$1,531,343 ALLOCATED BY AHA TO SUPPORT 179 INVESTIGATORS

A total of $1,531,343 has been allocated through the national research program of the American Heart Association to support 179 research investigatorships and fellowships during the fiscal year beginning July 1, 1959. Still to be awarded are grants-in-aid for research projects, which will be announced later this year. The Association and its state and local affiliates jointly support the national research program.

This year’s allocations provide for six Career Investigators, 72 new and continued Established Investigators, 10 new and continued Established Investigator-Grantees, 45 new and continued Advanced Research Fellows and 46 new and continued Research Fellows.

The sum awarded for investigatorships this year, largest in the Association’s history, represents an increase of approximately $100,000 over the sums awarded last year exclusive of Grants-in-Aid. In the current 1958-59 fiscal year, it is estimated that the combined research allocations of the American Heart Association and its affiliates and chapters will reach an all-time high of approximately $8,500,000. With the new 1959-60 allocations, the total sum channeled into scientific research by the Association and its affiliates will stand at over $40,000,000. A complete list of recipients of research awards appears at the end of this section.

AHA SCIENTIFIC SESSIONS TO PRESENT VARIED PROGRAM

The 32nd Annual Scientific Sessions of the American Heart Association will be held this year from Friday, October 23 through Sunday, October 25 at the Trade and Convention Center in Philadelphia.

During the three-day period, sessions on clinical cardiology are scheduled to be held simultaneously with special programs in various subspecialties of the cardiovascular diseases. The Committee on Scientific Sessions Program is planning sessions this year which will integrate the contributions of the basic sciences, clinical experiences, and medical care problems in certain fields of cardiology.

The Association’s Council on Arteriosclerosis, formerly the American Society for the Study of Arteriosclerosis, will conduct a symposium and participate in a scientific session. The Council on Arteriosclerosis also has sched-

**ABSTRACTS OF PAPERS DUE JUNE 12 FOR AHA SESSIONS**

Official forms for the submission of abstracts may now be obtained by those wishing to present papers at the annual Scientific Sessions of the American Heart Association, October 23-25 in Philadelphia. Papers intended for presentation must be based on original investigations in, or related to, the cardiovascular field. Abstracts must be limited to 250 words or less and should contain a brief digest of the results obtained and the conclusions reached. Applications will be screened by the Association’s Committee on Scientific Sessions Program.

Forms for submitting abstracts and applications for scientific exhibit space may be obtained from Dr. F. J. Lewy, Assistant Medical Director, American Heart Association. They must be returned postmarked no later than June 12, 1959. Space for industrial exhibits may be requested through Steven K. Herlitz, Inc., 280 Madison Avenue, New York 16, N.Y.
uled an independent Council meeting in November in Chicago.

Following the Scientific Sessions, the 35th Annual Meeting of the Assembly, delegate body representing all program interests and geographic areas of the Association, will be held in Philadelphia’s Bellevue Stratford Hotel, October 26-27.

HIGH BLOOD PRESSURE COUNCIL PROCEEDINGS ON HYPERTENSION PUBLISHED BY ASSOCIATION

The proceedings of the Annual Meeting of the Association’s Council on High Blood Pressure Research which met in November 1958, have been published and are now available through local Heart Associations or through the American Heart Association, 44 East 23rd Street, New York 10, N. Y., at $2.50 a copy. A special rate of $2.00 a copy will be given for orders received before May 15, 1959.


The volume, seventh in a series on hypertension based on the Council’s annual meetings, also contains lay presentations on the subjects of “Hypertension and Humanity,” and “Coronary Heart Disease—A Panel Discussion.” The Proceedings were edited by Floyd R. Skelton, M.D., Ph.D., Director, The Urban Maes Research Foundation, Louisiana State University Medical School, New Orleans. Still obtainable at a group price of $6.00 are volumes two, four, five and six, covering the years 1953 and 1955-7.

AMERICAN HEART ASSOCIATION

CONGENITAL HEART DEFECTS EXPLAINED IN NEW AHA FILM

A new film, “Congenital Heart Defects,” which may be used by physicians as a visual aid when addressing lay and paramedical groups, is available from local Heart Associations or from the American Heart Association.

Latest in a series of films on the cardiovascular system and its diseases, “Congenital Heart Defects” explains the underlying physiology of a number of congenital heart defects. Through effective use of animation, the film shows the normal heart’s structure and contrasts five common defects that may be helped by surgery. These include patent ductus arteriosus, coarctation of the aorta, valvular pulmonary stenosis, tetralogy of Fallot, and an arterial septal defect.

