

T C O M

research notes

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RESEARCH PROJECTS FUNDED **01/01/89 - 02/28/89**

RAFAEL ALVAREZ-GONZALEZ, PH.D.
(Microbiology) "Characterization of mono(ADP-ribosyl)ated poly (ADP-ribose) polymerase" The Samuel Roberts Noble Foundation 01/11/89 - 01/10/90 \$15,000.

MICHAEL EMMETT-OGLESBY, PH.D.
(Pharmacology) "Tolerance to the stimulating properties of cocaine" NIDA 02/01/89 - 01/31/90 \$108,716.

JOHN M. CHAPMAN, D.O. (OB/GYN)
"Phase III, comparative randomized study of norgestimate triphasic and triphasil: Protocol #H87-006" 01/03/89 - 08/31/89 \$7,680.

NORMAN LIESKA, PH.D. (Anatomy)
"Cytoskeletal interactions in the crystalline lens" NEI 01/01/89 - 12/31/89 \$46,973.

TOTAL FUNDING **\$178,369**

INTERNALLY FUNDED GRANTS

PATRICK CAMMARATA, PH.D.
(Anatomy) "Phagocytic capacity of trabecular meshwork endothelial cells" Texas Research Enhancement Fund \$2,390.86.

THOMAS YORIO, PH.D.
(Pharmacology) "Phospholipid metabolism and ciliary process epithelial transport" Texas Research Enhancement Fund \$2,876.57.

RAFAEL ALVAREZ-GONZALEZ, PH.D.
(Microbiology) "Enzymatic covalent attachment of monomers of ADP-ribose to poly(ADP-ribose) polymerase BRSG \$7,500.

APPLICATIONS SUBMITTED **01/01/89 - 02/28/89**

ROBERT BOURDAGE, PH.D.
(Anatomy) "HyperExaminer" Apple Computer Company \$5,000.

ROBERT BOURDAGE, PH.D. AND JAMES SIMS, PH.D. (Anatomy/Biochemistry) "TCOM library navigator" Apple Computer Company \$43,604.

PATRICK CAMMARATA, PH.D.
(Anatomy) "Hypergalactosemic-induced lipid and eicosanoid dysfunction in cultured epithelial cells" American Diabetes Association \$79,738.

PATRICK CAMMARATA, PH.D.
(Anatomy) LCIF clinical research grant program in diabetic eye disease" American Diabetes Association \$79,738.

PATRICK CAMMARATA, PH.D.
(Anatomy) "LCIF equipment grant program" American Diabetes Association \$15,000.

PATRICK CAMMARATA, PH.D.
(Anatomy) "Aldose-induced eicosanoid dysfunction in lens cells" NEI \$556,045.

PATRICK CAMMARATA, PH.D.
(Anatomy) "Research grant" Juvenile Diabetes Foundation \$100,000.

GARY E. WISE, PH.D. (Anatomy)
"Cellular basis of tooth eruption" NIDR \$227,598.

ROBERT GRACY, PH.D. (Biochemistry) "Pyrollidone carboxylic acid and urocanic acid in the stratum corneum during aging and in xerosis" Johnson & Johnson Baby Products \$2,100.

ROBERT GRACY, PH.D. (Biochemistry) "Modifications of protein in the stratum corneum during aging" Johnson & Johnson Baby Products . \$38,640.

MYRON JACOBSON, PH.D. (Biochemistry) "Alteration of NAD metabolism by chemical carcinogens" NCI \$196,413.

ANDRAS LACKO, PH.D. (Biochemistry) "International symposium on reverse cholesterol transport" NIH \$9,750.

FRANK PAPA, D.O. (Medical Education) "Expert system shell-based medical education tools - FIRST" NIH \$349,694.

ELAINE JACOBSON, PH.D.
(Medicine) "Development of an automated assay for the response of human lymphocyte NAD metabolism" Oxigene, Inc. \$146,214.

ELAINE JACOBSON, PH.D. (Medicine)
"Post-translational modification of proteins by ADP-ribose" NIGM \$358,362.

MARK McKINNEY, PH.D. (Medicine)
"Clinic-based counseling for hypercholesterolemia" NIH \$649,195.

BERNARD RUBIN, D.O. (Medicine) "A multi-investigator double blind parallel group design study of indomethacin controlled release 75mg tablets and indocin SR 75mg capsules in adult patients with moderate to severe rheumatoid arthritis" The Purdue Frederick Co. \$46,800.

BERNARD RUBIN, D.O. (Medicine) "A multicenter, open-label, randomized, parallel study of the safety of prinomide in patients with rheumatoid arthritis" CIBA-GEIGY Corp. \$21,141.

BERNARD RUBIN, D.O. (Medicine) "A multicenter, open-label, randomized, parallel study of the safety of prinomide in patients with rheumatoid arthritis - open-label

extension" CIBA-GEIGY Corp. OPEN.

PAUL COOK, PH.D. (Microbiology)
"Small instrumentation program"
NIH-BRSG \$16,651.

