John B. Bancroft and J. R. Shay; *Characterization and Classification of Viruses Attacking Rosaceous Species*; 2 years; \$30,000

Roy W. Curtis; *Plant Growth Regulators*; 3 years; \$313,300

Joe L. Key; *Relationship of Oxidation State to Growth Regulation*; 3 years; \$30,200

A. C. Leopold; *Senescence in Plants and Plant Organs*; 2 years; \$29,100

REED COLLEGE, Portland, Oreg.; Gilbert F. Gwilliam; *Shadow Reflex in Stalked Barnacles*; 2 years; \$19,300

RESEARCH FOUNDATION OF STATE UNIVERSITY OF NEW YORK, Albany; Albert D. Carlson, Oyster Bay; *Photogenic Control of Light Response of the Firefly*; 3 years; \$16,100

Ray R. Hirt, Syracuse; *Blister Rust Pathogen*; 2 years; \$1,800

David H. P. Streten, Syracuse; *Action of Aldosterone in Erythrocytes*; 3 years; \$52,900

ST. LOUIS UNIVERSITY, St. Louis, Mo.; Dorothy Feir; *Chemical Attractants and*

Feeding Stimulants for the Milkweed Bug; 3 years; \$31,300

ST. OLAF COLLEGE, Northfield, Minn.; Paul R. Burton; *Cytological Studies of the Frog Lung-Sludge*; 2 years; \$405

SAN FERNANDO VALLEY STATE COLLEGE FOUNDATION, Northridge, Calif.; Gilbert Church; *Continuous Auxetic Growth in The Javanese Toad, Bufo Melanostictus Schneider*; 1 year; \$1,300

SOUTHERN ILLINOIS UNIVERSITY, Carbon-dale; Howard G. Applegate; *Hormones on Sea Expression in Cannabie Sativa L., Lychnis Dioica L. and Cleome Spinosa Jacq.*; 3 years; \$32,300

J. N. BeMiller; *Fungitoxic Compounds*; 18 months; \$9,600

STANFORD UNIVERSITY, Stanford, Calif.; L. R. Blinks, Pacific Grove; *Senior Lectures in Microbiology*; 1 year; \$7,100

Winslow R. Briggs; *Phototropic Induction and Response*; 3 years; \$38,800

Ira J. Lichten; *Transplanted Placentas in the Rat*; 2 years; \$23,000

STATE UNIVERSITY OF IOWA, Iowa City; C. Adrian M. Hogben; *Function of Gastric Mucosa and Gas Gland Epithelium*; 3 years; \$15,200

George G. Zabka; *Isotopic Investigation of Photoperiodism upon CO₂ Fixation in Succulent Plants*; 2 years; \$6,500

SYRACUSE UNIVERSITY RESEARCH INSTITUTE, Syracuse, N.Y.; Roger D. Milkman; *Temperature Effects on Drosophila*; 3 years; \$30,400

TEMPLE UNIVERSITY, Philadelphia, Pa.; Shepherd K. Roberts; *Hormonal Factors in Cockroach Clock*; 2 years; \$22,800

U.S. SMITHSONIAN INSTITUTION, Washington, D.C.; Walter Shropshire, Jr.; *Photo-response and Optical Properties of Phycomyces Sponangiophores*; 3 years; \$27,400

UNIVERSITY OF ARIZONA, Tucson; Joseph T. Bagnara; *Pigmentary Effector Systems in Amphibians*; 3 years; \$57,200

Lyle K. Sowls; *Reproduction in Collared Peccory*; 2 years; \$5,400

UNIVERSITY OF BUFFALO, Buffalo, N.Y.; Hermann Rahn; *Physiological Adaptations of Diving*; 2 years; \$13,500

UNIVERSITY OF CALIFORNIA, Berkeley; Yoshinori Tanada, Albany; *Virus Epizootology of Insects*; 3 years; \$38,800

George M. Briggs; *Studies in Comparative Animal Nutrition*; 2 years; \$26,700

Robert C. Stebbins and Richard M. Eakin; *Structure and Function of Pineal Complex*; 1 year; \$16,700

M. John Pickett; *Host Parasite Interactions in Vibriosis*; 1 year \$22,400

Albert Ulrich; *Research Equipment*; 1 year; \$50,000

F. F. Scholander, La Jolla; *Comparative Studies in Prolonged and Deep Diving*; 14 months; \$4,600

John A. Bevan, Los Angeles; *Antagonism in Smooth Muscle*; 3 years; \$34,500

Richard A. Booloootian, Los Angeles; *Digestion, Absorption, Distribution, and Incorporation of Foodstuffs by Sea Urchin*; 1 year; \$12,700

Theodore H. Bullock, Los Angeles; *Studies in Comparative Neurology*; 4 years; \$203,300

Malcolm S. Gordon, Los Angeles; *Physiology of Euryhalinity Among Lower Vertebrates*; 3 years; \$36,000

Karl C. Hamner, Los Angeles; *Floral Initiation*; 3 years; \$80,500

Harry C. Kohl, Jr., Los Angeles; *Photosynthate Translocation*; 1 year; \$5,800

George P. Moore, Los Angeles; *Neuroelectric Signals in the Central Nervous System*; 2 years; \$17,200

Robert D. Tachirgi and B. M. Wenzel, Los Angeles; *Central Nervous System Function*; 2 years; \$84,200

Arthur Wallace and Owen R. Lunt, Los Angeles; *Stem Exudate and Relationship to Solute Accumulation and Transport*; 3 years; \$38,700

Warren J. Gross, Riverside; *Physiological Adaptations Among the Crustacea*; 2 years; \$28,300

UNIVERSITY OF CHICAGO, Ill.; William L. Doyle; *Saline Secretion*; 2 years; \$42,600

Robert S. Schmidt and Cesar Fernandez; *Comparative Physiology and Anatomy of the Inner Ear*; 3 years; \$50,800

UNIVERSITY OF CINCINNATI, Ohio; Karl M. Knigge; *Inhibitor Components in Neural Control*; 3 years; \$50,600

UNIVERSITY OF CONNECTICUT, Storrs; Edward G. Boettiger; *Chordotonal Receptor Organs of Arthropods*; 3 years; \$14,300

UNIVERSITY OF DELAWARE, Newark; Richard A. Nystrom; *Properties of Invertebrate Visceral Muscle*; 3 years; \$24,500

UNIVERSITY OF FLORIDA, Gainesville; Seymour S. Block; *Mushroom Fungi*; 3 years; \$25,900

Darrell B. Pratt; *Osmotic Properties of Marine Bacteria*; 1 year; \$11,300

Ernest B. Wright; *Properties of Excitation and Conduction in Nerve*; 3 years; \$95,400

UNIVERSITY OF GEORGIA, Athens; Burlyn E. Michel; *Growth Inhibitors Found in Cabbage and Other Crucifers*; 2 years; \$18,100

Burlyn E. Michel; *Control of Soil Moisture During Plant Growth*; 2 years; \$2,700

UNIVERSITY OF HAWAII, Honolulu; Hubert Frings; *Structure and Function of Sound-Receiving Organs of Insects*; 18 months; \$15,600

Ira J. Lichten; *Transplanted Placentas in the Rat*; 2 years; \$17,600

UNIVERSITY OF MICHIGAN, Ann Arbor; Claire J. Shellabarger; *Interrelation of Thyroid Function and of Thyroid Hormones*; 2 years; \$37,000

UNIVERSITY OF MINNESOTA, Minneapolis; R. K. Josephson; *The Organization and Physiology of Nervous Systems in Hydroid Polyps*; 2 years; \$10,900

Theodore W. Sudia and Roy D. Wilcoxson, St. Paul; *Translocation in Fungi*; 3 years; \$33,100

UNIVERSITY OF MISSOURI, Columbia; Gene S. Cox; *Factors Influencing Basal Sprouting in Oaks*; 3 years; \$10,500

Thomas D. Luckey; *Vitamin Requirement and Synthesis in Chicks*; 1 year; \$3,100

Boyd L. O'Dell; *Nutrients Required by Guinea Pigs*; 3 years; \$44,200

UNIVERSITY OF NEBRASKA, Lincoln; Gordon E. Van Riper; *Physiological Mechanisms Affecting Dormancy of Perennial Grasses*; 3 years; \$21,300

UNIVERSITY OF NORTH CAROLINA, Chapel Hill; Gerald H. Elkan, Raleigh; *Interrelationships Between Rhizobia and the Host Legume Affecting Nodulation*; 3 years; \$32,800

William A. Jackson and Richard J. Volk, Raleigh; *Potassium Nutrition in Leaves of Higher Plants*; 2 years; \$31,400

Thomas O. Perry, Raleigh; *Physiological-Genetic Differences in Perennial Plant Species*; 3 years; \$31,400

Betty M. Twarog; *Tension and Resistance in Smooth Muscle*; 3 years; \$45,600

N. N. Winstead and C. L. McCombs, Raleigh; *Biochemistry and Physiology of Pathogenicity Disease Development and Resistance in the Cucurbitaceae to Anthracnose Fungi*; 3 years; \$45,500

UNIVERSITY OF OREGON, Eugene; Graham Hoyle; *Neural Mechanisms Underlying Behaviour*; 3 years; \$64,400

Bradley T. Scheer; *Molting and Metabolism in Crustaceans*; 3 years; \$37,400

Jacob Straus; *Growth Substances of Corn Endosperm Tissue Cultures*; 1 year; \$5,800

UNIVERSITY OF OREGON MEDICAL SCHOOL, Portland; George Austin; *Single Cell Activity and Repetitive Firing of Dorsal Root Ganglion Cells and Spinal Cord Neurons*; 2 years; \$31,400

UNIVERSITY OF PENNSYLVANIA, Philadelphia; Hans G. Borei; *Thiosulfate Transsulfurase in Mollusks and Echinoderms*; 1 year; \$1,400