Earlier films in the series, produced for the American Heart Association and its affiliates by Churchill-Wexler Film Productions, are: “Varicose Veins,” “Circulation of the Blood,” “High Blood Pressure,” “Strokes,” and “Coronary Heart Disease.” All of the films are 16 mm. and run under 10 minutes.

MICROCIRCULATORY CONFERENCE SCHEDULED IN MARYLAND, MAY 4-5

The Seventh Annual Meeting of the Microcirculatory Conference, based on the theme “Intravascular Phenomena,” is scheduled to be held May 4-5 in the Clinical Science Building, National Institutes of Health, Bethesda, Md. The program will include an address by Sir Howard Florey on “Some Properties of Endothelium with Special Reference to the Lymphatics,” papers on control of blood flow and exhibits of various in vivo microvascular techniques.

Scientists interested in anatomy and physiology of the small blood vessels and in thrombotic and embolic phenomena are especially invited. For further details contact Dr. B. W. Zweifach, Secretary, 550 First Avenue, New York 16, N. Y. Room reservations may be made through Dr. Murray Brown, The National Institutes of Health, Bethesda 14, Md.
CARDIAC PAPERS PUBLISHED BY N.Y. ACADEMY OF SCIENCE

Papers presented on the subject of "Metabolic Factors in Cardiac Contractility" at a conference sponsored by the New York Academy of Sciences, March 18-19, 1958, have been printed in the Academy's Annals, Volume 72. The volume is obtainable free of charge to Academy members, or at $3.75 a copy to non-members, from the Academy's offices, 2 East 63rd Street, New York 21, N.Y.

The monograph, by Menard M. Gertler, G.W.E. Plant, et al., contains papers by physiologists, biochemists, biophysicists, clinicians and physicians revealing their diverse viewpoints on the problem of congestive heart failure. Also available in the Academy's Annals, Volume 65, is "The Electrophysiology of the Heart," at $4.50 a copy.

MEETINGS CALENDAR


May 3: American Federation for Clinical Research, Atlantic City. George E. Schreiner, Georgetown University Hospital, Washington 7, D.C.

May 3-4: American Society for Clinical Investigation, Atlantic City. S. J. Farber, 550 First Avenue, New York 16, N.Y.

May 5-6: Association of American Physicians, Atlantic City. Paul B. Beeson, Yale University School of Medicine, New Haven 11, Conn.

May 26-29: American College of Cardiology, Philadelphia. Philip Reichert, 480 Park Avenue, New York 22, N.Y.

June 3-7: American College of Chest Physicians, Atlantic City. Murray Kornfeld, 112 E. Chestnut Street, Chicago 11, Ill.


September 13-17: International College of Surgeons, U.S. Section, Chicago. Ross T. McIntyre, 1516 Lake Shore Drive, Chicago 10, Ill.

September 28-October 2: American College of Surgeons, Atlantic City. Paul R. Hawley, 40 E. Erie Street, Chicago 11, Ill.


ANNOUNCEMENT

INTERNATIONAL SOCIETY OF CARDIOLOGY FOUNDATION

The International Society of Cardiology Foundation was organized in 1957 at the initiative of Dr. Paul D. White for the purpose of encouraging and financing international scientific research. The officers include:

Paul D. White, Boston, President; Ignacio Chavez, Mexico, First Vice President; D. Evan Bedford, London, and Pierre W. Duchosal, Geneva, Second Vice Presidents; Louis N. Katz, Chicago, Treasurer; F. D. Mayer, Chicago, Attorney; and J. Stern, Chicago, Secretary.

Research workers in cardiology, in various countries, have already received substantial support from the Foundation. It is hoped that the program will be continued and expanded to include other qualified investigators. Applications for research support may be made through Dr. White, 264 Beacon Street, Boston, Mass.

The Foundation needs continued financial support to expand its program of cardiovascular research at the international level. It gratefully acknowledges the generous gift from the Finnish Society of Cardiology as well as the efforts of Dr. White in stimulating additional bequests and urges Circulation readers to make known the Foundation's needs to those who might be able to contribute to its success.

Pierre W. Duchosal
Second Vice President

Vittorio Puddu
Secretary-General

International Society of Cardiology
24, boulevard des Philosophes
Geneva, Switzerland
ABROAD

AHA AWARD RECIPIENTS
Following is a list of investigators selected for support during the fiscal year beginning July 1, 1959 by the American Heart Association’s Research Committee.