PAUL COOK, PH.D. (Microbiology)
"Determination of kinetic and
chemical mechanisms of enzymes"
NIGM \$159,122.

PAUL COOK, PH.D. (Microbiology)
"Mechanism of the B₆ enzyme, O-
acetylserine sulfhydrylase" NSF
\$60,000.

RAFAEL ALVAREZ-GONZALEZ, PH.D.
(Microbiology) "Evaluation of 2'-deoxy
NAD⁺ as an ADP-ribosylation
substrate for toxin promoter A from
Bordella pertussis" National
Foundation for Infectious Diseases
\$2,000.

WILLIAM BARROW, PH.D.
(Microbiology) "Processing of AIDS
related mycobacterial antigens"
NIAID \$118,918.

EUGENE QUIST, PH.D. and
CAROLYN QUIST, D.O. (Pharm-
acology/OB/Gyn) "Regulation of blood
flow in human fetal-placental
vasculature" ACOOB/GYN \$5,000.

HARBANS LAL, PH.D. (Pharmacology)
"Neurobehavioral and immunological
markers of aging" NIA \$156,373.

HARBANS LAL, PH.D. (Pharmacology)
"Characterization of ethanol
withdrawal" NIAAA \$690,187.

THOMAS YORIO, PH.D. and **S/D RAY
PAGE** (Pharmacology) Burroughs
Wellcome osteopathic research
fellowship" AOA \$5,000.

THOMAS YORIO, PH.D. and **EDWARD
ELKO, PH.D.** (Pharmacology) "Alpha₂
analogues as efficacious antiglaucoma
drugs" Farmos Group, Inc. \$20,100.

BARBARA BARRON, PH.D. (Physiology)
"Opioids in the heart: myocardial or
neural" NHLBI - FIRST \$349,992.

H. FRED DOWNEY, PH.D. (Physiology)
"Regional, non-ischemic myocardial
hypoxia" NHLBI \$157,086.

PAMELA ANN GAYHEART, PH.D.
(Physiology) "Visceral reflexes
affecting coronary circulation" AHA -
TX Affiliate \$27,500.

PATRICIA GWIRTZ, PH.D. (Physiology)
"Indices of myocardial oxygen
consumption" NSF \$60,000.

PATRICIA GWIRTZ, PH.D. (Physiology)
"Adrenergic limitation to coronary
flow during exercise" AHA - TX
Affiliate \$27,500.

R. DONALD HAGAN, PH.D. (Physiology)
"Mechanism of cardiovascular drift
during prolonged exercise" AHA - TX
Affiliate \$50,000.

CARL JONES, PH.D. (Physiology)
"Visceral reflexes affecting the
coronary circulation" NHLBI
\$522,921.

PETER RAVEN, PH.D. (Physiology)
"Education of scientists in
cardiovascular regulation" NIH
\$39,152.

TOTAL REQUESTED \$5,392,534

FACULTY PUBLICATIONS AND PRESENTATIONS

Gorski, J.P., S.C. Marks, Jr., D.R. Cahill and **G.E. Wise** "Developmental changes in the extracellular matrix of the dental follicle during tooth eruption" Conn. Tiss. Res. 18:175-190 (1988).

Wordinger, R.J. "The use of darkfield and fluorescent microscopy to examine extracellular hyaline accumulation" Acta Anatomica. 132: 327 (1988).

Wordinger, R.J., J. Derrenbacker, and J. Sutton. "Prenatal exposure to diethylbestrol alters neonatal ovarian follicle development" J. Cell Biol. 107(6): 819 (1988).

Wise, G.E., S.C Marks, Jr., D.R. Cahill and J.P. Gorski "Ultrastructure features of the dental follicle and enamel organ prior to and during tooth eruption" The Biological Mechanisms of Tooth Eruption and Root Resorption, A. Davidovitch, ed., EBSCO Media, Birmingham, AL, 1988, pp. 243-249.

Marks, S.C., Jr., J.P. Gorski, D.R. CAhill and **G.E. Wise**. "Tooth eruption - a synthesis of experimental observations". *ibid.*, pp. 161-169.

Cahill, D.R., S.C. Marks, Jr., **G.E. Wise**, and J.P. Gorski. "A review and comparison of tooth eruption systems used in experimentation - a new proposal on tooth eruption". *ibid.* pp. 1-7.

Gorski, J.P., S.C. Marks, Jr., D.R. Cahill and **G.E. Wise**. "Biochemical analysis of the extracellular matrix of the dental follicle at different stages

of tooth eruption". *ibid.* pp. 251-260.

Wise, G.E. "A distinctive inclusion present in fibroblasts of the dental follicle" J. Cell Biol. 107:120a (1988).

Lal, H., M.J. Forster, K.C. Retz and B. Reisberg. "Immune dysfunctions: new targets of drug discovery for Alzheimer's disease and other cognitive disorders" Drug Dev. Res. 15:95-99 (1988).