UNIVERSITY OF PUERTO RICO, Rio Piedras; Leopold R. Cerecedo, San Juan; *Fetal-Maternal Relationships: Nucleic Acid Changes*; 2 years; \$12,200

UNIVERSITY OF RHODE ISLAND, Kingston; Luke S. Albert; *Effect of Boron on Growth and Development of Roots*; 2 years; \$4,700

UNIVERSITY OF ROCHESTER, Rochester, N.Y.; Albert B. Craig, Jr.; *Respiratory and Cardiovascular Physiology During Submersion*; 1 year; \$4,800

UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles; Paul D. Saltman; *Response of Algae Gibberellins and Other Plant Hormones*; 2 years; \$21,600

UNIVERSITY OF SOUTHWESTERN LOUISIANA, Lafayette; Edmund B. Stueben; *Dirofilaria Immitis Infection in Fleas*; 1 year; \$6,500

UNIVERSITY OF TEXAS, Austin; Michael Menaker; *The Physiology of Rhythmic Systems*; 3 years; \$36,000

Leroy J. Olson, Galveston; *Host Parasite Relationships*; 3 years; \$25,800

Robert M. Pike, Dallas; *Adjuvant Effect of Antigenic Substances*; 3 years; \$22,900

Chase Van Baalen; *Isolation, Growth and Nutrition of Marine Blue-green Algae*; 2 years; \$25,400

UNIVERSITY OF UTAH, Salt Lake City; Ivan M. Lytle; *Levels of Progesterone in Relation to Ovulation*; 2 years; \$25,100

UNIVERSITY OF WASHINGTON, Seattle; Paul E. Fields; *Effects of Light on Activity and Gonadal Development of Steelhead Trout*; \$3,600

Bastiaan J. D. Meense; *Biochemical and Ecological Study of Arum Lilies*; 3 years; \$38,400

UNIVERSITY OF WISCONSIN; LeRoy Holm; *Factors Influencing Dormancy in Weed Seeds*; 2 years; \$41,200

Peter R. Morrison; *Comparative Aspects of Body Temperature*; 2 years; \$54,500
R. F. Patton and E. P. van Arsdel; *Blioter Rust in White Pine*; 2 years; \$6,900
Newtoll Press, Milwaukee; *Fine Structure of Avian Ovary*; 2 years; \$17,800

VANDERBILT UNIVERSITY, Nashville, Tenn.; F. Eugene Harrington; *Implantation of the Mouse Ovum*; 1 year; \$8,300

WALLA WALLA COLLEGE, College Place, Wash.; Harold G. Coffin; *Laboratory Culture and Larval Development of Marine Isopods*; 1 year; \$13,900

WASHINGTON STATE UNIVERSITY, Pullman; N. Higinbotham and L. B. Kirschner; *Electropotentials of Higher Plant Cells*; 4 years; \$54,200

WEST VIRGINIA UNIVERSITY, Morgantown; V. G. Lilly and R. F. Krause; *Carotenoids in Fungi*; 3 years; \$36,900

WESTERN RESERVE UNIVERSITY, Cleveland, Ohio; M. Nell Macintyre; *Sex Differentiation in Mammals*; 3 years; \$49,400

WILKES COLLEGE, Wilkes-Barre, Pa.; Sheldon G. Cohen; *Experimental Eosinophilia*; 3 years; \$36,000

YALE UNIVERSITY, New Haven, Conn.; Grace E. Pickford; *Fish Endocrinology*; \$2,000

B. N. Richards; *Mechanisms of Nitrogen Fixation in Pinus*; 1 year; \$23,500

Beatrice M. Sweeney; *Diurnal Rhythm in Photosynthesis in Marine Dinoflagellate and Green Alga*; 3 years; \$26,800

Talbot H. Waterman; *Visual Mechanisms in the Spatial Orientation of Aquatic Animals*; 2 years; \$23,400

SOCIOLOGICAL SCIENCES

BRANDEIS UNIVERSITY, Waltham, Mass.; Uric Neisser; *Multiple Thought Processes*; 2 years; \$21,200

BROWN UNIVERSITY, Providence, R.I.; Sidney Goldstein and Kurt B. Mayer; *Impact of Metropolitanization*; \$5,000

Robert G. Potter, Jr.; *Biometric Studies of Limitation*; 2 years; \$22,600

CENTER FOR ADVANCED STUDY IN THE BEHAVIORAL SCIENCES, Inc., Stanford, Calif.; Preston S. Cutler; *Advanced Study and Research in Social Sciences*; 3 years; \$348,000

COLUMBIA UNIVERSITY, New York, N.Y.; Allen H. Barton; *Methodology of Organization Research*; 1 year; \$12,500

Paul F. Lazarsfeld; *Latent Structure Analysis*; 3 years; \$54,000

William J. McGuire; *Correlates of Persuasibility*; 3 years; \$50,000

William N. McPhee; *Models of Social Processes*; 3 years; \$69,800

Stanley Schachter; *Experimental Studies of Anti-Social Behavior*; 3 years; \$57,000

CORNELL UNIVERSITY, Ithaca, N.Y.; Urie Bronfenbrenner; *Child-Rearing in Three Cultures*; 4 years; \$183,300

DUKE UNIVERSITY, Durham, N.C.; Jack W. Brehm; *Psychological Reactions to Choice Reduction*; 2 years; \$26,600

Edward E. Jones; *Self-Presentation and Person Perception*; 3 years; \$46,450

GALLAUDET COLLEGE, Washington, D.C.; William C. Stokoe, Jr.; *Dictionary of the American Sign Language*; 1 year; \$23,200

HARVARD UNIVERSITY, Cambridge, Mass.; Paul M. Kjeldergaard; *Stimulus and Response Relationships*; 2 years; \$30,000

Ogden R. Lindsley; *Experimental Analysis of Cooperation and Competition*; 2 years; \$37,000

David Marlowe; *The Motive for Approval*; 2 years; \$30,200

Robert Rosenthal; *Mediation of Experiment-er Bias*; 1 year; \$10,900

Thomas C. Schelling; *Experimental Study of Bargaining*; 1 year; \$13,800

Stanton Wheeler; *Comparative Analysis of Social Structure*; 2 years; \$27,650

HAVERFORD COLLEGE, Haverford, Pa.; Sidney I. Perloe; *Judgment of Social Stimuli*; 2 years; \$7,100

JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; James S. Coleman; *Response Variability*; 3 years; \$30,200

Clinton De Soto; *Social Schemas*; 2 years; \$21,500

LOUISIANA STATE UNIVERSITY, Baton Rouge; Fred Kniften; *Settlement Patterns of the Eastern United States*; 1 year; \$7,400

MICHIGAN STATE UNIVERSITY, Ann Arbor; William A. Faunce; *Automation and the Community*; 1 year; \$8,400

NATIONAL OPINION RESEARCH CENTER, Chicago, Ill.; Peter H. Rossi; *Survey Research Service*; 3 years; \$25,000

Peter H. Rossi and Jacob J. Feldman; *Reduction of Survey Costs*; 3 years; \$130,600

NEW YORK UNIVERSITY, New York; Murray Horwitz; *Interpersonal Conflict, Hostility, and Muscular Tension*; 2 years; \$45,500

Phillip G. Zimbardo; *Involvement and Attitude Change*; 2 years; \$26,600

NORTHWESTERN UNIVERSITY, Evanston, Ill.; Harold Guetzkow; *Dimensionality of Nations*; 18 months; \$36,000

Robert F. Winch; *Measurement of Influence in the Dyad*; 2 years; \$27,900

OREGON RESEARCH INSTITUTE, Eugene; Lewis R. Goldberg; *Item Ambiguity in Personality Assessment*; 2 years; \$48,400

PENNSYLVANIA STATE UNIVERSITY, University Park; Lawrence E. Fouraker; *Analysis of Bargaining Behavior*; 2 years; \$15,400

PRINCETON UNIVERSITY, Princeton, N.J.; Marlon J. Levy, Jr.; *Comparative Analysis of Social Structure*; 2 years; \$38,200

RESEARCH FOUNDATION FOR MENTAL HYGIENE, Inc., Albany, N.Y.; Elliot D. Chapple; *Interaction Measurement*; 3 years; \$93,000

SOCIAL SCIENCE RESEARCH COUNCIL, New York, N.Y.; Francis H. Palmer; *Mathematical Research in the Social Sciences*; 32 months; \$193,000

STANFORD UNIVERSITY, Stanford, Calif.; Alex Bayelas and Albert H. Hastorf; *Group Structures*; 2 years; \$43,100

Sanford M. Dornbusch; *Authority Structures and Evaluations*; 3 years; \$154,600

SYRACUSE UNIVERSITY RESEARCH INSTITUTE, Syracuse, N.Y.; S. M. Miller; *International Analysis of Social Mobility*; 2 years; \$37,900

UNIVERSITY OF BUFFALO, Buffalo, N.Y.; Stanley J. Segal and Lawrence W. Littig; *Experimental Investigation of Motive Change*; 1 year; \$22,800

UNIVERSITY OF CHICAGO, Ill.; Jack Sawyer; *Multivariate Analysis of Interpersonal Relations*; 4 years; \$37,000

Jack Sawyer; *The Interaction Screen*; 1 year; \$6,500

Harrison C. White; *Models of Social Mobility*; 2 years; \$17,000

UNIVERSITY OF ILLINOIS, Urbana; George Gerbner; *Cross-Cultural Study of Films*; 3 years; \$43,300

UNIVERSITY OF MASSACHUSETTS, Amherst; Jerome L. Myers; *Parameters of Risk Taking*; 2 years; \$25,900

UNIVERSITY OF MICHIGAN, Ann Arbor; John W. Atkinson; *Determinants of Human Choice*; 3 years; \$81,900