Career Investigators
Coons, Albert H., Harvard University Medical School, Boston.
Lorber, Victor, University of Minnesota Medical School, Minneapolis.
Pappenheimer, John R., Harvard University Medical School, Boston.
Sprinson, David B., Columbia University College of Physicians and Surgeons, New York.
Taggart, John V., Columbia University College of Physicians and Surgeons, New York.
Wannamaker, Lewis W., University of Minnesota Medical School, Minneapolis.

Continued Established Investigators
Abelmann, Walter H., Circulation in disorders of metabolism and the regulatory role of the liver. Boston City Hospital and Harvard Medical School, Boston.
Albrink, Margaret J., Effect of metabolic and nutritional factors on serum lipids. Yale University School of Medicine, New Haven.
Barker, Earl S., Renal physiology, normal and pathological. Hospital of the University of Pennsylvania, Philadelphia.
Beck, William S., Rate behavior in metabolic multi-enzyme systems. Massachusetts General Hospital, Boston.
Benesch, Reinhold, Role of sulfhydryl and disulfide groups in biological systems. Marine Biological Laboratory, Woods Hole, Mass.
Boyle, Edwin, Jr., Comparative studies in lipoprotein transport and metabolism concerning atherosclerosis in man, monkeys and pigs. Medical College of South Carolina, Charleston.
Brewster, William R., Jr., Hemodynamic and metabolic interrelationships and mechanism of action of the thyroid hormones, sympathoadrenal hormones, and the adrenal cortical steroids. Massachusetts General Hospital, Boston.
Briller, Stanley A., Energetics of the myocardium. University of Pennsylvania School of Medicine, Philadelphia.
Brodsky, William A., Renal and electrolyte metabolism. University of Louisville School of Medicine, Louisville.

AMERICAN HEART ASSOCIATION
Cohn, Mildred, Mechanisms of phosphorylation and phosphate transfer reactions. Washington University School of Medicine, St. Louis.
Combes, Burton, Hepatic metabolism during hepatoporal hemodynamic adjustments. University of Texas Southwestern Medical School, Dallas.
Daly, Marie M., Arterial metabolism in hypertension. Goldwater Memorial Hospital, New York.
DuBois, Arthur B., Gas exchange in the lungs, mechanisms of breathing and pulmonary capillary blood flow. University of Pennsylvania Graduate School of Medicine, Philadelphia.
Eckstein, John W., Venomotor responses to circulatory alterations in man. State University of Iowa College of Medicine, Iowa City.
Epstein, Franklin H., Metabolic and circulatory factors affecting the distribution and excretion of water and electrolytes. Yale University School of Medicine, New Haven.
Farber, Saul 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.
Farrell, Gordon L., Physiological factors which regulate the secretion of aldosterone. Western Reserve University School of Medicine, Cleveland.
Finnerty, Frank A., Jr., Further studies on the pathogenesis of toxemia of pregnancy and other types of acute hypertension. District of Columbia General Hospital, Washington, D. C.
Flavin, Martin, Jr., Enzyme chemistry and intermediary metabolism. National Heart Institute, Bethesda, Md.
Foulkes, Ernest C., Fundamental mechanisms of electrolyte transport across biological membranes. May Institute for Medical Research of the Jewish Hospital Association, Cincinnati.
Fresco, Jacques R., Macromolecular aspects of nucleic acid structure and function. Harvard University, Cambridge, Mass.
Gamble, James L., Jr., Mitochondrial function in relation to electrolyte transport. Johns Hopkins University School of Medicine, Baltimore.
Gibson, David M., Enzymatic synthesis of fatty acids in animal tissues. Indiana University School of Medicine, Indianapolis.
Gidc, Lewis I., Factors determining serum lipid composition and concentration. Albert Einstein College of Medicine, Yeshiva University, New York.
Griebisch, Gerhard, Ion transport across renal tubules of the amphibian and mammalian kidney, utilizing micropuncture techniques. Cornell University Medical College, New York.
Gilbert, James B., Role and site of binding of the metal ion in metal-containing or metal-activated enzymes. Clayton Foundation, Biochemical Institute, University of Texas, Austin.
Gittin, David, Blood and tissue proteins. Harvard Medical School, Boston.
Goldthwait, David A., Biosynthesis of purine nucleotides and of ribonucleic acid. Western Reserve University School of Medicine, Cleveland.
Gottschalk, Carl W., Micropuncture study of kidney function. University of North Carolina School of Medicine, Chapel Hill.
Gross, Jerome, Structure, composition, genesis, function and malfunction of connective tissues. Massachusetts General Hospital, Boston.
Huckabee, William E., Metabolic reactions to circulatory disturbances and their role in the control of the circulation. Massachusetts Memorial Hospitals, Boston.
Jacobs, Earl E., Structural factors involved in mitochondrial oxidative phosphorylation mechanisms. Dartmouth Medical School, Hanover, N. H.
Kaplan, Melvin H., Localization of tissue-deposited streptococcal antigens and antibodies in animal and human tissues by means of the fluorescein-labeling technique; pathogenesis of rheumatic fever and rheumatic heart disease in relationship to the autoimmune theory of pathogenesis. Cuyahoga County Hospital, Cleveland.
Katz, Yale J., Renal revascularization in experimental hypertension and renal insufficiency. University of Southern California School of Medicine, Los Angeles.
Kun, Ernest, Pathway of the metabolism of hydroxy acids. University of California Medical Center, San Francisco.
Kuo, Peter T., Intravascular distribution of lipid particles in clinical arteriosclerosis. Hospital of the University of Pennsylvania and University of Pennsylvania School of Medicine, Philadelphia.
Laszaroni, Abel A., Jr., Metabolic and immunological changes occurring in transplanted tissues. New York University Post-Graduate Medical School, New York.
Mackler, Bruce, Metabolic sequences involved in electron transport in mammalian tissues. University of Washington School of Medicine, Seattle.
Mann, George V., Cause and prevention of arteriosclerosis. Vanderbilt University School of Medicine, Nashville, Tenn.
Nelson, Clifford V., I. Mechanism of fibrillation. II. Quantitation of the vectorcardiogram. Maine Medical Center, Portland.

