



T C O M research notes

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RESEARCH AWARDS RECEIVED IN MAY, JUNE AND JULY, 1986

ROBERT BOURDAGE, PH.D. "Analysis of the Mechanism of Oviductal Transport" NIH (subcontract) \$10,000 from 7/01/86-06/30/87 (Department of Anatomy).

PATRICK CAMMARATA, PH.D. "Synthesis of Basement Membrane Components and Their Relationship to Aldose Reductase Activity in the Bovine Lens Epithelial Cell" American Diabetes Association \$50,000 from 7/01/86 - 6/30/88 (Department of Anatomy).

PATRICK CAMMARATA, PH.D. "Synthesis of Basement Membrane Components and Their Relationship to Aldose Reductase Activity in the Bovine Lens Epithelial Cell" Juvenile Diabetes Foundation International \$66,000 from 9/01/86 - 8/31/88 (Department of Anatomy).

MICHAEL J. FORSTER, PH.D. "Immunological Correlates of Memory Decline in Aging Mice" National Institute on Aging \$37,409 from 7/01/86-6/30/87. (Department of Pharmacology)

ROBERT GARMON, D.O. and PETER RAVEN, PH.D. "Hyperbaric Medicine" Private Gift from Mr. & Mrs. Gordon, \$65,000. (Departments of Medicine & Physiology)

JOHN GAUGL, PH.D. "Determinants of Right Coronary Blood Flow", American Heart Association - Texas Affiliate, \$49,947 from 7/01/86 - 6/30/88. (Department of Physiology).

PATRICIA GWIRTZ, PH.D. "Coronary and Cardiovascular Responses to Arylxanthines in the Dog" Nova Pharmaceutical, \$17,698 from 7/86 - 10/86. (Department of Physiology).

DON HAGAN, PH.D. "Cardiovascular Responses to Short-term Work and Long-term Conditioning on the SIMULSKI Machine" Dalmec Italy, \$10,000 from 6/15/86-9/15/86. (Department of Public Health & Preventive Medicine)

RUTHANN A. MASARACCHIA, PH.D. "Insulin-Mediated Intracellular Protein Phosphorylation" Juvenile Diabetes Foundation International, \$66,000 from 9/01/86 - 8/31/88 (Department of Biochemistry).

PETER RAVEN, PH.D. "Hyperbaric Medicine", Maxfield Radiological Center \$1,000 from 6/01/86-5/31/87. (Department of Physiology)

PETER RAVEN, PH.D. "American College of Sports Medicine Associate Editorship" ACSM, \$290 from 5/01/86-4/30/87. (Department of Physiology)

PETER RAVEN, PH.D. "Exercise Training on Blood Pressure Control During Simulated Gravity Stress" Department of Defense - Air Force Contract \$59,388. (Department of Physiology)

FRANK PAPA, D.O. "A Student Oriented Computer-Based learning Resource and Information Management Tool" AACOM FOCUS Program, \$20,000 8/01/86 - 7/31/87 (Division of Emergency Medicine).

RICHARD SINCLAIR, PH.D. "Interactions of Adenosine and angiotension II on Renal Arteries" American Heart Association - Texas Affiliate, \$42,038 from 7/01/86 - 6/30/88 (Department of Physiology).

GARY WIMBISH, PH.D. "Irritation and Allergic Contact Sensitivity Evaluation of Hand Cleaner" Research Chemicals \$5,628 from 5/86 - 4/87 (Department of Pathology/Toxicology).

THOMAS YORIO, PH.D. "Alter Oxygen Consumption Using Canine Liver Homogenate" Mary Kay Cosmetics funding based on number of tests performed, from 5/86 ongoing (Department of Pharmacology).

TOTAL FUNDING RECEIVED THIS PERIOD \$501,798

RESEARCH PROPOSALS SUBMITTED MAY, JUNE, JULY, 1986

National Heart, Lung and Blood Institute - "Glycophorin A and Lectin Binding in Sickle Cells" GARY WISE, Department of Anatomy.

