A total of 118 research investigatorships and fellowships have been announced by the Association for the fiscal period beginning July 1, 1956 and continuing through June 30, 1957. The awards represent an expenditure of $847,000.

Included are 3 career investigatorships, 46 continued and renewed established investigatorships, 17 new established investigatorships, 20 continued and renewed research fellowships and 32 new research fellowships. The $847,000 awarded in these categories represents an increase from $695,000 awarded in the same categories last year. Still to be awarded are grants-in-aid for research projects. Last year 149 such grants were awarded.

The latest awards bring to more than $14 million the total monies allocated for research support by the Association since it was reorganized as a voluntary health agency in 1948. A complete list of award winners appears at the end of this section.

MAY 15 IS ABSTRACTS DEADLINE FOR 1956 AHA SCIENTIFIC SESSIONS

May 15 is the deadline for submitting abstracts of papers for presentation at the 1956 Annual Meeting and Scientific Sessions of the Association to be held in Cincinnati, October 27–31. It is also the deadline for applying for space to present scientific exhibits at the sessions.

The Scientific Sessions will be conducted October 27, 28 and 29 at the Cincinnati Music Hall. The use of this large public auditorium will enable the Association to provide greatly expanded space for exhibits—both scientific and technical.

To be accepted for presentation, papers must be based on original investigations in or related to the cardiovascular field. Abstracts should not exceed 300 words in length. They should be submitted in triplicate on special forms provided by the Medical Director of the Association. Applications for scientific exhibit space may also be obtained from the Medical Director, American Heart Association, 44 East 23rd Street, New York 10.

PLAN REHABILITATION PROGRAMS AT REGIONAL WORKSHOPS

A major effort to focus professional and lay attention on the problems of rehabilitation of the cardiac will be undertaken by the Association in the next few months. The effort will have the cooperation of several governmental agencies with interest in the rehabilitation field.

An important part of the Association effort will be a series of five three-day regional workshops which will bring together members of various professional disciplines, personnel of national, state and local heart associations and representatives of the cooperating agencies. This last category includes the Office of Vocational Rehabilitation, the Children’s Bureau, the Bureau of Employment Security of the Department of Labor and the Extension Service of the Department of Agriculture.

Each workshop will be attended by 50 or 60 persons. Adequate medical representation at the workshops is considered to be of paramount importance to their success, as is the exploration of ways and means for mutual cooperation between the public agencies and Heart Associations in order to bring about increased rehabilitation service to persons with cardiovascular disease problems.


BLAKESLEE AWARDS ENTRIES DUE BY TUESDAY, MAY 1

Newspaper and magazine articles, books, radio and television programs and films which were published or produced between March 1, 1955 and March 1 of this year will be eligible...
for the 1956 Howard W. Blakeslee Awards competition of the American Heart Association. Entries must be submitted on special forms by May 1.

Blakeslee awards are given annually for efforts in any media of mass communication which in the opinion of the Association's Awards Committee contribute most to public understanding of the cardiovascular system and its diseases. The awards were inaugurated in 1952 to honor the memory and achievements of the late science editor of the Associated Press and founder of the National Association of Science Writers. They carry a minimum honorarium of $500 each.

Additional information and entry blanks may be obtained from the American Heart Association, 44 East 23 Street, New York 10.

ARMED FORCES INSTITUTE PLANS CARDIOLOGY COURSE MAY 14-17

A postgraduate course on diseases of the heart will be presented for physicians by the Armed Forces Institute of Pathology in Washington, May 14-17. The course is being conducted with the cooperation and endorsement of the American Heart Association.

The symposium is open to both civilian and military physicians with enrollment limited to 425 persons. The first day's program will deal with heart embryology, anatomy, histology, physiology, the conduction system of the heart and pharmacologic aspects of cardiology. Subsequent programs will be focused on congenital malformations of the heart, rheumatic fever and rheumatic heart disease, coronary atherosclerosis and occlusion, and the less common forms of heart disease.

Course director is William C. Manion, M.D., Chief of the Armed Forces Institute of Pathology's cardiovascular section. The institute is the central laboratory of pathology for the military establishment. Civilian physicians who desire to attend may apply directly to the Director, Armed Forces Institute of Pathology, Washington 25, D. C. Doctors in the armed forces should make application through normal military channels.