Padawer, Jacques, Physiology of the mast cell and its relation to cardiovascular function and disease. Albert Einstein College of Medicine, Yeshiva University, New York.
Perry, H. Mitchell, Jr., Pathogenesis and treatment of hypertension and atherosclerosis. Washington University School of Medicine, St. Louis.
Pick, Ruth, Pathogenesis of atherosclerosis and its sequelae. Medical Research Institute, Michael Reese Hospital, Chicago.
Richmond, Jonas E., Role of the prosthetic group of proteins in the biosynthesis and metabolism of conjugated proteins. Harvard Medical School, Boston.
Redolph, Abraham M., Pulmonary hypertension in congenital heart disease. Children's Medical Center, Boston.
Schmidt-Nielsen, Bodil M., Comparative kidney physiology. Duke University, Durham, N. C.
Schwartz, William B., Disorders of electrolyte metabolism and kidney function. New England Center Hospital, Boston.
Schoenfeld, Richard S., Biological synthesis of protein. City of Hope Medical Center, Duarte, Cal.
Sharpe, John T., Physical properties of the lungs in pulmonary edema; mechanism of increased pulmonary vascular resistance. University of Buffalo School of Medicine and Buffalo General Hospital, New York.
Slade, Hutton D., Biochemistry of the group A hemolytic streptococcus. Northwestern University Medical School, Chicago.
Spencer, Merrill P., Factors affecting distribution of cardiac output. Bowman Gray School of Medicine, Wake Forest College, Winston-Salem, N. C.
Staple, Ezra, Metabolism of cholesterol, mechanisms of synthesis and breakdown of related substances. University of Pennsylvania School of Medicine, Philadelphia.
Thal, Alan P., I. Revascularization of the myocardium; experimental study designed to test the feasibility of a direct suture anastomosis of extracardiac arteries to the coronary arteries. II. Mechanism of action of bacteria and bacterial toxins on small blood vessels with particular reference to bacterial shock. University of Minnesota Medical School, Minneapolis.
Ulrich, Frank, Metabolic fate and mechanism(s) of action of adrenal cortical hormones in the peripheral tissues. Yale University School of Medicine, New Haven, Conn.
Walker, W. Gordon, I. Plasma protein metabolism,
capillary protein permeability and circulatory homeostasis. II. Hyponatremia in congestive heart failure. III. Electrolyte permeability in the gut. Johns Hopkins Hospital, Baltimore.