Research Chemicals - "Irritation and Allergic Contact Sensitivity Evaluation of Hand Cleaner" GARY WIMBISH, Department of Pathology.

Nova Pharmaceutical - "Coronary and Cardiovascular Responses to Arylxanthines in the Dog" PATRICIA GWIRTZ, Department of Physiology.

Mary Kay Cosmetics - "Alter Oxygen Consumption Using Canine Liver Homogenate" THOMAS YORIO, Department of Pharmacology.

National Institute of Drug Abuse - "Characterization of Benzodiazepine Withdrawal" MICHAEL EMMETT-OGLESBY, Department of Pharmacology.

National Institutes of Health "FIRST" - "Adrenergic Influence on Cardiac Function During Exercise" HOWARD MASS, Department of Physiology.

National Institutes of Health - "Niacin, Nutrition, ADP-ribosylation and Cancer Symposium" ELAINE and MYRON JACOBSON, Department of Biochemistry/Medicine.

Maxfield Radiological Center - "Hyperbaric Medicine" PETER RAVEN, Department of Physiology.

American Heart Association - "Adrenergic Limitation of Myocardial Flow During Exercise" PATRICIA GWIRTZ, Department of Physiology.

National Institutes of Health (subcontract) - "Analysis of the Mechanism of Oviductal Transport" ROBERT BOURDAGE, Department of Anatomy.

National Institute on Aging - "Age Related Hyperlipidemia in Rats" ANDRAS LACKO,

Department of Biochemistry.

National Heart, Lung and Blood Institute - "Substrate Specificity of LCAT" ANDRAS LACKO, Department of Biochemistry.

Dalmec Italy - "Cardiovascular Responses to Short-term Work and Long-term Conditioning on the SIMULSKI Machine" DON HAGAN, Public Health and Preventive Medicine.

American College of Sports Medicine - "American College of Sports Medicine Associate Editorship" PETER RAVEN, Department of Physiology.

National Institute of Allergy and Infectious Diseases - "Processing of Mycobacterial Glycopeptidolipid" WILLIAM BARROW, Department of Microbiology Immunology.

National Institute of General Medical Sciences - "Regulation and Reactivity of H4 Protein Kinase" RUTHANN MASARACCHIA, Department of Biochemistry.

American Heart Association (Established Investigator Award) - "Opiate Adrenergic Interactions in the Myocardium" JAMES CAFFREY, Department of Physiology.

National Institute of Allergy and Infectious Diseases - "Tissue Culture/Genetic Studies of Treponema pallidum" DAVID COX, Department of Microbiology Immunology.

National Institute of Diabetes, Digestive and Kidney Diseases - "Colony Stimulating Factor and Modulation of Myelopoiesis" MING-CHI WU, Department of Biochemistry.

TOTAL FUNDING APPLIED FOR IN THIS PERIOD \$1,818,425

FACULTY PUBLICATIONS

BARROW, WM., M.M. Johnson and S.D. Dimitrijevic, "One-step column chromatographic procedure for purification of mycobacterial glycopeptidolipid antigens", Journal of Chromatography 377:345-49 (April, 1986).

LAL, H. and M. FORSTER, "Cognitive disorders related to immune dysfunction: novel animal models for drug development", Drug Development and Research 7: 195-208 (1986).

RAVEN, P.B., J. WILSON and W.P. Morgan "Psychophysiological screening for respirator wear" J. Internat. Soc. Respirat. Protection (1986).

SEMINARS PRESENTED

WILLIAM BARROW, PH.D., Department of Microbiology/Immunology presented a seminar titled "Pathogenic aspects of non-tuberculous mycobacteria infecting AIDS patients" at the UTHSC-TYLER on June 4th.

PAUL COOK, PH.D., Department of Biochemistry, spoke on "Mechanistic studies on NAD-Malic enzyme from Ascaris suum at Rice University, Houston, TX on April 22nd and at Texas A&M University on April 24th.