Robert O. Blood; *Marital Interaction Patterns*; 2 years; \$7,100

Ronald Freedman; *Time-Series Study of Family Growth*; 5 years; \$91,800

Ilse Lehiste; *Research in General Acoustic Phonetics*; 2 years; \$50,100

Donald C. Pelz; *Factors in Scientific Performance*; 9 months; \$22,500

UNIVERSITY OF MINNESOTA, Minneapolis; Elliot Aronson; *Cognitive and Behavioral Consequences of Expectancies*; 2 years; \$9,600

UNIVERSITY OF NORTH CAROLINA, Chapel Hill; Lewis Levine and Harry J. Crockett, Jr.; *Speech Variation, Social Structure and Personality*; 2 years; \$56,200

Emir H. Shuford, Jr. and Lyle V. Jones; *Heuristic Models of Human Behavior*; 15 months; \$30,800

UNIVERSITY OF NOTRE DAME, Notre Dame, Ind.; Kenneth M. Sayre; *Simulation of Mental Processes*; 1 year; \$11,100

UNIVERSITY OF OKLAHOMA RESEARCH INSTITUTE, Norman; Muzaffer Sherif; *Individual Behavior and Group Processes*; 2 years; \$43,300

UNIVERSITY OF ROCHESTER, Rochester, N.Y.; Dean H. Obrecht; *Perception in Spoken Arabic*; 3 years; \$22,700

UNIVERSITY OF WISCONSIN, Madison; Leonard Berkowitz; *Representations of Aggressive Events*; 3 years; \$53,800

Stanley Lieberman; *Demographic Analysis of Linguistic Pluralism*; 2 years; \$9,800

Percy H. Tannenbaum; *Resistance to Persuasion*; 3 years; \$64,300

WASHINGTON UNIVERSITY, St. Louis, Mo.; Joseph A. Kahl; *Career Changes During Industrialization*; 2 years; \$38,300

WILLIAMS COLLEGE, Williamstown, Mass.; Philip K. Hastings; *Acquisition of Foreign Survey Data*; 3 years; \$109,350

YALE UNIVERSITY, New Haven, Conn.; James D. Barber; *Small-Group Decision Making*; 1 year; \$10,600

Karl W. Deutsch; *Comparative Social Data Center*; 2 years; \$39,700

Howard Leventhal; *Interpersonal Disagreement and Opinion Change*; 2 years; \$20,400

Stanley Milgram; *Dynamics of Obedience*; 2 years; \$28,400

Stanley Milgram; *Obedience to Authority*; 15 months; \$14,600

SYSTEMATIC BIOLOGY

ACADEMY OF NATURAL SCIENCES OF PHILADELPHIA, Pa.; Francis Drouet; *Revision of the Oscillatoriaceae*; 2 years; \$22,400

Ruth Patrick; *Fresh-Water Diatoms of the United States*; 2 years; \$24,100

Selwyn S. Roback; *The Pelopinae of North America, North of Mexico*; 2 years; \$18,700

AGRICULTURAL AND MECHANICAL COLLEGE OF TEXAS, College Station; Richard J. Baldauf; *Cranial Morphology of the Leptodactylidae and Sallentian Phylogeny*; 3 years; \$17,600

AMERICAN MUSEUM OF NATURAL HISTORY, New York, N.Y.; Edwin H. Colbert; *Studies of Triassic Tetrapods*; 2 years; \$7,300

Nicholas S. Obraztsov; *Revision of the Genera of North and South American Moths Belonging to the Family Tortricidae*; 2 years; \$21,000

Horace W. Stunkard; *Helminthic Parasites*; 3 years; \$11,900

ARCTIC INSTITUTE OF NORTH AMERICA, Washington, D.C.; Thor N. V. Karlstrom; *Geologic-Biologic Research of the Glacial Refugium on Kodiak Island, Alaska*; 1 year; \$3,800

ATLANTIC UNION COLLEGE, South Lancaster, Mass.; David G. Kissinger; *Revision of the Weevil Genus Apion in North America*; 2 years; \$16,600

BERNICE P. BISHOP MUSEUM, Honolulu, Hawaii; Elwood C. Zimmerman; *Pacific Island Weevil Studies*; 2 years; \$31,900

BOSTON UNIVERSITY, Mass.; Richard Estes; *Late Mesozoic and Early Tertiary Herpetofaunas*; 2 years; \$15,000

BROWN UNIVERSITY, Providence, R.I.; Walter H. Snell and Esther A. Dick; *Boleti of Northeastern North America*; 2 years; \$24,500

CALIFORNIA ACADEMY OF SCIENCES, San Francisco; Richard C. Banks; *Avian Relationships in Baja California, Mexico*; 1 year; \$8,600

Alan E. Leviton and George S. Myers; *Biochemical Interrelationships within the Genus Taricha*; 1 year; \$4,700

Elizabeth McClintock; *A Revision of the Flowering Plant Genus Physostegia (Labiatae)*; 1 year; \$1,600

CALIFORNIA STATE POLYTECHNIC COLLEGE FOUNDATION; San Luis Obispo; Robert J. Rodin; *A Systematic and Evolutionary Study of the Genus Gnetum*; 2 years; \$1,000

CARNEGIE MUSEUM, Pittsburgh, Pa.; John E. Gullday; *The Pleistocene Faunas of the New Paris Sinkholes*; 3 years; \$21,400

CHICAGO NATURAL HISTORY MUSEUM, Ill.; Louis O. Williams; *The Flora of Guatemala*; 5 years; \$29,500

CLAREMONT UNIVERSITY COLLEGE, Claremont, Calif.; Sherwin Carlquist; *Studies in Scævola (Goodeniaceae)*; 2 years; \$14,200

COLORADO STATE UNIVERSITY, Fort Collins; Ross W. Davidson; *A Monograph of the Ophiostomataceae*; 2 years; \$14,000

CORNELL UNIVERSITY, Ithaca, N.Y.; David W. Bierhorst; *Primary Xylem Elements of Angiosperms*; 3 years; \$20,000

- J. Chester Bradley; *The Scoliidæ of Africa and Madagascar, of the Americas, and a World Catalogue of Scoliidæ*; 2 years; \$21,800
- Harold E. Moore, Jr.; *Cytology and Floral Morphology and Anatomy of Palms*; 2 years; \$19,300
- CRANBROOK INSTITUTE OF SCIENCE, Bloomfield Hills, Mich.; Warren P. Stoutamire; *Anatomical Studies on Gaillardia and Related Genera of Compositæ*; 3 years; \$18,900
- DUKE UNIVERSITY, Durham, N.C.; Shelton P. Applegate; *Interrelationships of Selected Modern Shark Families*; 2 years; \$4,600
- Hugo L. Blomquist; *The Marine Algae of Puerto Rico*; 1 year; \$6,200
- Robert L. Wilbur; *Revisional Studies in the Tribe Spermacoceæ (Rubiaceæ)*; 3 years; \$23,600
- GULF COAST RESEARCH LABORATORY, Ocean Springs, Miss.; Herbert T. Boschung, Jr. and Gordon Gunter; *Systematics of Lancelets (Branchiostoma) from the Western Atlantic*; 3 years; \$14,800
- HARVARD UNIVERSITY, Cambridge, Mass.; William J. Clench; *Fresh-water Mollusks of the Atlantic Coastal Rivers of Georgia*; 1 year; \$4,000
- Tilly Edinger; *An Annotated Bibliography of Paleoneurology with Systematic Index*; 1 year; \$3,300
- Ernst Mayr; *Evolution in the Avian Family Tyrannidae*; 3 years; \$41,000
- Nicholas T. Mirov; *The Genus Pinus*; 2 years; \$28,200
- Otto T. Solbrig; *South American Species of Gutterrezia (Compositæ)*; 3 years; \$8,100
- Alice F. Tryon; *A Taxonomic Revision of the Fern Genus Jamesonia*; 1 year; \$2,600
- H. B. Whittington; *Taxonomy and Evolution of Fossil Crustacean Group Phyllocarida*; 1 year; \$7,600
- Ernest E. Williams; *Preparation of a Checklist and Bibliography of the African Herpetofauna*; 2 years; \$41,600
- HERBARIUM BOGORIENSE, Bogor, Indonesia; A. Kostermans and Anwar Dilmay; *Taxonomical, Anatomical, Plant Sociological and Ecological Studies on the Flora of Indonesia*; 3 years; \$9,500
- HOLLINS COLLEGE, Hollins College, Va.; Jesse C. Thompson, Jr.; *Morphological Study of Two Holotrichous Protozoan Orders Trichostomatida and Hymenostomatida*; 3 years; \$14,300
- ILLINOIS STATE NORMAL UNIVERSITY, Normal, Ill.; Edward L. Mockford; *A Systematic and Phylogenetic Study of Psocids*; 3 years; \$20,700
- INDIANA UNIVERSITY FOUNDATION, Bloomington; Charles B. Heiser, Jr.; *Taxonomic and Cytogenetic Studies of Helianthus*; 4 years; \$28,700
- IOWA STATE UNIVERSITY, Ames; Martin J. Ulmer; *Helminth Parasites of Vertebrates*; 2 years; \$20,000
- JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; David M. Raup; *Orientation of Calcite Crystals in Fossil and Living Echinoderms*; 1 year; \$11,800
- KANSAS STATE TEACHERS COLLEGE, Emporia; David F. Parmelee; *Charadriiform Birds of North America*; 1 year; \$10,100
- KANSAS STATE UNIVERSITY, Manhattan; Reginald H. Painter; *Studies of American Bombyliidae*; 3 years; \$21,900
- KENTUCKY RESEARCH FOUNDATION, Lexington; Herbert Parkes Riley; *A Chromatographic Study of Aloineæ (Liliaceæ)*; 2 years; \$8,000
- John A. Wallwork; *Oribatid Mites of Ghana*; 2 years; \$12,200
- LEIDEN UNIVERSITY, Leiden, The Netherlands; C. G. G. J. van Steenis; *Pacific Plant Areas*; 1 year; \$2,100
- MICHIGAN STATE UNIVERSITY, East Lansing; John H. Beaman; *Alpine Flora of Mexico and Guatemala*; 2 years; \$28,000
- Henry A. Imshaug; *West Indian Lichens*; 3 years; \$27,100
- MISSISSIPPI STATE UNIVERSITY, State College; Leon W. Hepper; *Intra- and Extra-specific Relationships Among Species of Brythoneura*; 3 years; \$17,400
- MISSOURI BOTANICAL GARDEN, St. Louis; Calaway H. Dodson; *Orchidaceæ of Tropical America*; 2 years; \$24,400
- MONTANA STATE COLLEGE, Bozeman; Jurgen R. Schaeffer; *Biosystematic Studies in Agropogon Gaertn.*; 3 years; \$27,300
- NEW MEXICO INSTITUTE OF MINING AND TECHNOLOGY, Socorro; William H. Fritz; *Lower and Middle Cambrian Trilobites*; 4 months; \$1,600
- NEW MEXICO STATE UNIVERSITY, University Park; James A. Zimmerman; *Revision of Laccophilus of North America*; 2 years; \$9,500
- NEW YORK STATE COLLEGE OF AGRICULTURE, CORNELL UNIVERSITY, Ithaca, N.Y.; Charles G. Sibley; *Cornell University Ornithological Collection*; 1 year; \$9,000
- Charles G. Sibley; *Protein Structures as Evidence of Phylogenetic Relationships in Birds*; 3 years; \$47,500
- NEW YORK ZOOLOGICAL SOCIETY, New York, N.Y.; Jocelyn Crane, Trinidad Field Station; *Systematics of Heliconine Butterflies*; 2 years \$40,700
- OHIO AGRICULTURAL EXPERIMENT STATION, Wooster; George W. Wharton; *Gnathosoma of Acaridæ*; 2 years; \$20,000
- OHIO STATE UNIVERSITY RESEARCH FOUNDATION, Columbus; T. Richard Fisher; *Bio-systematics of Siphium Laciniatum L.*; 2 years; \$7,200
- John J. Stephens; *Vertebrate Faunal Changes During the Pleistocene in Ohiuhua*; 1 year; \$4,000
- OREGON STATE UNIVERSITY, Corvallis; Gerald W. Krantz; *Review of the Family Macrochelidae*; 2 years; \$27,300
- PALEONTOLOGICAL RESEARCH INSTITUTE, Ithaca, N.Y.; H. K. Brooks; *Paleozoic Eumalacostraca of the World*; 1 year; \$3,500
- PENNSYLVANIA STATE UNIVERSITY, University Park; Julla M. Haber; *Comparative Anatomy and Morphology of Proteaceæ, African Taxa*; 2 years; \$1,500
- Charles O. Handley, Jr.; *The Mammals of Panama*; 3 years; \$27,400
- PORTLAND STATE COLLEGE, Portland, Oreg.; Augustus K. Armstrong; *Coral-Brachiopod*