DR. CRISMON HEADS RESEARCH COMMITTEE

Jefferson M. Crismon, M.D., Professor of Physiology at the Stanford University School of Medicine, Palo Alto, Calif., has been elected Chairman of the Research Committee of the Association's Scientific Council. Dr. Crismon succeeds Howard B. Burchell, M.D., Mayo Clinic, Rochester, Minn.

A. C. Corcoran, M.D., Cleveland Clinic, Cleveland, was chosen as Vice Chairman of the Research Committee.

AHA MAKES WIDE DISTRIBUTION OF RHEUMATIC FEVER CRITERIA

Distribution by the Association of reprints of the statement, Jones Criteria, (Modified) for Guidance in the Diagnosis of Rheumatic Fever, to 183,000 practicing physicians and 25,000 medical students has been instituted in cooperation with the National Heart Institute and the American Medical Association.

The statement was first published in September, 1955, issue of the AHA's monthly bulletin for physicians, Modern Concepts of Cardiovascular Disease. It is revision of the widely-accepted rheumatic fever diagnostic criteria originally drawn up by the late T. Duckett Jones, M.D.

Additional copies of the Jones Criteria statement can be obtained from local Heart Associations or from the American Heart Association, 44 East 23 Street, New York 10.

AHA REPRESENTATIVES TO ATTEND TWO INTERNATIONAL CONGRESSES

The Association has accepted invitations to send representatives to two international cardiologic congresses this year. They are the Second European Congress of Cardiology, to be held in Stockholm, September 10-14, and the Inter-American Congress of Cardiology, Havana, November 11-17.

Persons in the United States wishing to present papers at the Inter-American Congress in Havana must submit abstracts through the American Heart Association. Abstracts of not more than 200 words should be submitted, not later than July 1, 1956 to the Medical Director, American Heart Association, 44 East 23 Street, New York 10.

THREE CARDIAC CLINICS NOW AVAILABLE

Three titles in the Association's audio-visual educational series for physicians, Cardiac
Clinics, are now available in both kit and album form. These are:

“The Role of the P-A Film of the Chest in Cardiology”—Cardiac Clinic no. 1, prepared by William R. Christensen, M.D., Professor of Radiology at the University of Utah College of Medicine. Consists of two 12 inch, 33 1/3 rpm records with a running time of approximately 35 minutes, 39 correlated slides and script.

“Prevention of Rheumatic Fever”—Cardiac Clinic no. 2 prepared by Gene H. Stollermain M.D., Assistant Professor of Medicine, Northwestern University Medical School. Consists of three 12 inch, 33 1/3 rpm records with a running time of 44 minutes, 31 correlated slides and script.

“Functional Pathology of Occlusive Coronary Disease”—Cardiac Clinic no. 3 prepared by Jesse E. Edwards, M.D., Professor of Pathologic Anatomy, Mayo Clinic and Mayo Foundation. Consists of two 12 inch, 33 1/3 rpm records with a running time of 26 minutes, 28 correlated slides and script.

Each of these Cardiac Clinics is available in two forms, kit or album. The kit includes the records, slides, slide box, script and viewer in a special wooden case. Its cost is $150 plus shipping charges. The album includes the record, slides and script and may be obtained for $40 with express charges prepaid. Kits may also be rented at a cost of $5 for three days plus railway express charges both ways. Additional copies of the scripts may be obtained for either kits or albums at a cost of $6 per hundred with a minimum order of 25 copies required.

To purchase albums or kits, order from the American Heart Association, 44 East 23 Street, New York 10. To rent kits, order from the American Heart Association Film Library, 13 East 37 Street, New York 16.

GUIDE FOR BLOOD VESSEL BANKS


The guide is designed to aid clinical investigators in the establishment of blood vessel banks under standard conditions and to encourage a “certain uniformity in the procurement and preservation of vascular grafts for evaluations.” It was drawn up by a committee of the Scientific Council of the Association which included Jere W. Lord Jr., M.D., New York; Robert E. Gross, M.D., Boston; Charles A. Hufnagel, M.D., Washington; and Abel A. Lazzarini, Jr., M.D., New York.

Information on obtaining copies of the guide in quantity may be obtained from the Medical Director, American Heart Association, 44 East 23 Street, New York 10.