PETER RAVEN, PH.D., Department of Physiology, gave a seminar to the Department of Physical Education, University of Florida at Gainesville, titled "Exercise training and baroreflex alteration".

PRESENTATIONS AT MEETINGS

JOHN MEASEL, Department of Microbiology/Immunology presented a poster titled "Effects of gold sodium thiomalate on murine spleen cells and bone marrow" at the 6th International Congress of Immunology in Toronto, Canada, July 6-11.

NORMAN LIESKA, PH.D., Department of Anatomy presented a paper titled "A Novel 5nm filament purified and reconstituted from lens" at the Spring meeting of the Association for Research in Vision and Ophthalmology in Sarasota, FL in April.

Merrill, G.F., H.M. Wei, Y.H. Kang, H.F. DOWNEY and C.E. JONES, Department of Physiology, will present "Coronary flow during hypoxia: effects of adenosine deaminase" at the meeting of the American Society for Pharmacology and Experimental Therapeutics in Baltimore, MD in August, 1986.

ADDITIONAL FASEB PRESENTATIONS

"Simultaneous comparison of pressure-flow autoregulation in left and right coronary circulations" by S. Yonekura, N. Watanabe, J. Caffrey, J. Gaugl and F. Downey. (Department of Physiology)

"Coronary blood flow response to regional myocardial hypoxia is attenuated by adenosine deaminase" by G. Merrill, F. Downey and C. Jones. (Department of Physiology)

"Kinetic survey of the metal requirements of pyrophosphate-dependent phosphofructokinase" by B.G. Bertagnolli and P.F. Cook. (Department of Biochemistry)

"Fitness related differences in response to LBNP during parasympathetic blockade with atropine" and "Fitness related differences in response to LBNP during sympathetic blockade with metaprolol" by P.B. Raven (Department of Physiology)

"Naloxone alters the response of isolated coronary arteries to norepinephrine" by R. Sinclair and J. Caffrey.

RESEARCH NOTES AND NEWS

PATRICK CAMMARATA, Department of Anatomy was invited to participate in the Gordon Conference exploring the Basement Membrane of the Lens. BOB GRACY, Department of Biochemistry, was selected by FASEB to serve as a Visiting Professor in Puerto Rico. He lectured at the University of Puerto Rico (Molecular Basis of Abnormal Proteins in Aging), Puerto Rico Medical School

(Biochemical Changes in Aging Cells and Meeting the Changing Health Care Needs of Our Aging Society) and at the University of the Sacred Heart (Diagnosis and Treatment of Genetic Diseases, How Do Cells Age? and Premature Aging Diseases). Dr. Gracy also represented TCOM/NTSU at a National Science Foundation meeting on "Science and the Global Economy" which was held in San Antonio. He was also one of the featured speakers at Science Day at UT-El Paso. He spoke on "Elucidating the Structures of Mutant Enzymes in Red Blood Cells".

CARL JONES, Department of Physiology, visited the medical school at the State University of New York-Buffalo as a Program Project research consultant for NIH. DR. JONES and DAVID BARKER, also of Physiology visited Houston for a conference with officials of NASA regarding research being conducted by the Department of Physiology/Aerospace Medical Institute of TCOM.

BERNARD RUBIN, Department of Medicine, was the focus of an article which appeared in The Arthritis News. Dr. Rubin's volunteer work as vice president of the Northwest Texas Chapter of the Arthritis Foundation and his practice as a rheumatologist were highlighted.

ORGANIZATIONAL RESPONSES TO GRAMM-RUDMAN LEGISLATION

The National Science Foundation has decided to trim the size of individual grants rather than cut the number of awards it will make in the fiscal year 1986 to conform to Gramm-Rudman. A number of programs are to be completely protected from cuts under Gramm-Rudman: mathematics, efforts to increase participation in science by women and minorities and ocean drilling. Furthermore, "support for students and postdoctoral associates and instrumentation and equipment is to be protected."