Fauna and Stratigraphy of Coffee Creek Formation and Adjacent Areas; 2 years; \$8,000
PROVINCIAL MUSEUM OF NATURAL HISTORY AND ANTHROPOLOGY, Victoria, British Columbia, Canada; Josephine F. L. Hart; *Revision of Alpheid Shrimps of the Pacific Coast*; 3 years; \$7,500

PURDUE RESEARCH FOUNDATION, Lafayette, Ind.; Grady L. Webster; *Biosystematics of West Indian Species of Phyllanthus*; 1 year; \$8,300

Grady L. Webster; *Reproductive Morphology of the Euphorbiaceae*; 2 years; \$25,000

QUEENS COLLEGE, Flushing, N.Y.; Max K. Hecht; *Early Evolution and Fossil History of Anura*; 2 years; \$7,200

RADFORD COLLEGE, Radford, Va.; Richard L. Hoffman; *Systematics and Zoogeography of Chelodermoid Diplopoda*; 3 years; \$16,700

RESEARCH FOUNDATION OKLAHOMA STATE UNIVERSITY, Stillwater; Bryan P. Glass; *Mammal Fauna of the Chercher Highlands of Ethiopia*; 3 years; \$29,300

ROB AND BESSIE WELDER WILDLIFE FOUNDATION, Sinton, Tex.; B. J. Wilks; *Speciation in Sciuriform Rodents*; 3 years; \$9,000

RUTGERS, THE STATE UNIVERSITY, New Brunswick, N.J.; Marion A. Johnson; *Structure of the Shoot Apes in Tropical Angiosperms Malvales*; 3 years; \$15,000

SAN FERNANDO VALLEY STATE COLLEGE FOUNDATION, Northridge, Calif.; James A. Peters; *Herpetology of Ecuador*; 2 years; \$22,500

Kenneth A. Wilson; *The Leptosporangium and Its Contribution to the Classification of the Pteridaceae*; 2 years; \$17,000

SANTA BARBARA BOTANIC GARDEN, Santa Barbara, Calif.; John Mooring; *A Cytogenetic and Cytotaxonomic Study of Chaenactis*; 2 years; \$6,800

SOUTH DAKOTA SCHOOL OF MINES AND TECHNOLOGY, Rapid City; Robert W. Wilson; *Mammalian Paleontology of the Tertiary of Northwestern South Dakota*; 3 years; \$25,000

SOUTHERN ILLINOIS UNIVERSITY, Carbondale; John W. Crenshaw, Jr.; *Species Variation in Blood Protein Patterns*; 2 years; \$18,000

John C. Downey; *Variation and Evolution in Plebejus Icaroides*; 2 years; \$25,300

STANFORD UNIVERSITY, Stanford, Calif.; Ira L. Wiggins; *Support of the Research and Teaching Collections of the Dudley Herbarium*; 2 years; \$45,800

STATE UNIVERSITY OF IOWA, Iowa City; Constantine J. Alexopoulos; *Taxonomic Problems in the Mycomycetes*; 3 years; \$32,200

Robert F. Thorne; *Vascular Plants of Iowa*; 6 months; \$4,500

STATE UNIVERSITY OF NEW YORK COLLEGE OF AGRICULTURE AT CORNELL, Ithaca, N.Y.; William L. Brown, Jr.; *Reclassification of the Ants (Formicidae)*; 2 years; \$15,800

STEPHEN F. AUSTIN STATE COLLEGE, Nacogdoches, Tex.; Walter H. Lewis; *Cytotaxonomic Study of African Hedyotidae*; 3 years; \$24,000

SOUTHERN UNIVERSITY AND AGRICULTURAL AND MECHANICAL COLLEGE, Baton Rouge, La.; Leon R. Roddy; *The Spider Family Clubionidae*; 2 years; \$9,700

TEXAS AGRICULTURAL EXPERIMENT STATION, College Station; Frank W. Gould; *Biosystematic Studies in the Genus Bouteloua*; 1 year; \$12,000

TULANE UNIVERSITY, New Orleans, La.; George Henry Penn; *Systematics of Dwarf Crawfishes, Genus Cambarellus*; 1 year; \$22,200

Alfred E. Smalley; *Freshwater Decapods of Costa Rica*; 3 years; \$9,800

Royal D. Suttkus; *Collection of Fishes from Mexico and Central America*; 6 months; \$1,000

UNIVERSIDAD DE LOS ANDES, Bogota, Colombia; Alice S. Hunter; *The Drosophilidae (Fruit Flies) of Colombia*; 2 years; \$16,100

U.S. SMITHSONIAN INSTITUTE, Washington, D.C.; J. F. Gates Clarke; *South Asian Microlepidoptera, Particularly the Philippine Series*; 2 years; \$21,200

G. Arthur Cooper; *Permian Brachiopods of Glass Mountains, Texas*; 2 years; \$32,600

Richard S. Cowan; *Taxonomy of the Genus Swartzia*; 1 year; \$1,700

Jose Cuatrecasas; *Phanerogams of Colombia*; 2 years; \$33,700

Carl J. Drake; *Monographic Studies of the Family Tingidae*; 2 years; \$7,500

F. A. McClure; *Taxonomy of the Bamboos: Redefinition of the Genera*; \$800

F. A. McClure; *Taxonomy of Bamboos*; 2 years; \$41,000

William L. Stern; *Tertiary Forests of the Tonos-Santiago Basin of Panama*; 2 years; \$22,500

Mildred S. Wilson; *Systematics and Distribution of North American Calanoid and Harpacticoid Copepoda*; 5 years; \$21,300

John J. Wurdack; *Paramo Flora of North-eastern Peru*; 1 year; \$10,800

UNIVERSITY OF ARIZONA, Tucson; Howard K. Gloyd; *The Genus Agkistrodon and Related Groups of Crotalid Snakes*; 1 year; \$9,000

Gerhard O. W. Kremp; *Modern and Fossil Fern Spores*; 2 years; \$23,800

UNIVERSITY OF BUFFALO, Buffalo, N.Y.; Carl Gans; *Functional Morphology of Squamate Reptilia*; 2 years; \$32,000

UNIVERSITY OF CALIFORNIA, Berkeley; Paul D. Hurd, Jr.; *Carpenter Bees of the World*; 3 years; \$18,900

E. Gorton Linsley; *Monographic Study of the North American Cerambycidae*; 3 years; \$38,300

George F. Papenfuss; *Index of Scientific Names of Algae*; 2 years; \$16,500

Ray F. Smith, Paul D. Hurd, Jr., and J. Wyatt Durham; *Paleontological Studies of Tertiary Insect Bearing Amber*; 2 years; \$23,700