NEW YORK HEART PLANS SPRING SCIENTIFIC SESSION

The annual Spring Scientific Session of the New York Heart Association will be held on the evening of Tuesday, April 24, at the New York Academy of Medicine. Particular emphasis is being placed on younger investigators working in Greater New York laboratories and hospitals. For additional information, address J. Murray Steele, M.D., Chairman Committee on Scientific Sessions, New York Heart Association, 485 Fifth Avenue, New York 17, N. Y.

ARTERIOSCLEROSIS STUDY SOCIETY NAMES DR. CORCORAN

A. C. Corcoran, M.D., Cleveland Clinic, Cleveland, O., was elected President of the American Society for the Study of Arteriosclerosis at the Society’s recent annual meeting in Chicago. Dr. Corcoran succeeds Louis N. Katz, M.D., Chicago.

Also elected by the arteriosclerosis group were Charles F. Wilkinson, Jr., M.D., New York, as Vice President, and O. J. Pollak, M.D., Dover, Del., as Secretary-Treasurer.

The Society has also announced that the deadline for submission of abstracts for presentation at its 1956 Annual Meeting is May 31. The 1956 meeting will be held in Chicago’s Palmer House, November 11-12. Factual abstracts should be submitted to Dr. R. Gordon Gould, Program Chairman, P.O. Box 1663, Los Alamos, N. M.

MEETINGS CALENDAR

April 3: Third Microcirculatory Conference, Hotel Schroeder, Milwaukee, Wisconsin. Dr. G. P. Fulton, Dept. of Biology, Boston University, 675 Commonwealth Ave., Boston 15.


April 3-7: 6th Annual Conference on High Energy Nuclear Physics, sponsored by National Science Foundation and Atomic Energy Commission, Rochester, N.Y. Professor Arthur Roberts, Dept. of Physics, University of Rochester, Rochester, N.Y.

April 9-12: 30th Annual Congress, International Anesthesia Research Society, Miami Beach. Dr. R. J. Whitacre, 13951 Terrace Road, Cleveland 12.


April 15: American Society of Biological Chemists, Atlantic City, Philip Handler, Duke University, Durham, N.C.

April 15-16: American Society for Artificial Internal Organs, Atlantic City. Peter F. Salisbury, M.D., Institute for Medical Research, Cedars of Lebanon Hospital, 4751 Fountain Avenue, Los Angeles 29.

April 15-20: American Society for Pharmacology and Experimental Therapeutics, Atlantic City. C. C. Pfeiffer, Emory University School of Medicine, Emory University, Ga.


April 26-28: American Association of Pathologists and Bacteriologists, Cincinnati. Edward A. Gall, Cincinnati General Hospital, Cincinnati 29.

April 30: American Society for Clinical Investigation, Atlantic City. A. O. DeWeese, 515 East Main Street, Kent, O.

May 1-2: Association of American Physicians, Atlantic City. P. B. Beeson, Yale University School of Medicine, New Haven 11.


ABROAD


AHA AWARD WINNERS

Following is a complete list of career investigators, established investigators and research fellows selected for support during the fiscal year beginning July 1, 1956 by the Association's Research Committee.

Career Investigators

Lorber, Victor, University of Minnesota Medical School, Minneapolis.

Pappenheimer, John, Harvard Medical School, Boston.

Coene, Albert H., Harvard Medical School, Boston.

Continued Established Investigators

Abelmann, Walter H., circulation in disorders of metabolism and the regulatory role of the liver, Thorndike Memorial Laboratory, Boston City Hospital and Department of Medicine, Harvard Medical School, Boston.

Aikawa, Jerry Kavas, immunophysiology, University of Colorado School of Medicine, Denver.

Barker, Earl Stephens, renal physiology, normal and pathologic, University of Pennsylvania, Renal Study Section, Philadelphia.

Beck, William Samson, mechanism by which hydrogen made available by carbohydrate oxidation is utilized for fatty acid synthesis, New York University College of Medicine, New York.

Briller, Stanley Arthur, energetics of the myocardium, New York University College of Medicine, New York.

Brodsky, William Aaron, renal and electrolyte metabolism, University of Louisville School of Medicine, Louisville.

Case, Henry Maud, metabolism and permeability of heart tissue investigated with isotopic techniques, University of Minnesota Medical School, Minneapolis.