The National Academy of Sciences sponsored a gathering of top level research administrators to reflect on the serious effect that scientists believe the Gramm-Rudman-Hollings deficit-reduction law is likely to have on research. This year's research programs were already being cut by 4% because of the deficit reduction law. A plan of action included: persuading research managers at the federal agencies that award most of their support to applied research to pay greater attention to the basic research that underlies many of their activities; urging PIs to send proposals to federal agencies that typically support applied research and development; making certain that university research administrators reallocate their limited financial resources in ways that will not have long term detrimental impacts on their programs.

In much the same vein, Science & Government Report (May 15, 1986) cited testimony by Harvey Brooks, Professor of Technology & Public Policy, Kennedy School of Government, to the House Science & Technology Committee at a hearing on federal funding of research. In that testimony Brooks stated, "If government were to reduce its role in the support of basic and academic science, it does not appear likely that any other institution or funding source would step in to fill the gap. Corporate funding of academic science, now about 6% of all academic R&D, is not likely to more than double at best, and would tend to be concentrated in a few fields of self-evident industrial relevance.....". He went on to note that "when a research institution hires a scientist, it budgets for his/her total support; when a research university hires a scientist, the most it can hope to do is to provide him/her with a 'hunting' license to compete for support from an

external sponsor."

WHAT'S THE OUTLOOK FOR R&D FUNDING IN 1986? Expenditures in 1986 for research & development in the United States are expected to reach \$116.8 billion, some 9.5% higher than the \$106.6 billion estimated to have been spent in 1985, the annual forecast by the Battelle Institute has predicted. Academic institutions will provide \$2.57 billion or 2.2% of the total. The federal government and academic institutions will each perform \$14.0 billion or 12% of the research, while other non-profit organizations will perform \$3.5 billion or 2.9%. Of federal spending in particular, almost 20% goes to academic institutions and about 4% goes to other non-profits.

Battelle also compared the performing sectors in terms of their relative costs of R&D, cost increases being associated with such things as inflation and increasing sophistication and complexity of research. During 1986, cost increases are estimated to be 9.2% for colleges and universities. From 1972-1985, costs of R&D have risen 203% for colleges and universities.

The new National Institute of Arthritis and Musculoskeletal and Skin Diseases, established as part of the NIH, will have a budget of \$106.7 million, according to documents submitted to Congress. Dr. Lawrence Shulman has been named acting director of the institute.

FOUNDATION FUNDING SOURCES

The research resources space of this issue is being devoted to providing information on Foundation deadlines for the remainder of the calendar year. It is hoped that advance knowledge of areas of interest and deadlines will make it more feasible to approach some of these entities for funding support.

NATIONAL MULTIPLE SCLEROSIS SOCIETY - grants are made to support research into the cause, prevention, alleviation and cure of multiple sclerosis. Support is for fundamental and applied studies, clinical and non-clinical, for up to five years. \$60,000 per year. DEADLINE: AUGUST 1, 1986. CONTACT: Stephen C. Reingold, (212) 986-3240.

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION - "Space Biology Program" - unsolicited proposals may be submitted for up to 3 years of work in the continuing ground-based research and flight opportunities of the Space Biology Program. Research is divided into 3 broad areas: 1) gravity receptor mechanisms; 2) physiological effects of gravity; and 3) role of gravity in development. DEADLINE: AUGUST 1, 1986. CONTACT: Thora W. Halstead, (202) 755-3114.

INFECTIOUS DISEASE SOCIETY OF AMERICA - "BURROUGHS WELLCOME FELLOWSHIP IN INFECTIOUS DISEASES" The fellowship is open to physicians with three or more years of postdoctoral training who are active members of the society. \$22,000 per year for 2 years. DEADLINE: AUGUST 15, 1986. CONTACT: Herbert L. DuPont, M.D., (713) 792-4949.

HELEN HAY WHITNEY FOUNDATION - "Research Fellowships in Biomedical Sciences"
Candidates must be beginning researchers (less than 1 year of postdoctoral laboratory training and under 35 years of age) with the M.D., Ph.D. or comparable degree, who plan careers in biological or medical research. \$18,000 per year for 1 to 3 years. DEADLINE: AUGUST 15, 1986. CONTACT: (212) 752-8288.