Johannes Proskauer; *Biosystematic Studies in Onthoerotalae*; 3 years; \$20,400

Howard L. McKenzie, Davis; *Systematics of Scale Insects (Coccidae)*; 2 years; \$29,700

G. Ledyard Stebbins, Davis; *Phylogeny of Galium Multiflorum Complex in Western North America*; 6 months; \$2,300

John N. Belkin, Los Angeles; *Systematics and Phylogeny of Mosquitoes*; 2 years; \$19,600

Henry J. Thompson, Los Angeles; *Systematics of the Genus Mentzelia (Loasaceae)*; 2 years; \$14,200

P. H. Timberlake, Riverside; *A Revision of Bees of the Genus Perdita*; 2 years; \$5,600

UNIVERSITY OF CHICAGO, Ill.; Alfred E. Emerson; *Taxonomy, Geographical Distribution Ecology, Social Behavior, and Evolution, of Termites*; 3 years; \$56,400

Everett C. Olson; *Upper Permian Vertebrates of Oklahoma*; 3 years; \$34,900

UNIVERSITY OF COLORADO, Boulder; Walter Aufferberg; *Evolution of Fossil Tortoises*; 1 year; \$7,000

Hugo G. Rodeck; *Systematic Botanical Collections*; 1 year; \$15,000

UNIVERSITY OF CONNECTICUT, Storrs; Ralph M. Wetzel and Lowell L. Getz; *Zoogeography of New England Small Mammals*; 2 years; \$22,500

UNIVERSITY OF FLORIDA, Gainesville; Pierce Brodkorb; *Fossil Birds*; 2 years; \$19,700

Minter J. Westfall, Jr.; *Systematic Studies of North American Zygoptera*; 3 years; \$19,800

UNIVERSITY OF GEORGIA, Athens; Charles W. James; *The Taxonomic Status of Erigeron Pusillus Nutt*; 2 years; \$4,200

Robert A. Norris; *Comparative Study of Blood Groups in Passerine Birds*; 2 years; \$6,800

UNIVERSITY OF ILLINOIS, Urbana; Robert S. Bader; *Variability and Evolution of Dental and Osteometric Traits in Rodents*; 2 years; \$18,500

Donald F. Hoffmeister; *Mammals of Southwestern United States and Northern Mexico*; 2 years; \$20,400

R. L. Langenheim, Jr.; *Tertiary Corals of Chiapas, Mexico*; 2 years; \$20,800

June R. P. Phillips Ross; *Fossil Cryptostomes and Trepostome Bryozoa in Middle Ordovician Through Middle Silurian in the Central States*; 2 years; \$21,600

UNIVERSITY OF KANSAS, Lawrence; Kathleen Doering and Rynichi Matsuda; *Insect Morphology*; 2 years; \$32,000

E. Raymond Hall; *Systematics of Recent Bears (Subgenus Ursus)*; 2 years; \$15,000

Raymond C. Jackson; *Biosystematic Investigations in Haplopappus*; 3 years; \$26,500

Charles D. Michener and Robert R. Sokal; *Methods of Numerical Taxonomy*; 3 years; \$21,700

Robert R. Sokal; *Principles of Numerical Taxonomy*; 1 year; \$5,500

Rufus H. Thompson; *Life History and Cytogenetics of Species of Families of Green Algae*; 2 years; \$17,500

UNIVERSITY OF KANSAS CITY, Kansas City, Mo.; William W. Milstead; *Studies on the Evolution of Bow Turtles*; 2 years; \$5,000

UNIVERSITY OF LOUISVILLE, Louisville, Ky.; Arland T. Hotchkiss; *A Cytotaxonomic Study of the Characeae*; 3 years; \$32,200

UNIVERSITY OF MAINE, Orono; G. E. Gates; *Revision of the Classification of Earthworms*; 2 years; \$16,900

UNIVERSITY OF MARYLAND, College Park; Robert A. Paterson; *Lucustrine Fungi*; 3 years; \$8,800

UNIVERSITY OF MASSACHUSETTS, Amherst; Howard E. Bigelow and Margaret E. Barr Bigelow; *Aparicales and Sphaeriales in Northeastern United States*; 3 years; \$17,800

Emil F. Guba; *Fungus Genera Monochaetia and Pestalotia*; 1 year; \$1,000

UNIVERSITY OF MIAMI, Coral Gables, Fla.; C. Richard Robins; *Larvae and Juveniles of Western Atlantic Flying Fishes (Eucocetidae)*; 2 years; \$19,000

Gilbert L. Voss; *Amphitrid Brittlestars of the Western Atlantic*; 3 years; \$29,800

UNIVERSITY OF MICHIGAN, Ann Arbor; Chester A. Arnold; *Silicified Plants in Western North America*; 1 year; \$18,000

Claude W. Hibbard; *Pleistocene Faunas of the Plains Region*; 2 years; \$24,200

Rogers McVaugh; *Flood-Plain Rain Forest of Northern Colombia*; 1 year; \$1,600

William R. Murchie, Flint; *Systematics of the Oligochaete Genus Diplocardia*; 3 years; \$14,500

Alexander H. Smith; *Manual of Freshly Basidiomycetes of the Western United States*; 3 years; \$41,000

F. K. Sparrow; *Studies on the Fungus Genus Physoderma (Phycomycetes)*; 3 years; \$24,200

Henry van der Schalle; *Systematics and Host-Parasite Relationships of Mollusks in Japan and Taiwan*; 2 years; \$13,900

UNIVERSITY OF MINNESOTA, Minneapolis; Richard E. Norris; *Morphological and Cytological Studies on Red Algae*; 1 year; \$7,000

UNIVERSITY OF MISSOURI, Columbia; Billy G. Crumbe; *Structural Variation in Secondary Xylem of Herbaceous Dicotyledons*; 2 years; \$13,000

Raymond E. Peck; *Late Cretaceous and Tertiary Charophyta of North America*; 2 years; \$6,600

UNIVERSITY OF NEBRASKA, Lincoln; Thomas B. Thorson; *The Fluid Compartments of Vertebrates*; 2 years; \$12,300

UNIVERSITY OF NORTH CAROLINA, Chapel Hill; William E. Fahy, Morehead City, and William A. Lund, Jr., Cumana, Venezuela; *Shore Fishes in the Vicinity of Cumana, Venezuela*; 1 year; \$1,800

Ben W. Smith, Raleigh; *Cytogenetics of Speciation in Pinus*; 2 years; \$24,200

UNIVERSITY OF NOTRE DAME, Notre Dame, Ind.; Joseph A. Tihen; *Lower Pliocene Herpetofauna*; 2 years; \$16,500

UNIVERSITY OF OKLAHOMA RESEARCH INSTITUTE, Norman; L. R. Wilson and George J. Goodman; *Morphological Study of Pollen of Oklahoma and Vicinity*; 2 years; \$19,900

UNIVERSITY OF THE PACIFIC, Stockton, Calif.; Joel W. Hedgpeth, Dillon Beach; *Pycnogonida Collected from the Ross Sea*; 1 year; \$6,100

UNIVERSITY OF SAN FRANCISCO, Calif.; Edward L. Kessel; *The Platypidae of Western North America*; 2 years; \$14,000

UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles; John S. Garth; *Revision of Hermit Crabs of the Pacific American Coast*; 2 years; \$19,200

Robert J. Menzies and John L. Mohr; *Abyssal Isopod Crustacea*; 6 months; \$9,100
Olga Hartman; *Marine Annelids of the Japanese Archipelago*; 1 year; \$7,500

UNIVERSITY OF TEXAS, Austin; Harold C. Bold; *Phycological Studies of Texas Soils*; 2 years; \$23,700

Robert K. Selander; *Behavior and Ecology in Avian Speciation*; 2 years; \$43,900

UNIVERSITY OF TORONTO, Toronto, Canada; Glenn B. Wiggins; *Larvae of North American Caddisflies*; 3 years; \$13,400

UNIVERSITY OF TULSA, Tulsa, Okla.; Harriet G. Barclay; *Systematics of the Paramos of South America*; 1 year; \$5,000

Albert P. Blair and Hague L. Lindsay, Jr.; *Taxonomic Studies on Plethodon Ouachitae and P. Caddoensis*; 2 months; \$800

UNIVERSITY OF UTAH, Salt Lake City; George F. Edmunds, Jr.; *Higher Classification of Ephemeroptera*, 2 years; \$32,000

Frederick R. Evans; *Ciliates of Great Salt Lake and Brackish Water Ponds*; 2 years; \$12,700

UNIVERSITY OF VERMONT, Burlington; Ross T. Bell; *Ingestive and Digestive Organs of Carabid Beetles*; 1 year; \$7,000

UNIVERSITY OF WASHINGTON, Seattle; Paul L. Ilg; *Systematics of the Marine Symbiotic Cyclopoidea*; 3 years; \$26,700

Alan J. Kohn; *Mollusks of the Family Conidae*; 2 years; \$15,000

Elva Lawton; *Moss Flora of the Pacific Northwest*; 2 years; \$20,400

John Liston and Rita B. Colwell; *Classification and Taxonomy of Gram-negative, Asporogenous, Rod-like, Marine Bacilli*; 2 years; \$24,000

UNIVERSITY OF WISCONSIN, Madison; Hugh H. Iltis; *Cytotaxonomical Problems in Flora of the Upper Midwest*; 2 years; \$12,200

Hugh B. Iltis; *Biosystematics of Peruvian-Bolivian Species of Solanum*; 3 years; \$20,000

John W. Thomson; *American Arctic Lichens*; 3 years; \$16,500

John W. Baxter, Milwaukee; *Rust Fungi of Mexico and Southwestern United States*; 3 years; \$16,200

VIRGINIA POLYTECHNIC INSTITUTE, Blacksburg; Robert Kral; *Taxonomic Revision of Fimbristylis in North America*; 3 years; \$21,500