Cohn, Mildred, mechanisms of phosphorylation and phosphate transfer reactions, Washington University School of Medicine, St. Louis.

Conn, Hadley L., Jr., study of alterations in pressure-volume-flow relationships within cardiovascular system produced by direct cardiovascular stresses; and effect of these alterations on transcapillary kinetics and organ metabolism, University of Pennsylvania Medical School, Philadelphia.
Carren, George Lally, metabolic aspects of cardiovascular disease with particular reference to lipid metabolism, University of Kansas Medical Center, Kansas City, Kan.

Drell, William, biochemical studies of the sympathetic nervous system in relation to cardiovascular function, University of California School of Medicine, San Francisco.

DuBois, Arthur Brooks, gas exchange in the lungs, mechanics of breathing and pulmonary capillary blood flow, Graduate School of Medicine, University of Pennsylvania, Philadelphia.

Eckstein, Richard W., coronary collateral circulation; and oxygen consumption of the right ventricle, Western Reserve University School of Medicine, Cleveland.

Edelman, Isidore Samuel, body water and electrolytes studied with tracers, University of California School of Medicine, San Francisco.

Elkinton, J. Russell, cardiovascular physiology, University of Pennsylvania School of Medicine, Philadelphia.

Farber, Paul J., role of electrolytes and their relationship to extracellular and intracellular organic constituents in heart disease and other diseases producing edema, New York University College of Medicine, New York.

Gaudino, Mario, intra and extracellular distribution of water and electrolytes in the organism as a whole and in tissues by means of radioactive indicators, New York University College of Medicine, New York.

Gergely, John, energetics and contractile proteins of heart muscle, Massachusetts General Hospital, Boston.

Goldthwaite, David Atwater, biosynthesis of purine nucleotides, Western Reserve University School of Medicine, Cleveland.

Goodall, McChesney, effect of cervicostellate ganglionectomy on adrenalin and noradrenaline content of sheep heart; and unknown sympatholytic factor present in mammalian heart, Duke University Medical School, Durham, N. C.

Goodger, Allan V. N., hemodynamic factors affecting electrolyte metabolism and the renal excretion of electrolytes, Yale University School of Medicine, New Haven, Conn.

Groscla, Santiago, enzymatic patterns of nitrogen metabolism in heart muscle, University of Kansas Medical School, Kansas City, Kan.

Kaplan, Melvin, attempt to localize tissue-deposited streptococcal antigens and antibodies in animal and human tissues by means of fluorescent-labeling technique; possible application to study of pathogenesis of cardiac and skin lesions in rheumatic fever, House of the Good Samaritan and Children's Medical Center, Boston.

Lepeschkin, Eugene, electro-physiological interpretation of normal and pathological ventricular complex of the electrocardiogram, University of Vermont, Burlington.

Mackler, Bruce, metabolic sequences involved in electron transport in mammalian tissues, Institute for Enzyme Research, University of Wisconsin, Madison.

Mather, Frank M., cardiovascular effects of specific electrolyte depletion and replenishment by means of dialysis technique; and ballistocardiographic studies in the normal and abnormal subject, University of Pittsburgh School of Medicine, Pittsburgh.

Matien, Martin B., physical chemistry of acid mucopolysaccharides of connective tissue and their protein complexes, University of Chicago, Chicago.

Merrill, John P., metabolic and electrolyte disorders in renal failure, Peter Bent Brigham Hospital, Boston.

Metcalfe, James, changes in the maternal circulation during pregnancy and labor, Boston Lying-in Hospital, Boston.

Mommaerts, Wilfried F. H. M., biochemistry of muscular contraction, Western Reserve University School of Medicine, Cleveland.

Osborn, John J., extra-corporeal circulation, physiology of hypothermia, and intracellular fluid and ionic shifts during respiratory acidosis, Stanford University School of Medicine, San Francisco.

Paterson, Philip Young, pathogenesis of selected forms of tissue damage, University of Virginia School of Medicine, Charlottesville.

Peterson, Lytle Henry, volume pressure, 'distensibility' of intact veins, arterial circulation with view to calculating stroke volume, integration of peripheral C-V reflexes, University of Pennsylvania Medical School, Philadelphia.