EPILEPSY FOUNDATION OF AMERICA - One-year research grants are awarded to support basic and clinical research in the biological, behavioral and social sciences which will advance the understanding, treatment and prevention of epilepsy. Priority is given to investigators just entering the field of epilepsy research and to individuals proposing innovative projects. \$25,000. DEADLINE: SEPTEMBER 1, 1986. CONTACT: (301) 459-3700.

CYSTIC FIBROSIS FOUNDATION - PROVIDES AWARDS FOR RESEARCH RELATED TO CYSTIC FIBROSIS WHICH MAY BE CARRIED OUT AT THE SUBCELLULAR, CELLULAR, ANIMAL OR PATIENT LEVEL. Studies must be in relevant disciplines including biochemistry, genetics, developmental biology, microbiology, immunology, pathophysiology and pharmacology. Deadline: SEPTEMBER 1, 1986. CONTACT: (301) 881-9130.

ARTHRITIS FOUNDATION - to provide support to physicians and scientists in research fields related to arthritis. At least 3 and no more than 7 years postdoctoral research experience. \$35,000/year. Deadline: SEPTEMBER 1, 1986. CONTACT: (404) 872-7100.

NATIONAL KIDNEY FOUNDATION "Burroughs Wellcome Research Fellowship in Nephrology". The aim is to support the development of new knowledge of the kidney and kidney-related diseases. The candidate must not have completed more than 1 year of research training beyond an M.D. or Ph.D. degree. \$22,000 for 1 year. DEADLINE: OCTOBER 1, 1986. CONTACT: (212) 889-2210.

MARCH OF DIMES BIRTH DEFECTS FOUNDATION - BASIC RESEARCH GRANTS - these grants are for research into the etiology of birth defects in three main areas: 1) Hereditary influence - the structure and function of chromosomes, their subunits, genes, their supporting structures; 2) Environmental effects - drugs, radiation, infections and malnutrition as well as more subtle factors such as cytoplasmic influences; 3) interaction between Hereditary and Environment, e.g., enzymatic feedback and an individual's resistance to disease. Research leading to an understanding of human teratogenesis given preference. A 300 word abstract must be submitted before an application will be provided. DEADLINE: OCTOBER 1, 1986. CONTACT: Grants Administration, 1275 Mamaroneck Avenue, White Plains, NY 10605 (914) 428-7100.

AMERICAN HEART ASSOCIATION - GRANTS-IN-AID - support is available for research projects broadly related to cardiovascular function and disease or related fundamental problems. Support available for all basic disciplines and for cardiovascular epidemiological and clinical investigations, including stroke. \$30,000 per year for 1 to 3 years. DEADLINE: OCTOBER 1, 1986. CONTACT: (214) 750-5453. APPLICATION PACKETS MUST BE REQUESTED INDIVIDUALLY.

NATIONAL FUND FOR MEDICAL EDUCATION - INNOVATIVE GRANTS - for improving medical education. Funds from \$8,000-\$60,000. The grant period is for 3 years. Deadline: OCTOBER 1, 1986. CONTACT: (203) 278-5070.

ESTHER A. and JOSEPH KLINGENSTEIN FUND "KLINGENSTEIN FELLOWSHIP AWARDS IN THE NEUROSCIENCES" - the purpose is to encourage clinical and basic science research that is relevant to epilepsy. To qualify, investigators must have completed all research training, including post-doctoral training. Investigators at all career levels are eligible. The award can also be used by clinicians who have completed their clinical training and who wish to receive research training in the neurosciences. \$100,000 for a 3 year period. DEADLINE: NOVEMBER 1, 1986. CONTACT: (212) 578-0285.

ARTHRITIS FOUNDATION - research grants - grants of up to \$15,000/year for one to two years with possible renewal for a third year are available for specific research in arthritis patient care or health management. Grants are awarded to both new and experienced investigators. Applications from investigators who have received a doctoral degree within the last five years are particularly encouraged. DEADLINE: NOVEMBER 1, 1986. CONTACT: Research Department, 1314 Spring Street, NW, Atlanta, GA 30309. (404) 872-7100.