WASHINGTON STATE UNIVERSITY, Pullman; Marion Ownbey; *Species Problem in Tragopogon*; 2 years; \$32,900

Charles Gardner Shaw; *Taxonomic Studies of the Peronosporaceae*; 2 years; \$17,500

WASHINGTON UNIVERSITY, St. Louis, Mo.; Robert E. Woodson; *Biometric Studies of Butterfly Weed (Asclepias Tuberosa)*; 1 year; \$4,800

WESTERN ILLINOIS UNIVERSITY, Macomb; Everett F. Morris; *Genera of the Stilbellaceae*; 1 year; \$4,300

YALE UNIVERSITY, New Haven, Conn.; A. Lee McAlester; *Type Species of Paleozoic Nuculoid Pelecypod Genera*; 3 years; \$12,500

John H. Ostrum; *Paleontology and Stratigraphy of Lower Cretaceous Deposits of Bighorn Basin Region*; 1 year; \$14,000
Satyu Yamaguti, Beltsville, Md.; *Systema Helminthum*; 3 months; \$1,750

ZOOLOGICAL SOCIETY OF PHILADELPHIA, PA.; Roger Conant; *The Water Snakes, Genus Natrix, of Mexico*; 1 year; \$4,000

GENERAL BIOLOGY

AMERICAN INSTITUTE OF BIOLOGICAL SCIENCES, Washington, D.C.; John R. Olive; *American Tables Committee for the Naples Zoological Station*; 1 year; \$6,050

ARCTIC INSTITUTE OF NORTH AMERICA, Washington, D.C.; Spencer Apollonio; *Biological, Physical and Chemical Oceanographic Research at Devon Island*; 1 year; \$22,900

John C. Reed, Montreal, Canada; *Facilities and Operating Support for Arctic Oceanographic Research*; 1 year; \$44,900

BERMUDA BIOLOGICAL STATION FOR RESEARCH, Inc., St. George's West, Bermuda; William H. Sutcliffe, Jr.; *Expanded Marine Biological Studies of the Sargasso Sea*; 1 year; \$30,720

GULF COAST RESEARCH LABORATORY, Ocean Springs, Miss.; Gordon Gunter; *Summer Research in the Gulf Coast Research Laboratory*; 2 years; \$31,700

HARVARD UNIVERSITY, Cambridge, Mass.; Reed C. Collins; *A Program in Evolutionary Biology*; 3 years; \$157,900

HIGHLANDS BIOLOGICAL STATION, Inc., Highlands, N.C.; Thelma Howell; *Summer Research at Highlands Biological Station*; 1 year; \$8,500

MARINE BIOLOGICAL LABORATORY, Woods Hole, Mass.; Philip B. Armstrong; *High Resolution Electron Microscope for Ultrastructure Studies*; 1 year; \$35,400

NEW YORK STATE VETERINARY COLLEGE, CORNELL UNIVERSITY, Ithaca, N.Y.; John H. Whitlock; *Disease Within an Ecosystem*; 3 years; \$114,900

ROSCOE B. JACKSON MEMORIAL LABORATORY, Bar Harbor, Maine; Earl L. Green; *Data-Processing Unit for Biological Research*; 5 years; \$126,200

UNIVERSITY OF CALIFORNIA, Berkeley; William A. Jensen; *Electron Microscope and Accessories for Fine Structure Studies with Plant Materials*; 1 year; \$45,000

UNIVERSITY OF COLORADO, Boulder; C. G. Mackenzie, Denver; *Electron Microscope for Studies on the Relationship of Biochemical Function to Fine Structure of Cells*; 1 year; \$45,500

UNIVERSITY OF KANSAS, Lawrence; David Paretsky and Christopher P. Sword; *Electron Microscope for Fine Structure Studies on Biological Materials*; 1 year; \$38,800

UNIVERSITY OF MIAMI, Coral Gables, Fla.; C. P. Idyll and F. G. Walton Smith, Miami; *Support of Research Activities of Visiting Investigators*; 2 years; \$30,000

UNIVERSITY OF OKLAHOMA, Norman; Carl D. Riggs; *Summer Research at The University of Oklahoma Biological Station*; 3 years; \$21,000

UNIVERSITY OF VIRGINIA, Charlottesville; James L. Rielop; *Summer Research Activities at the Mountain Lake Biological Station*; 3 years; \$34,000

UNIVERSITY OF WASHINGTON, Seattle; Robert L. Fernald; *Graduate Student Research at Friday Harbor Laboratories*; 3 years; \$92,000

WOODS HOLE OCEANOGRAPHIC INSTITUTE, Woods Hole, Mass.; John H. Ryther; *U.S. Program in Biology for the International Indian Ocean Expedition*; 3 years; \$450,000

YESHIVA UNIVERSITY, New York, N.Y.; Alfred Gilman and Henry D. Lauson; *Equipment for Interdepartmental Machine Shop*; 1 year; \$9,800

BIOLOGICAL AND MEDICAL SCIENCE FACILITIES

ALBERT EINSTEIN MEDICAL CENTER, Philadelphia, Pa.; L. A. Cohen; *Construction of a Laboratory for the Study of Body Orientation and Motor Coordination*; 2 years; \$35,000

ARCTIC INSTITUTE OF NORTH AMERICA, Washington, D.C.; Spencer Apollonio; *Facilities and Operating Support for Oceanographic Research*; 1 year; \$44,900

CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena; E. B. Lewis; *Maintenance of a Collection of Mutant Types of *Drosophila Melanogaster**; 5 years; \$68,300

COLUMBIA UNIVERSITY, New York, N.Y.; Paul R. Burkholder, Pallsades; *Research Laboratory for Marine Biology*; 2 years; \$100,000

L. C. Dunn and D. Bennett; *Renovation and Completion of Animal Genetics Laboratories at Nevis Biological Station*; 1 year; \$10,700

COMMUNICATION RESEARCH INSTITUTE, St. Thomas, Virgin Islands; John C. Lilly; *Construction of a Communications Research Laboratory*; 1 year; \$10,200

DARTMOUTH COLLEGE, Hanover, N.H.; George B. Saul; *Establishment of a *Mormoniella Vitripennis* Stock Center*; 4 years; \$37,000

DUKE UNIVERSITY, Durham, N.C.; C. G. Bookhout; *Cooperative Research and Research Training Program in Biological Oceanography*; \$327,000

MARINE BIOLOGICAL LABORATORY, Woods Hole, Mass.; Philip B. Armstrong; *Improved Methods of Collecting Living Marine Forms*; 1 year; \$25,000

NAPLES ZOOLOGICAL STATION, Naples, Italy; Peter Dohrn; *Operation of Research Facilities at the Naples Zoological Station*; 5 years; \$175,000

ROSCOE B. JACKSON MEMORIAL LABORATORY, Bar Harbor, Maine; Margaret C. Green and Joan Staats; *Maintenance of a Mouse Mutant Stocks Center*; 5 years; \$139,700

UNIVERSITY OF CALIFORNIA, Berkeley; P. F. Scholander and F. N. Spiess, La Jolla; *Construction and Operation of Biological Laboratory Ship and Associated Shore Facility*; 3 years; \$923,000

C. F. Kelly and A. H. Smith, Davis; *Construction of Facilities for Studies of Chronic Acceleration Effects*; 3 years; \$59,000

UNIVERSITY OF COLORADO, Boulder; John W. Marr; *Construction of New Laboratory Building at Science Lodge*; 2 years; \$60,000

UNIVERSITY OF FLORIDA, Gainesville; E. Lowe Pierce; *Construction and Equipping of a 32-Foot Motor Launch for Marine Biological Research*; 1 year; \$11,100

UNIVERSITY OF MIAMI, Coral Gables, Fla.; E. F. Corcoran, Miami; *Construction of a Radiotope Storage and Handling Facility*; 1 year; \$2,850

F. G. Walton, Miami; *Boat Operations for Biological Research*; 2 years; \$39,800

Warren J. Wisby, Miami; *Construction of a Laboratory for Behavior and Environmental Studies of Marine Animals*; 2 years; \$200,000

UNIVERSITY OF MICHIGAN, Ann Arbor; Theodore H. Hubbell; *Facility for Research in Animal Biostatistics*; 5 years; \$1,000,000

UNIVERSITY OF OREGON, Eugene; R. R. Huestis; *Maintenance of a Mutant *Peromyscus* Colony*; 2 years; \$19,100

J. Arnold Shotwell; *Study of Environment and Evolution of Mammalian Communities*; 2 years; \$88,000

UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles; Leslie A. Chambers; *Ship Operations for Biological Oceanographic Research*; 3 years; \$200,000

UNIVERSITY OF TENNESSEE, Knoxville; R. C. von Borstel; *Maintenance of a *Habrobracon Juglandis* Stock Center*; 2 years; \$21,400

UNIVERSITY OF VIRGINIA, Charlottesville; James L. Rlopel; *Renovation and Improvement of Facilities at the Mountain Lake Biological Station*; 2 years; \$25,000

UNIVERSITY OF WASHINGTON, Seattle; Robert L. Fernald; *Expansion and Modernization of Research Facilities of the Friday Harbor Marine Laboratories*; 2 years; \$25,000

WALLA WALLA COLLEGE, College Place, Wash.; Harold G. Coffin; *A Collecting and Laboratory Vessel for Biological Research*; 1 year; \$8,000

WASHINGTON STATE UNIVERSITY, Pullman; Orlin Biddulph; *Construction of a Controlled Environment Irradiation Facility*; 2 years; \$141,000

WOODS HOLE OCEANOGRAPHIC INSTITUTE, Woods Hole, Mass.; Paul M. Fye; *Construction of a Laboratory for Research in Marine Sciences*; 3 years; \$2,000,000

Bostwick H. Ketchum; *Ship Operation Costs for Basic Biological Oceanographic Research*; 1 year; \$150,000