Plaut, Garthard W. E., pathways and compounds of intermediary metabolism with particular regard to properties of heart muscle, New York University College of Medicine, New York.

Rose, John C., studies of circulation in dog using a mechanical left ventricle; sonic flowmeter; aortic insufficiency; and relationship between arterial pressure and cardiac auscultatory phenomena, Georgetown University Medical Center, Washington, D. C.

Sanadi, D. Rao, oxidative phosphorylation and amino acid metabolism, University of California Medical School, Berkeley.

Schmidt-Nielsen, Bodt M., comparative kidney physiology, Duke University School of Medicine, Durham, N. C.

Singer, Thomas P., oxidative metabolism of sulfur amino acids in animals; and metabolism and function of new coenzymes, Eldele B. Ford Institute for Medical Research, Henry Ford Hospital, Detroit.

Sprinson, David B., biochemistry of one-carbon intermediates; and biosynthesis of aromatic com-
pounds in bacteria, Columbia University College of Physicians and Surgeons, New York.

Stawiler, Jeremiah, experimental atherosclerosis, experimental hypertension, renal function in edema formation, Michael Reese Hospital, Chicago.

Staniski, Abram B., studies on the basic mechanisms of antibody production in vivo and in vitro, Western Reserve University School of Medicine, Cleveland.

Stefanini, Mario, establishment of 'profile' of tests for diagnosis of thrombotic tendency; relation of the endocrine system to the blood coagulation mechanism and the pathogenesis of thromboembolism; possibilities of employment of fibrinolysin in the treatment of thromboembolism, St. Elizabeth's Hospital, Boston.

Stetson, Chandler A., investigations in rheumatic fever, New York University, Bellevue Medical Center, New York.


Wessler, Stanford, pathogenesis of intravascular thrombosis, Beth Israel Hospital, Boston.

Zweifach, Benjamin William, biochemical analysis of structural elements of blood-tissue barrier, New York University, Bellevue Medical Center, New York.

New Established Investigators

Benesch, Reinhold, role of sulfhydryl and disulfide groups in biological systems, Institute for Enzyme Research, University of Wisconsin, Madison.

Boyle, Edwin, Jr., comparative studies in lipoprotein transport and metabolism concerning atherosclerosis in man, monkey and pigs, Medical College of South Carolina, Charleston.

Epstein, Frankfurt H., metabolic and circulatory factors affecting distribution and excretion of water and electrolytes, Yale University School of Medicine, New Haven, Conn.

Flavin, Martin, Jr., research in enzyme chemistry and intermediary metabolism, New York University College of Medicine, New York.

Foulkes, Ernest Charles, fundamental mechanisms of electrolyte transport across biological membranes, The May Institute for Medical Research, Cincinnati.

Gross, Jerome, structure, composition, genesis, function and malfunction of connective tissues, Robert W. Lovett Memorial Laboratories, Massachusetts General Hospital, Boston.

Kun, Ernest, pathway of the metabolism of hydroxy acids, Institute for Enzyme Research, University of Wisconsin, Madison.

Kuo, Peter T., intravascular distribution of lipid particles in clinical atherosclerosis, Hospital and School of Medicine, University of Pennsylvania, Philadelphia.

Lazzaroni, Abel Alfred, Jr., metabolic and immunological changes occurring in transplanted tissues, New York University Post-Graduate Medical School, New York.

Linker, Alfred, studies on mucopolysaccharides, Columbia University College of Physicians and Surgeons, New York.

Nelson, Clifford Vincent, mechanism of fibrillation; and quantification of the vectorcardiogram, Maine Medical Center, Portland.

Perry, Jr., Horace Mitchell, pathogenesis and treatment of hypertension and atherosclerosis, Washington University School of Medicine, St. Louis.

Schwartz, William B., disorders of electrolyte metabolism and kidney function, Kidney and Electrolyte Laboratory, New England Center Hospital, Boston.

Schweet, Richard S., biological synthesis of protein, Kerckhoff Laboratory of Biology, California Institute of Technology, Pasadena, Calif.

Slade, Hutton Davison, biochemistry of group A hemolytic streptococcus, The Rheumatic Fever Research Institute, Chicago.

Spencer, Merrill P., factors affecting distribution of cardiac output, Bowman Gray School of Medicine of Wake Forest College, Winston-Salem, N. C.