Zweifach, Benjamin W., Histochemical and microchemical analysis of structural elements of blood-tissue barrier. New York University College of Medicine, New York.

New Established Investigators

Bricker, Neal S., Pathological physiology of chronic Bright's disease. Washington University School of Medicine, St. Louis.

Martin, Harry B., Surface tension as a factor in the mechanical properties of normal and abnormal lungs. Harvard University School of Public Health, Boston.

Morgan, Richard S., Ribonucleic acid structures. Brandeis University, Waltham, Mass.


Portman, Oscar W., Dietary factors affecting cholesterol catabolism and atherosclerosis. Harvard University School of Public Health, Boston.

Shumway, Norman E., Jr., Ventricular fibrillation by threshold determinations. Stanford University Hospitals and Stanford University School of Medicine, San Francisco.

Straus, Werner, Investigation of "phagosomes" in various tissues of the rat. University of Louvain, Louvain, Belgium.

Travis, Randall H., Hydrocortisone metabolism in diabetes mellitus. University Hospitals of Cleveland and Western Reserve University School of Medicine, Cleveland.

Tsuboi, Kenneth K., Metabolism of nucleotides and related compounds in cardiac tissues. Cornell University Medical College, New York.


Warner, Homer E., Application of analogue computer techniques to the study of regulation of the circulation. University of Utah College of Medicine and Latter-Day Saints Hospital, Salt Lake City.

Continued Established Investigator—Grantees

Corcoran, John W., Metabolism of the branched chain monosaccharides and their role in the mammalian and bacterial cell. Western Reserve University School of Medicine, Cleveland.

Durbin, Richard P., Transport of water and HCl by the stomach. Harvard Medical School, Boston.

Goldstein, Robert, Isolation and identification of prothrombin and "serum factors"; investigation of their role in coagulation and thrombosis. New England Center Hospital, Boston.

Henry, Walter S., Determination of myocardial blood flow in the intact subject, utilizing radioiodinated (125I) human serum albumin. Baylor University College of Medicine, Houston.

Khairallah, Philip A., Reactivity of blood vessels. Cleveland Clinic, Cleveland.

Rubin, Albert L., Investigation of the metabolic alterations in the uremic syndrome. Cornell University Medical College and New York Hospital, New York.

New Established Investigator—Grantees

Conway, F. James, Aging of arteries in relation to hypertension. University of Michigan Medical School, Ann Arbor.

Despopoulos, Agamenon, Parameters of cellular transport phenomena. University of Louisville School of Medicine, Louisville.

Landau, Bernard E., Carbohydrate metabolism in hyperthyroidism. New England Center Hospital, Boston.

Page, Ernest, Ion fluxes in mammalian heart muscle. Harvard Medical School, Boston.

Continued Advanced Research Fellows


Brady, Allan J., Myocardial tension related to transmembrane potentials and ion fluxes. Under Wilfried F. H. M. Mommaerts, University of California Medical Center, Los Angeles.


Cohn, George L., Formation of an "aldosterone-like" compound by the liver of patients with congestive heart failure after the intravenous administration of cortisol. Under Philip K. Bondy, Yale University School of Medicine, New Haven.

DeWall, Richard A., Perfusion techniques for reparative open intracardiac surgery. Under C. Walton Lillehei, University of Minnesota Medical School, Minneapolis.

Dontas, Anastasios S., Aging of arteries; diagnosis in the human. Epidemiology of atherosclerosis. Under Ancel Keys, University of Minnesota School of Public Health, Minneapolis.

Feinberg, Harold, Investigation of the in vivo metabolism of the myocardium. Under Louis N. Katz, Medical Research Institute, Michael Reese Hospital, Chicago.
AMERICAN HEART ASSOCIATION

Frasier, Howard S., Effect of ouabain on activation in striated muscle. Under Alexander Leaf, Massachusetts General Hospital, Boston.

Gubler, Clark J., Enzymatic functions of thiamine. Under H. Smith Broadbent, Brigham Young University, Provo, Utah.

Harris, John B., In vitro studies of the biochemical and biophysical properties of potassium metabolism. Under Isidore S. Edelman, University of California Medical Center, San Francisco.

Hatch, Frederick T., Biosynthesis of the methyl groups; coenzymatic role of vitamin B12. Under John M. Buchanan, Massachusetts Institute of Technology, Cambridge, Mass.

Hill, Robert, Relationship of diet to lipogenesis and cholesterologenesis. Under I. L. Chaikoff, University of California School of Medicine, Berkeley.