WORCESTER FOUNDATION FOR EXPERIMENTAL BIOLOGY, INC., Shrewsbury, Mass.; Ralph Dorfman; *Construction of a Building Extension for a Special Equipment Center*; 3 years; \$330,000

MATHEMATICAL, PHYSICAL, AND ENGINEERING SCIENCE FACILITIES

COLUMBIA UNIVERSITY, New York, N.Y.; Ralph S. Halford; *Establishment of a Computing Center*; 1 year; \$100,000

CORNELL UNIVERSITY, Ithaca, N.Y.; Boyce D. McDaniel; *Electron Accelerator Studies at 3 Mev.*; 1 year; \$109,600

JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; Donald W. Pritchard; *Construction of a New Oceanographic Shore Facility*; 1 year; \$650,000

KANSAS STATE UNIVERSITY, Manhattan; William R. Kimel; *Modification of Kansas State University TRIGA Mark II Reactor for Research*; 1 year; \$108,285

William R. Kimel; *Modification of Nuclear Reactor*; 1 year; \$26,600

NEW YORK UNIVERSITY, New York; Harold K. Work; *Land Base for Oceanographic Vessel*; 1 year; \$25,000

OREGON STATE UNIVERSITY, Corvallis; Wayne V. Burt; *Construction of an Oceanographic Research Laboratory*; 1 year; \$500,000

STANFORD UNIVERSITY, Stanford, Calif.; Walter E. Meyerhof; *Acquisition of a Multi-*

Stage Van de Graaff Accelerator; 3 years; \$1,299,700

STATE UNIVERSITY OF IOWA, Iowa City; J. A. Van Allen; Acquisition of a 5.5 Mev Van de Graaff Accelerator; 2 years; \$641,100

TEXAS AGRICULTURAL AND MECHANICAL RESEARCH FOUNDATION, College Station; Hugh J. McLellan; Acquisition, Conversion and Outfitting of a 180 Foot Vessel for Oceanographic Research; 1 year; \$875,000

TUSKEGEE INSTITUTE, Tuskegee Institute, Ala.; Z. W. Dybczak; Establishment of a Computing Center; 1 year; \$20,000

UNIVERSITY OF CALIFORNIA, Berkeley; Jeffery Frautschy, La Jolla; Construction of an Experimental Laboratory Building; 2 years; \$350,000

Nello Pace; Basic Research Facilities at the White Mountain Research Station; 2 years; \$60,000

UNIVERSITY OF CHICAGO, Ill.; Samuel K. Allison; Acquisition of a 4 Mev Van de Graaff Accelerator; 2 years; \$296,700

UNIVERSITY OF FLORIDA, Gainesville; J. Wayne Reitz; Expansion of Computing Center; 1 year; \$200,000

UNIVERSITY OF HAWAII, Honolulu; Robert W. Hiatt; Construct and Equip an Institute of Geophysics; 2 years; \$2,700,000

UNIVERSITY OF MICHIGAN, Ann Arbor; David C. Chandler; Conversion of Motor Vessel RANGER II for Oceanographic Research; 1 year; \$147,500

David C. Chandler; Construction of a 49-foot Research Vessel; 1 year; \$85,900

UNIVERSITY OF PITTSBURGH, Pittsburgh, Pa.; B. L. Cohen; Acquisition of a Three Stage Tandem Van de Graaff Accelerator; 3 years; \$977,600

UNIVERSITY OF WASHINGTON, Seattle; Ronald Geballe; Acquisition of a Tandem Van de Graaff Accelerator; 3 years; \$1,240,000

WASHINGTON UNIVERSITY, St. Louis, Mo.; Carl Tolman; Expansion of Computing Center; 1 year; \$250,000

WOODS HOLE OCEANOGRAPHIC INSTITUTE, Woods Hole, Mass.; Paul M. Fye; Design and Construction of an Oceanographic Research Vessel; 1 year; \$82,400

CONTINUED ANTARCTIC RESEARCH

AMERICAN GEOGRAPHICAL SOCIETY, New York, N.Y.; William Briesemeister; Revision of the Map of Antarctica, New Edition 1964; 2 years; \$13,100

William Briesemeister; Preparation of a New Map of Antarctica; 1 year; \$9,800

ARCTIC INSTITUTE OF NORTH AMERICA, Washington, D.C.; Brian P. Sandford; Aurora and Airglow Data Reduction; 1 year; \$11,151

Robert C. Faylor; Chief Scientist, U.S. Antarctic Research Program; 1 year; \$3,835

Norman J. Oliver; Aurora and Airglow Research Program, 1962-63; 21 months; \$161,200

Norman J. Oliver; Aurora and Airglow at Eighte Station, 1962-63; 2 years; \$27,300

BARTOL RESEARCH FOUNDATION, FRANKLIN INSTITUTE, Philadelphia, Pa.; Martin A. Pomerantz; Shipboard Cosmic Ray Station; 2 years; \$42,460

Martin A. Pomerantz; Time Variations of Primary Cosmic Radiation Near the South Geomagnetic Pole (McMurdo); 1 year; \$92,800

BERNICE P. BISHOP MUSEUM, Honolulu, Hawaii; J. Linsley Gressitt; Entomological Research in Antarctic Regions, with Emphasis on Natural Dispersal; 2 years; \$31,920

J. Linsley Gressitt; Entomological Research in Antarctic Regions, with Emphasis on Natural Dispersal; 2 years; \$49,000

BOSTON COLLEGE, Chestnut Hill, Mass.; James J. Devlin; Continuation of Patrol Spectrograph Data Reduction; 1 year; \$59,800

BOWLING GREEN STATE UNIVERSITY, Bowling Green, Ohio; Charles C. Rich; Glacial Geology and Geomorphology of the Darwin and Carlyon Glaciers Area; 18 months; \$9,100

CALIFORNIA INSTITUTE OF TECHNOLOGY, Pasadena; Heinz A. Lowenstam; A Biogeochemical Study of the Skeletal Carbonates of the Benthic Organisms in the Antarctic Seas; 1 year; \$2,400

COLUMBIA UNIVERSITY, New York, N.Y.; Paul R. Burkholder, Palisades; Microbiological Investigations in Antarctica; 1 year; \$34,585

Maurice Ewing, Palisades; Systematic Oceanographic Survey in the Drake Passage and in the Antillean Sea (Scotia Sea); 42 months; \$284,460

Jack Oliver, Palisades; Continued Conduct of Station Seismology Program—1962; 1 year; \$1,770

FLORIDA STATE UNIVERSITY, Tallahassee; H. G. Goodell, D. S. Gorsline and J. K. Osmond; Analysis of Oceanic Bottom Sediments from Operation Deep Freeze; 1 year; \$15,924

J. K. Osmond, H. G. Goodell and D. S. Gorsline; Marine Geologic Field Work in the South Antilles Basin and Associated Areas; 1 year; \$33,420

GEORGE WASHINGTON UNIVERSITY, Washington, D.C.; William M. Smith; Antarctic Scientific Personnel Project; 1 year; \$12,840

HARVARD UNIVERSITY, Cambridge, Mass.; I. Mackenzie Lamb; Botanical Survey in West Antarctica; 1 year; \$3,850

JOHNS HOPKINS UNIVERSITY, Baltimore, Md.; W. J. L. Sladen and W. L. N. Tickell; The Comparative Behavior and Ecology of the Albatrosses of the Genus *Diomedea*; 1 year; \$3,880

William J. L. Sladen; Behavior and Ecology of the Wandering Albatross; 3 years; \$65,400

William J. L. Sladen and Carl R. Eklund; USARP Bird-banding Program, 1962-63; 1 year; \$16,300

NATIONAL ACADEMY OF SCIENCES-NATIONAL RESEARCH COUNCIL, Washington, D.C.; G. D. Meld; 1962 Meeting of the Scientific Committee on Antarctic Research (SCAR); 1 year; \$10,900

Ross C. Peavey; Continued Support of Activities of the Committee on Polar Research; 1 year; \$69,900

OHIO STATE UNIVERSITY RESEARCH FOUNDATION, Columbus; William L. Boyd; Ecological Survey of Antarctic Bacteria; 1 year; \$15,200

Collin Bull; *Analysis of Antarctic Thermal, Gravity, Glaciological and Paleomagnetic Data*; 18 months; \$18,500

Paul C. Dairymple; *Analysis of Antarctic Micrometeorological Data*; 1 year; \$7,902

George A. Doumani and Samuel B. Treves; *Geology of the Mt. Weaver Area (Queen Maud Mts.)*; 32 months; \$50,800

R. B. Forrest; *Ice Surface Movements on the Rockefeller Plateau*; 18 months; \$34,700

Richard P. Goldthwait; *Continued Support of the Institute of Polar Studies, 1961-62*; 1 year; \$28,200

Kenji Kojima; *Analysis of Density Profiles of the Firm and Ice in Antarctica During the IGY-IGC 1959 Program*; 1 year; \$14,905

Madison E. Pryor; *Ecological Survey of Soil Arthropods in Relation to Microenvironment, Mirny Station, Antarctica*; 30 months; \$43,387

E. D. Rudolph; *Ecological and Floristic Investigations of Antarctica Lichens*; 1 year; \$16,676

E. D. Rudolph; *Ecology and Floristic Investigations of Antarctic Lichens*; 2 years; \$21,400

L. D. Taylor; *Traverse Glaciology (1962-63)*; 18 months; \$20,500

Samuel B. Treves; *Petrography of Marguerite Bay Area, Palmer Peninsula, Antarctica*; 1 year; \$5,878

Samuel B. Treves and Arthur Mirsky; *Petrography of the Mt. Gran Area, Antarctica*; 1 year; \$3,250

RUTGERS, THE STATE UNIVERSITY, New Brunswick, N.J.; J. C. F. Tedrow; *Pedologic Processes in Antarctica*; 1 year; \$27,500