Thal, Alan Philip, revascularization of the myocardium—an experimental study designed to test the feasibility of a direct suture anastomosis of extracardiac arteries to the coronary arteries; and the mechanism of action of bacteria and bacterial toxins on small blood vessels with particular reference to bacterial shock, University of Minnesota Hospital, Minneapolis.

New Research Fellowships

Adolph, Robert J., effect of digitalis and electrolytes on inotropic properties and ionic exchanges of normal and failing myocardium, University of Illinois, Chicago.

Attigter, Ernst O., correlation of dynamics of pulmonary ventilation and circulation, Boston City Hospital, Boston.

Berman, Herbert Joshua, study of living blood vessels in experimental hypertension and thromboembolism, Boston University, Boston.


Brady, Allan J., relation between intracellular electrical events and the strength and duration of contraction, University of Washington School of Medicine, Seattle.

Campbell, Edmund West, mechanism of platelets; platelet constituents and allied factors in blood coagulation and thrombosis, New England Center Hospital, Boston.

Chetrick, Allen, cardiovascular response to exercise in patients with enlarged but otherwise compensated hearts, before and after digitalization, Yale University School of Medicine, New Haven, Conn.
Chinery, Charles Augustus, III, pulmonary circulation of man in health and diseased states, Bellevue Hospital, New York.

Connor, William Elliott, fat metabolism in atherosclerosis, State University of Iowa College of Medicine, Iowa City.

Cook, Robert William, cardiovascular adjustments occurring during pregnancy; both normal pregnant women and pregnant women with heart disease will be studied, Boston Lying-in Hospital, Boston.

DeWall, Richard Allison, perfusion techniques as an aid to intracardiac surgery, University of Minnesota Hospitals, Minneapolis.

Feinberg, Harold, myocardial metabolism and relation to coronary flow, Michael Reese Hospital, Chicago.

Graumauk, Raymond, significance of right ventricular outflow tract hypertrophy in valvular pulmonary stenosis, University of Rochester Strong Memorial Hospital, Rochester, N. Y.

Grinnell, Edward Hoepfner, factors which influence myocardial irritability at sub-normal body temperatures, University of Oklahoma School of Medicine, Oklahoma City.

Guze, Lucien B., influence of changes in local tissue pressure on course of pyelonephritis, Yale University School of Medicine, New Haven, Conn.

Guzman, Santiago V., use of molar lactate in treatment of cardiac arrest and slow ventricular rates in complete or incomplete A-V heart block, Philadelphia General Hospital, Philadelphia.

Hancock, Ernest William, physiologic studies in valvular heart disease, Boston City Hospital, Boston.

Lakir, Nirupandra Lal, carbohydrate metabolism in heart tissue, Howard University School of Medicine, Washington, D. C.

Lavender, Ardis Ray, pathogenesis of water and electrolyte disorders in congestive heart failure, University of Chicago Clinics, Chicago.

Lichton, Ira Jay, influence of female sex physiology upon experimental salt and corticoid hypertension, Michael Reese Hospital, Chicago.

MacKoff, Leslie, physiological response to proteolytic enzyme inhibitor found in the alpha-1 and alpha-2 globulins, University of Washington, Seattle.

Maley, Gladys Feldott, mechanism of action of the thyroid hormone, Institute for Enzyme Research, University of Wisconsin, Madison.

Martin, Dan Anderson, effects of life situations and emotions on precipitation and course of congestive heart failure, University of North Carolina School of Medicine, Chapel Hill.

Moskowitz, Merle Seymour, mechanism of oxygen-induced hyperphospholipemia, University of Chicago, Chicago.

Robinson, Roscoe Ross, certain aspects of the hemodynamics and renal function of patients with malignant hypertension, Columbia University Presbyterian Hospital, New York.

Rosenblum, Robert, factors promoting acute and chronic retention of water in excess of sodium in patients in severe congestive failure, Montefiore Hospital, New York.

Schlant, Robert Carl, measurement of regional blood volume and flows; and studies on the circulatory abnormalities in congenital heart disease and high output failure, Peter Bent Brigham Hospital, Boston.

Ulrick, Stanley, relation of aldosterone to edema, College of Physicians and Surgeons, Columbia University, New York.