FOUNDATIONS WITH OPEN SUBMISSION DATES

COTTRELL RESEARCH CORPORATION (Open deadline) - a program of grants for basic research in the physical sciences is offered by the Research Corporation, a non-profit foundation. Two programs encourage research in Universities. Grants are intended to aid investigators in the initiation of research at early stages of their professional careers. Scientific significance is the prime consideration. Provision is made only for items of direct expense essential to the research program and can include: equipment and supplies, student stipends, and travel. No formal deadlines exist, the application should be received at least four months before each advisory meeting. Contact: (602) 296-6400.

AMERICAN PARALYSIS ASSOCIATION - actively solicits and sponsors projects that have merit in the treatment of acute and chronic spinal cord injury and in targeted research to find and perfect a cure, including surgical, pharmaceutical, and non-invasive physical approaches. CONTACT: M.D. Van Orden, (703) 556-7782.

THE COMMONWEALTH FUND - HEALTH CARE GRANTS - provides support for the planning and development of academic health centers and public and voluntary health care institutions nationwide to help them adapt to the health care needs of the public. The Fund is also interested in programs to help develop new approaches to selected complex national problems involving health care delivery to five specific groups: the elderly poor, low-income families, people with personal habits which could lead to major disability and premature death, working women needing child care for children, and members of minority groups seeking careers in the health professions. CONTACT: Louise Mundy, (212) 535-0400.

FOUNDATION FOR MICROBIOLOGY - Grants in Microbiology, Immunology and Virology - grants of varying amounts are made to individuals or institutions for support of lectureships, meetings, symposia, prizes, unusual publication costs, courses and other projects in the areas of microbiology, immunology and virology. CONTACT: Byron H. Waksman, M.D., (212) 986-3240.

KRESGE FOUNDATION "Challenge Grants" - these grants are awarded in support of construction and renovation projects, major capital equipment purchases and the purchase of real estate. Grants are awarded on a challenge basis. The challenge is to raise whatever balance is needed to assure full project funding. CONTACT: (313) 643-9630.

MARCH OF DIMES BIRTH DEFECTS FOUNDATION "Starter Research Grants" the Basil O'Connor Starter Research Grant Program is designed primarily for young investigators who are interested in embarking on independent research after completion of their doctoral or postdoctoral training. A letter of inquiry must be submitted before application will be provided. CONTACT: (914) 428-7100.

UNITED SCLERODERMA FOUNDATION - the Foundation will award "seed" grants of up to \$10,000 for pilot projects of particular promise, which needs supporting data before application can be submitted to major funding agencies. CONTACT: P.O. Box 350, Walsonville, CA 95077.

LUCILLE P. MARKEY CHARITABLE TRUST - the trust is interested in supporting in whole or in part interdisciplinary efforts by small groups of able investigators who are addressing fundamental questions in biomedical science. It is anticipated that most grant support will be in fields such as molecular biology, developmental biology, neurobiology, immunology, genetics, virology and related areas. CONTACT: Executive Office, Suite 4300, Southeast Financial Center, Miami, FL 33131-2379 (305)371-3841.

FEDERAL INITIATIVES

OFFICE OF NAVAL RESEARCH - "MEMBRANE ELECTROCHEMISTRY ACCELERATED RESEARCH INITIATIVE" - ONR is initiating a new program for the support of electrochemical research on biological and model membranes. The objective is to determine the physical basis of biological sensory and energy transducing processes. DEADLINE: OCTOBER 1, 1986. CONTACT: Membrane Electrochemistry ARI, Code 1141CB, Office of Naval Research, 800 North Quincy Street, Arlington, VA 22217-5000.