Levitt, Howard, Renal tubular response to respiratory acidosis. Under Franklin H. Epstein, Yale University School of Medicine, New Haven.

Luchsinger, Peter C., Effect of O\textsubscript{2} breathing upon arterial and mixed venous blood gas composition and the hemodynamics of the pulmonary and systemic circulation in the cardiac patient. Under Sol Katz and James J. Leonard, District of Columbia General Hospital, Washington, D.C.

Maley, Gladys F., Biosynthesis of heparin. Under Frank Maley, New York State Department of Health, Albany, N.Y.

Montgomery, A. Vernon, Jr., Genesis and control of ventricular fibrillation. Under Henry Swan, University of Colorado School of Medicine, Denver.

Moskowitz, Merle S., Sexually-controlled factors affecting atherogenesis and coronary thrombosis. Under Robert W. Wissler, University of Chicago School of Medicine, Chicago.

Penniall, Ralph, Adenosinetriphosphatases of heart tissue, with particular emphasis on the enzyme stimulated by 2,4-dinitrophenol. Under J. Logan Irvin, University of North Carolina School of Medicine, Chapel Hill, N.C.

Reichard, Sherwood M., Role of tetrochephal in electron transport in the adrenal glands. Under Alvin Nason, McCollum-Pratt Institute, Johns Hopkins University, Baltimore.


Whereat, Arthur F., Transport mechanisms and metabolic fate of cholesterol. Under Samuel Gurin, University of Pennsylvania School of Medicine, Philadelphia.

New Advanced Research Fellows

Cayler, Glen G., Longitudinal study of hemodynamic and pulmonary vascular changes in the full-term and premature puppy. Under Robert H. Bayley, University of Oklahoma School of Medicine, Oklahoma City.

Dickerman, Herbert W., Purification and mechanism of pig spleen diposphoryridine nucleotidase. Under Anthony San Pietro, McCollum-Pratt Institute, Johns Hopkins University, Baltimore.

Goodkind, M. Jay, Myocardial metabolism in normal and hyperkinetic states. Under Allan V. N. Goodyer, Yale University School of Medicine, New Haven.


Katz, Joseph, Mechanism and site of plasma protein breakdown. Under Alvin L. Sellers, Institute for Medical Research, Cedars of Lebanon Hospital, Los Angeles.

Lacy, William W., Metabolism in uremia. Under Elliot V. Newman, Vanderbilt University School of Medicine, Nashville.


Nathan, Paul, Kidney transplantation. Under Benjamin F. Miller, May Institute for Medical Research of the Jewish Hospital Association, Cincinnati.

Peifer, James J., Chemistry and metabolism of lipids related to heart disease. Under Walter O. Lundberg, Hormel Institute, University of Minnesota, Austin.

Radding, Charles M., Biochemical basis of genetics. Under Arthur Kornberg, Stanford University School of Medicine, Palo Alto, Cal.

Rakita, Louis, Nature of myocardial hypertrophy; transmembrane potential, intramural potential, and histochemical alterations in myocardial muscle associated with ventricular hypertrophy. Under Charles H. Rammelkamp, Jr., Cuyahoga County Hospital, Cleveland.

Reeves, John T., Oxygen transport and the pulmonary circulation at rest and during exercise in normal and pathological subjects. Under S. Gilbert Blount, Jr., Colorado General Hospital and University of Colorado School of Medicine, Denver.

Ronwin, Edward, Enzymes involved in blood clotting
and their mechanism of action; isolation of indicated clotting reaction intermediates. Under George P. Hager, University of Minnesota College of Pharmacy, Minneapolis.

Rosa, Leslie M., Chest accelerograms and vibrocardiograms in coronary heart diseases. Under Aldo A. Luisada, Chicago Medical School.

Spiro, Robert G., Composition and structure of the carbohydrate moiety of the glycoprotein of fetal calf serum. Under Roger W. Jeanloz, Massachusetts General Hospital, Boston.

Stanfield, Calvin A., Effects of exercise and various pharmacological agents on pulmonary circulation and ventilicular function. Under Paul N. Yu and Frank W. Lovejoy, Jr., University of Rochester School of Medicine and Dentistry, Rochester.

Stoffyn, Pierre J., Chemistry and biochemistry of heparin. Under Roger W. Jeanloz, Massachusetts General Hospital, Boston.