Wasserman, Fred, use of molar sodium lactate in cardiac resuscitation, Philadelphia General Hospital, Philadelphia.

Wells, Jacques Desmond, reversibility of malignant hypertension with uremia, Cincinnati General Hospital, Cincinnati.

Wellingham, Donald Burton, contractile elements of muscle; interactions of metallic ions with myosin, Harvard University, The Biological Laboratories, Boston.

Yeh, Samuel D., circulating protein constituents in serum globulins, The Johns Hopkins University School of Medicine, Baltimore.

Renewal Research Fellowships

Breuer, Jr., William Russell, hemodynamic and metabolic interrelationships in activity of epinephrine, norepinephrine, the thyroid hormones and the adrenal cortical steroids, Massachusetts General Hospital, Boston.

Chao, Fu-Chuan, nucleoprotein in yeast, chick embryo and mammalian tissues, Stanford University, Pal Alto, Calif.

Combes, Burton, amino acid and phosphate metabolism in man, Medical Unit, University College Hospital Medical School, London, England.

Done, Alan Kimball, role of pituitary-adrenal system in pathogenesis and treatment of rheumatic fever, University of Utah Medical School, Salt Lake City.

Frazier, Howard Stanley, effect of ouabain and failure on the potassium exchange of the frog ventricle, Harvard Medical School, Boston.

Gordon, Gerald S., investigation of the in vivo metabolism of carbohydrate by the heart using glucose C-14; investigation of the mechanism of pulsatile veins and liver in so-called tricuspid insufficiency, Pittsburgh University Medical School, Pittsburgh.

Hatch, Frederick Tasker, program in biochemistry; thesis research on metabolic aspect of a degenerative disease, Massachusetts Institute of Technology, Cambridge.

Huckabee, William Edward, balance of aerobic and anaerobic energy metabolism in body organs as a function of local circulatory adequacy, Massachusetts Memorial Hospitals, Boston.

Killip, Thomas, III, cardio-pulmonary function in obesity; plasma volume changes with exercise in
normals and patients with heart disease, New York Hospital, New York.

Knisely, William Hagerman, microscopic observations on living vasculature of mammalian lungs with attention to problems of arteriovenous anastomoses and catheterization, Duke University School of Medicine, Durham, N. C.

Matthews, Edward Carshore, polarographic measurement of tissue oxygen tension, Children's Hospital Research Foundation, Cincinnati.

Nadell, Judith, ionic interchanges and contractility of the heart, Stanford University, Palo Alto, Calif.

Padawer, Jacques, physiology of the mast cell and its relation to cardiovascular disease, Albert Einstein College of Medicine, Yeshiva University, New York.

Reiss, Oscar K., energy metabolism and enzymatic catalysis of the heart muscle, Johns Hopkins University Medical School, Baltimore.

Rudolph, Abraham Morris, pulmonary hypertension in congenital heart disease, Children's Medical Center of Harvard Medical School, Boston.

Schmidt, Willard Carl, study of host response to streptococcal antigens; and immunization of humans with purified streptococcal M protein, Western Reserve University School of Medicine, Cleveland.

Sharp, John Turner, pulmonary edema by measurement of the physical properties of the lungs and airways, Buffalo General Hospital, Buffalo.

Sheppard, Ernie, electrostatic forces involved in blood coagulation and the mode of action of ionic anticoagulants, New York Hospital-Cornell Medical Center, New York.

Walters, Donald H., effect of calcium and magnesium on electrolyte flux across the cellular membrane; kinetic studies as applied to cardiac muscle and the erythrocyte membrane, Harvard Medical School, Boston.

Weissler, Arnold, cardiovascular studies in syncope; arteriovenous glucose differences in the extremities, Duke University School of Medicine, Durham, N. C.

Continued Research Fellows

Finnerty, Frank A., Jr., investigations on toxemia of pregnancy; studies on the cerebral and cardiac hemodynamics in postural hypotension; cerebral and cardiovascular studies during hypotensive and freezing "anesthesia", Georgetown Medical Division, District of Columbia General Hospital, Washington, D. C.

Nanninga, Luddo B., binding of ions to heavy and light meromyosin and to myosin binding of adenosine, adenine, ATP, ADP, etc. to the same proteins, Institute for Muscle Research, Woods Hole, Mass.