ONR has also initiated a program of basic research addressing the interactive mechanisms of relating the environment, the central nervous system and the immune system. The ultimate objective of the program is to understand the molecular, cellular, and psychobiological processes that influence susceptibility to diseases controlled by the immune system, particularly infectious diseases, in individuals subjected to adverse environments. This program is funded jointly by the ONR Biological and Psychological Science Division.

AREAS OF POTENTIAL INTEREST TO THE BIOLOGICAL SCIENCE DIVISION: anatomical relationships of the brain and the immune system; effects of neurotransmitters, neuropeptides, and endocrine hormones on functioning of cells and organs of the immune system; characterization of secretory products of the immune system that act upon the hypothalamic-pituitary-adrenal axis or other regulatory systems of the body; methods suitable for evaluating immune competence over time in animals and humans; and pharmacological interventions that improve immune function compromised by stress responses.

AREAS OF POTENTIAL INTEREST TO THE PSYCHOLOGICAL SCIENCE DIVISION: multi-disciplinary research leading toward a comprehensive model that relates to

environmental events and conditions; individual perceptions, cognitions, and affect; enduring individual differences; relevant parameters of the neuroendocrine system; and immune system functioning. The Division will consider requests for support in basic areas other than those listed if it can be shown that they have promise for contributing to the program objectives. CONTACT: ADDRESS SAME AS ABOVE.

ONR YOUNG SCIENTIST AWARDS - The Office of Naval Research is announcing another cycle of its program to identify and support young scientists. The program is open to U.S. citizens holding tenure track positions at U.S. universities and colleges and who received their doctoral degrees on or after January 1, 1982. Proposals falling within the broad scope of naval research interests as described in the ONR book, Guide to Programs (available from the Research Office) will be considered. Applications must be submitted by early December, 1986 and the awards will be made in the Spring, 1987. Further information can be obtained from Dr. R. Newburgh, Head, Biological Sciences Division, Office of Naval Research, 800 N. Quincy Street, Arlington, VA 22217. (202) 696-4986.

NATIONAL RESEARCH COUNCIL: RESEARCH ASSOCIATESHIP PROGRAM - The NRC in cooperation with selected federal laboratories will offer awards for independent scientific research in the fields of biological and medical sciences. Stipends begin at \$26,350 a year for a recent doctoral graduate, with higher stipends for seniors with at least five years of postdoctoral experience. Deadline: AUGUST 15, 1986. CONTACT: Associateship Programs (JH-608-S-4), 2101 Constitution Ave., NW, Washington, DC 20418 (202) 334-2760.

NATIONAL CANCER INSTITUTE: "MAMMALIAN TUMOR CELL LINES" invites grant applications for support of research projects to identify and characterize multidrug resistant tumor cells. The Division of Cancer Treatment, NCI, desires to support research in this area in order to increase understanding of drug resistance phenomena and develop therapeutic strategies to overcome or circumvent his problem. Deadline: OCTOBER 1, 1986. CONTACT: (301) 496-7753.

NATIONAL HEART, LUNG AND BLOOD INSTITUTE: "MEASUREMENT OF BLOOD PRESSURE" grants are available to encourage research aimed at minimally invasive techniques to measure pressure in the chambers of the heart and in central arteries. Deadline: OCTOBER 1, 1986. CONTACT: Dr. Berson, (301) 496-1586.

WHO TRAVEL FELLOWSHIPS - provides support for short term travel (up to 2 months) for United States scientists for projects on disease/prevention of mutual benefit to the host country and to the US. Preliminary inquiry required. Deadline date shown is date for final proposals. Deadline: SEPTEMBER 30, 1986. CONTACT: (301) 443-2330.

Editor's Note: We are building a resource file of all Foundations which we encounter in searching the available literature. This is an on-going project which we shall continue to update regularly. We have written to the COEs of the Foundations and requested their guidelines, annual report for the most current year, lists of funded projects and an application packet, if available. This material will be available for your use in the Research Office. For the present time, if we just list a telephone number with the citations, it means that is all of the information which we presently have on that particular Foundation. However, you might check with the Development Office as they have a number of sources which list in-depth information on Foundations.