STANFORD UNIVERSITY, Stanford, Calif.; R. A. Hellwell, A. M. Peterson and O. G. Villard, Jr.; *Radio-Science Research Aboard the USNS ELTANIN*; 1 year; \$212,510

R. A. Hellwell; *Study of Geomagnetic Conjugate to the ELTANIN'S Course in 1962*; 1 year; \$57,600

R. A. Hellwell; *A Land VLF Traverse Conjugate to the ELTANIN'S Course in 1962*; 1 year; \$57,600

R. A. Hellwell; *VLF Phenomena in Antarctica, 1962-63*; 1 year; \$100,200

R. A. Hellwell; *Radio Science at Eight Stations, Antarctica*; 2 years; \$245,000

R. A. Hellwell; *Geomagnetic Latitude Control of VLF Phenomena*; 1 year; \$23,900

Donald E. Wohlschlag; *Continuing Ecological and Physiological Studies of McMurdo Sound Marine Animals*; 4 months; \$6,100

Donald E. Wohlschlag; *Ecological and Physiological Studies of McMurdo Sound Marine Animals*; 2 years; \$51,600

TEXAS AGRICULTURAL AND MECHANICAL RESEARCH FOUNDATION, College Station; Sayed Z. El-Sayed; *Primary Productivity in Drake Passage (Southern Ocean)*; 1 year; \$26,200

Donald W. Hood; *Calcium Carbonate Saturation Level of the Ocean from Latitudes of North America to Antarctica*; 1 year; \$18,700

Dale F. Leipper and Luis Capurro; *Surface and Deep Current Measurements in the Drake Passage (Southern Ocean)*; 1 year; \$28,300

TEXAS TECHNOLOGICAL COLLEGE, Lubbock; F. Alton Wade; *Geology of the Shackleton Glacier Area, Queen Maud Range*; 2 years; \$41,500

TUFTS UNIVERSITY, Medford, Mass.; Robert L. Nichols; *Geomorphological Field Project in the Wright, Victoria, and Gran Mountain Dry Valleys*; 9 months; \$14,400

U.S. ARMY COLD REGIONS RESEARCH & ENGINEERING LABORATORY, Wilmette, Ill.; James A. Bender; *Analysis of Deep Ice Cores From Greenland and Antarctica*; 1 year; \$30,000

U.S. DEPARTMENT OF COMMERCE, COAST & GEODETIC SURVEY, Washington, D.C.; H. Arnold Karo; *Training of Chilean Antarctic Magnetic Observer*; 6 months; \$2,675

H. Arnold Karo; *Antarctic Seismological Observatories, 1962-63*; 20 months; \$11,000

H. Arnold Karo; *Station and Traverse Magnetic Observations, 1962-63*; 20 months; \$133,800

U.S. DEPARTMENT OF COMMERCE, NATIONAL BUREAU OF STANDARDS, Washington, D.C.; F. W. Brown, Boulder, Colo.; *Study of Ionospheric Absorption at Mirny Base, Antarctica, Using Cosmic Noise Method*; 2 years; \$10,600

F. W. Brown, Boulder, Colo.; *Study of Radio Noise Aboard the Ship to be Used as a Floating Antarctic Research Station*; \$8,000

F. W. Brown, Boulder, Colo.; *Radio Noise Measurements—Floating Antarctic Research Station*; 2 years; \$71,850

F. W. Brown, Boulder, Colo.; *High Latitude Studies of the Ionosphere at Magnetically Conjugate Points*; 1 year; \$100,000

F. W. Brown, Boulder, Colo.; *Antarctic-Ionospheric Soundings Program, 1962-63*; 2 years; \$150,600

C. Gordon Little, Boulder, Colo.; *High Latitude Ionosphere at Magnetically Conjugate Points*; 1 year; \$100,200

J. William Wright, Boulder, Colo.; *Antarctic Ionosphere Studies*; 1 year; \$34,000

U.S. DEPARTMENT OF COMMERCE, WEATHER BUREAU, Washington, D.C.; F. W. Reichelderfer; *Antarctic Meteorological Research Program—1961*; \$70,000

F. W. Reichelderfer; *Antarctic Meteorological Research Program*; 2 years; \$377,840

F. W. Reichelderfer; *Antarctic Field Operations*; 4 years; \$142,640

F. W. Reichelderfer; *Antarctic Meteorological Research Aboard the ELTANIN*; 2 years; \$93,390

F. W. Reichelderfer; *A Combined Aircraft and Satellite Ice and Albedo Survey Over Antarctic Waters*; 1 year; \$26,618

F. W. Reichelderfer; *Meteorological Research Program in Antarctica, 1962-63*; 37 months; \$332,200

U.S. DEPARTMENT OF DEFENSE, NAVY HYDROGRAPHIC OFFICE, Washington, D.C.; E. C. Stephan; *Shipboard Marine Geophysical Studies in the Antarctic and Subantarctic*; 1 year; \$90,080

E. C. Stephan; *Ship-based Oceanography in the Antarctic and Subantarctic*; 1 year; \$61,500

U.S. DEPARTMENT OF THE INTERIOR, BUREAU OF MINES, Washington, D.C.; Marling J. Ankeny; *Investigation of Methods and Conditions of Mineral Potential in Isolated Areas Such as Antarctica*; 1 year; \$3,825

U.S. DEPARTMENT OF THE INTERIOR, GEOLOGICAL SURVEY, Washington, D.C.; Thomas B. Nolan; *Plastic Relief Antarctic Map*; 1 year; \$11,000

Thomas B. Nolan; *Program for Antarctic Mapping Operations*; \$88,000

Thomas B. Nolan; *Geology of the Pensacola Mountains*; 18 months; \$59,600

Thomas B. Nolan, *Antarctic Mapping Operations, 1962-63*; 1 year; \$121,400

U.S. DEPARTMENT OF THE INTERIOR, OFFICE OF GEOGRAPHY, Washington, D.C.; Meredith F. Burrill; *Standard Geographic Nomenclature in Antarctica for United States Use*; 1 year; \$12,400

UNIVERSITY OF ALASKA, College; C. T. Elvey; *Shipboard Installation and Operation of a Riometer and Photometer in the Antarctic Oceans*; 1 year; \$38,612

Robert B. Forbes; *Petrology of the Volcanic Rocks of Ross Island*; 18 months; \$18,100

Keith B. Mather; *Conjugate Ionospheric Phenomena (USNS Ellanin)*; 1 year; \$1,800

UNIVERSITY OF ARIZONA, Tucson; Lucy M. Cranwell; *Palynology of Antarctica*; 3 years; \$27,100

UNIVERSITY OF CALIFORNIA, Berkeley; George M. Briggs; *Nutrition and Ecology of Antarctic Micrometazoa (Fresh-Water)*; 1 year; \$34,027

Charles R. Goldman, Davis; *Studies on Basic Energy Sources and Pathways in Antarctic Ponds and Lakes*; \$1,100

Charles R. Goldman, Davis; *Basic Energy Sources and Pathways in Antarctic Ponds and Lakes*; 1 year; \$19,800

UNIVERSITY OF SOUTHERN CALIFORNIA, Los Angeles; John L. Mohr and Leslie A. Chambers; *Biological Oceanology in the Antarctic Seas*; 1 year; \$108,450

UNIVERSITY OF KANSAS, Lawrence; Kenneth B. Armitage and Ernest E. Angino; *A Limnological and Geochemical Investigation of Lakes Bonney and Vanda, Antarctica*; 18 months; \$18,352

UNIVERSITY OF MARYLAND, College Park; S. F. Singer; *Cosmic Ray Monitoring at Hallett Station, Antarctica*; 1 year; \$18,000

UNIVERSITY OF MICHIGAN, Ann Arbor; James H. Zumberge; *Ross Ice Shelf Studies*; 1 year; \$5,000

James H. Zumberge; *Ross Ice Shelf Studies, 1962-63*; 1 year; \$70,100

UNIVERSITY OF MINNESOTA, Minneapolis; Campbell Craddock; *Geology of the Ellsworth Mountains*; 1 year; \$70,600

UNIVERSITY OF MISSOURI, Columbia; W. D. Keller; *Glacial Milk and Rock Flour from Antarctic Glaciers*; 1 year; \$14,684

UNIVERSITY OF TEXAS, Austin; Thomas G. Barnes, El Paso; *Meteorological Rocket Probes of the Upper Atmosphere in the Antarctic*; 2 years; \$124,940

UNIVERSITY OF WISCONSIN, Madison; Robert F. Black; *Patterned Ground in Antarctica*; 1 year; \$32,900

Robert H. Dott, Jr.; *Stratigraphy and Sedimentology of the Antarctic Peninsula and Southern Chile*; 1 year; \$28,400

John T. Emlen, Jr., and Richard L. Penney; *Orientation Mechanisms and Related Behavior in the Adelie Penguin*; 1 year; \$19,800

Richard Lee Penney; *The Behavior of the Adelie Penguin*; 1 year; \$3,618

Robert A. Ragotzkie; *Physical Limnology of Antarctic Lakes*; 1 year; \$25,200

George P. Woollard, Charles R. Bentley and Mario Giovinetto; *Antarctic Traverse Program*; 1 year; \$122,435

G. P. Woollard; *Gravity and Magnetic Studies in the Waters Adjacent to Antarctica*; 1 year; \$23,032

G. P. Woollard and R. A. Schmidt; *Microscopic Extraterrestrial Particles in the Antarctic Ice Cap*; 1 year; \$37,190

G. P. Woollard and C. R. Bentley; *Continuation of Antarctic Traverse Program, 1962-63*; 1 year; \$204,300

VIRGINIA FISHERIES LABORATORY, Gloucester Point, Va.; William J. Hargis, Jr.; *Parasites of Antarctic Vertebrates and Invertebrates*; 38 months; \$21,100