Tuna, Naip, Fatty acids and atherosclerosis. Under Ivan D. Frantz, Jr., University of Minnesota Medical School, Minneapolis.

Vance, Vernon K., Adrenal inhibition in edematous states. Under George W. Thorn, Peter Bent Brigham Hospital, Boston.

Welsh, Richard S., Characterization of an undegraded, nonfibrous form of desoxyribonucleoprotein from calf thymus. Under George J. Hollenberg, University of Redlands, Cal.

Continued Research Fellows

Abboud, Francois, Arterial wall elasticity in arteriosclerotic and hypertensive vascular disease. Under John H. Huston, Marquette University School of Medicine, Milwaukee.

Carraquero, Gaspar, Electrolyte and water function of the kidney; mechanism of tubular ion transport and acidification of the urine. Under William A. Brodsky, University of Louisville School of Medicine, Louisville.

Childers, Roderick W., Emphysema heart; cardiac and pulmonary function. Under David Littman, West Roxbury Veterans Hospital, West Roxbury, Mass.

Choudhury, Jyotirmoy D., Cardiopulmonary physiology. Under Julius H. Comroe, Jr., Cardiovascular Research Institute, University of California Medical Center, San Francisco.

Cohen, Louis, Metabolism of lipoproteins; incorporation and deenzy of lip in alpha and beta lipoproteins. Under Emmett Bay and Richard J. Jones, University of Chicago School of Medicine.

Cushing, Ivan E., Jr., Alterations in the mechanics of respiration in patients with pulmonary edema and cor pulmonale in relation to the symptom dyspnea and other aspects of cardiopulmonary function. Under William F. Miller and Carleton B. Chapman, University of Texas Southwestern Medical School, Dallas.


Derks, Miriam A., Metabolism of pyrimidines and carbamylamino acids. Under Santiago Grisolia, University of Kansas Medical Center, Kansas City.

Dock, Donald S., Clinical and physiological correlations in valvular insufficiency. Under Lewis Dexter, Peter Bent Brigham Hospital, Boston.


Friedberg, Samuel J., Tissue electrolyte studies in hyponatremia. Under E. Harvey Estes, Duke University Hospital and Veterans Administration Hospital, Durham, N. C.

Friedman, Eli A., Immune reaction against homotransplanted tissue in man. Under John P. Merrill, Peter Bent Brigham Hospital, Boston.

Glagoe, Seymour, Localization of atheromatous changes as a function of altered circulatory conditions in the supplied organs. Under Donald A. Rowley, University of Chicago School of Medicine.

Grayson, Richard E., Fundamental digitalis research. Under John R. Smith, Washington University School of Medicine, St. Louis.

Harrison, James L., Aortic valve prosthesis. Under Robert P. Glover, Presbyterian Hospital, Philadelphia.


Manfredi, Felice, Mechanisms of regulation of the pulmonary circulation. Under Herbert O. Sieker, Duke University School of Medicine, Durham, N. C.

Nechay, Bohdan E., Interrelations of diuretic agents. Under Thomas H. Maren, University of Florida College of Medicine, Gainesville.


Rausch, Nancy H., Relationship between cardiovascular and renal responses in patients with hyperkinetic circulatory states. Under Walter E. Jud-
son, Indiana University School of Medicine, Indianapolis.

Rodriguez, Felix L., Qualitative and quantitative vascular injection studies on the heart. Under G. Kenneth Mallory and Stanley L. Robbins, Mallory Institute of Pathology, Boston City Hospital, Boston.


Shabetai, Ralph, Dynamics of cardiac tamponade and paradoxical pulse. Under Noble O. Fowler, Cincinnati General Hospital, Cincinnati.


Stein, Samuel W., Correlative study of pulmonary diffusion of gases and pulmonary hemodynamics in patients with heart disease. Under Laurence B. Ellis, Boston City Hospital, Boston.

Traks, Elmerice, Effects of heat upon the circulation of man. Under Salvatore M. Sancetta, Cuyahoga County Hospital, Cleveland.

Yaffe, Sumner J., Enzyme studies of the human kidney. Under Charles A. Janeway, Children's Hospital, Boston.

New Research Fellows

Buskys, Bronius, In vitro studies of the effects of various lipases on the serum lipoproteins in normal individuals and in patients with idiopathic hyperlipemia and primary hypercholesteremia. Under Walter F. Lever, Massachusetts General Hospital, Boston.

Constantine, Herbert P., Diffusion capacity of the lung and its relationship with the pulmonary circulatory dynamics. Under Nolan Kaltreider and Paul N. Yu, University of Rochester Medical Center, Rochester, N. Y.


Corn, Milton, Aspects of antigen-antibody reaction involving blood platelets of humans and dogs. Under C. Lockard Conley, Johns Hopkins Hospital, Baltimore.

Erb, Blair D., Clinical evaluation of selective cardiac plethysmography, using the radio-frequency impedance technique. Under Daniel A. Brody, University of Tennessee School of Medicine, Memphis.

Fekete, Laszlo L., Relation of inhibition of lipemia clearing to disturbed lipid transport. Under Walter F. Lever, Massachusetts General Hospital, Boston.

Griege, Charles W., Coronary circulation and cardiac metabolism in normal and pathological conditions. Under René Wégrzyn, Saint Louis University School of Medicine, St. Louis.

Hays, Richard M., Maintenance of an osmotic gradient across a living membrane. Under Alexander Leaf, Massachusetts General Hospital, Boston.


Levy, Joseph V., Physiology and pharmacology of the mammalian S-A node. Under Theodore C. West, University of Washington School of Medicine, Seattle.

MacLeod, Robert M., Relationships of cell structure to cell function. Under William S. Lynn, Duke University School of Medicine, Durham, N. C.

Miller, Tracy B., Nature of the primary process responsible for sodium and chloride reabsorption by renal tubule cells using nitrate-loaded dogs undergoing mercurial diuresis. Under Alfred E. Farah, State University of New York Upstate Medical Center, Syracuse.

Morrin, Peter A. F., Pathological physiology of Bright's disease. Under Neal S. Bricker, Barnes Hospital, St. Louis.


Shalhoub, Robert J., Site of direct action of cardiac glycosides on sodium reabsorption in the dog kidney. Under Robert F. Pitts, Cornell University Medical College, New York.

Utley, James H., Turnover and uptake of nonesterified fatty acids by the heart. Under Richard J. Bing, Washington University School of Medicine, St. Louis.

Warwick, Warren J., Delayed type bacterial allergy. Under Robert A. Good, Heart Hospital and University of Minnesota Medical School, Minneapolis.

Williams, John F., Jr., Cardiac response of patients with pulmonary emphysema to exercise and ventilation. Under Roy H. Behnke, Veterans Administration Hospital and Indiana University Medical Center, Indianapolis.
CONTRIBUTORS TO THIS ISSUE

W. Wyman Andrus, M.D.
Clinical Associate, School of Medicine, University of Washington, Seattle, Wash.

Aurora Maria Antonio, M.D.
Resident, New York University Research Service at Goldwater Memorial Hospital, New York, N. Y.

John D. Arnold, M.D.
Associate Professor of Medicine, University of Chicago Medical School, Chicago, Ill.

William H. Bernstein, M.D.
Attending Physician, Department of Medicine, Mt. Sinai Hospital, Miami Beach, Fla.

Aurelius Bogdanovitz, M.D.
Former Trainee of the New York Heart Association.

Warren S. Braveman, M.D.
Instructor in Medicine, Cornell University Medical College; Assistant Visiting Physician, Bellevue Hospital, New York, N.Y.

Robert A. Bruce, M.D.
Associate Professor of Medicine, School of Medicine, University of Washington, Seattle, Wash.

Francis S. Caliva, M.D.
Assistant Professor of Medicine, Upstate Medical Center, State University of New York, Syracuse, N. Y.

Waddy Chapman, M.D.
Assistant Resident in Pathology, Medical College of South Carolina, Charleston, S. C.

Leonard A. Cobb, M.D.
Instructor in Medicine, School of Medicine, University of Washington, Seattle, Wash.

Burton D. Cohen, M.D.
Research Fellow, Cornell University Medical College, 1957-1958; Presently Resident in Medicine, Memorial Center for Cancer and Allied Diseases and Instructor in Medicine, Cornell University Medical College, New York, N. Y.

Harold P. Collins, M.D.
Fellow in Cardiovascular Surgery, Baylor University College of Medicine, Houston, Tex.

Denton A. Cooley, M.D.
Associate Professor of Surgery, Baylor University College of Medicine, Houston, Tex.

James H. Currens, M.D.
Assistant in Medicine, Massachusetts General Hospital; Associate Physician, Boston Lying-In Hospital, Boston, Mass.

David C. Daniels, B.S.
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