Forster, M.J., K.C. Retz, and H. Lal. "Learning and memory deficits associated with autoimmunity: significance in aging and Alzheimer's disease". Drug Dev. Res. 15:253-273 (1988).

Retz, K.C., M.J. Forster, and H. Lal. "Behavioral approach to probe altered neurotransmission in autoimmune NZB/BINJ mice: implications for investigations of cognitive dysfunctions". Drug Dev. Res. 15:275-295 (1988).

Lal, H., C.M. Harris, D. Benjamin, A.C. Springfield, S. Bhadra and M.W. Emmett-Oglesby. "Characterization of a pentylene-tetrazol-like interoceptive stimulus produced by ethanol withdrawal". J. Pharm. Exper. Therapeut. 27(2):508-518 (1988).

Mahapatra, R.K., D. Mahapatra, K.W. Hunter, **S.K. Paul, and H. Lal.** "Metoprolol monotherapy in the treatment of mild hypertension" Drug Dev. Res. 15:47-54 (1988).

Forster, M.J., M.D. Popper, K.C. Retz and H. Lal. "Age differences in acquisition and retention of one-way avoidance learning in C57BL/6NNia and autoimmune mice". Behavioral and Neural. Biol. 49:139-151 (1988).

Spencer, D.G., **S. Yaden** and **H. Lal**, "Behavioral and physiological detection of classically-conditioned blood pressure reduction". Psychopharmacology 95:25-28 (1988).

Lal, H., B. Kumar and **M.J. Forster**, "Enhancement of learning and memory in mice by a benzodiazepine antagonist". FASEB J. 2:2707-2711 (1988).

Harris, C.M., S. O. Idemudia, D. Benjamin, S. Bhadra and **H. Lal**, "Withdrawal from ingested diazepam produces a pentylenetetrazol-like stimulus in rats". Drug Dev. Res. 12:71-76 (1988).

Idemudia, S.O. and **H. Lal**, "Baclofen does not block interoceptive discriminative stimulus produced by pentylenetetrazol". Drug Dev. Res. 14:85-90 (1988).

Harris, C.M. and **H. Lal**, "Central nervous system effects of the imidazodiazepine Ro 15-4513". Drug Dev. Res. 13:187-203 (1988).

Kumar, B.A., M.J. Forster and **H. Lal**, "CGS8216, a benzodiazepine receptor antagonist, enhances learning and memory in mice". Brain Res. 440:195-198 (1988).

Wise, G.E. and **W. Fan**, "Changes in the tartrate-resistant acid phosphatase cell population in dental follicles and bony crypts of rat molars during tooth eruption". J. Dental Res. 68:150-156 (1989).

R.J. Wordinger, Ph.D. (Anatomy) presented "Prenatal exposure to diethylstilbestrol alters neonatal ovarian follicle development" at the meeting of the American Society of Cell Biology.

TEXAS ADVANCED RESEARCH/TECHNOLOGY PROGRAMS

The Texas Advanced Research/Technology Programs were created as permanent programs needing *only* an appropriation each biennium. The Division of Research Programs of the Texas Higher Education Coordinating Board is proceeding on the assumption that they will be funded. They expect to have guidelines for proposals approved at the April Coordinating Board meeting with proposals due late summer or early fall. Senator Parker has introduced a bill to add environmental topics to the list of areas to be considered in the Advanced Technology Program.

TCOM FACULTY RESEARCH GRANTS

Applications for the 1989-90 Faculty Research Grants are available in the Research Office. Funds for internally sponsored research projects are extremely limited. Both tenure track faculty and non-tenure track personnel who hold the doctoral credentials may apply for a research grant. Deadline for submission is *June 2, 1989*.

BIOMEDICAL RESEARCH SUPPORT GRANTS

Applications for internal 1989-90 BRSBG funding are available from the Research Office. Deadline for submission is *MAY 1, 1989*. These funds are allocated to the College based upon the amount of NIH awards that are generated by individual principal investigators. A detailed announcement regarding the guidelines for the program has been sent to all departments in the College. The review of the proposals will be based primarily on scientific merit. In addition, the project will be viewed as to the likelihood of receiving external funding in the future. The proposals will be reviewed by the BRSBG Advisory Group.

TEXAS SOCIETY FOR BIOMEDICAL RESEARCH

The Texas Society for Biomedical Research was formally announced at a gala reception in the Rayburn House Office Building in Washington, D.C. on March 8. This is a cooperative activity of the UT System, the A&M System, Baylor College of Medicine, Texas Tech Health Science Center and the Texas College of Osteopathic Medicine.

PHARMACEUTICAL INDUSTRY INVESTS MORE IN RESEARCH THAN NIH

For the first time the combined 100 members of the Pharmaceutical Manufacturers Association (PMA) are investing more into medical research than is being invested by the federal government in research at the National Institutes of Health.

According to PMA spokesman Jeffrey Warren, in 1988 its members invested \$6.5 billion dollars in research as compared with the fiscal 1988 estimated \$6.3 billion budget of the NIH. The PMA estimates its FY-89 budget at \$7.27 billion, which is above the projected FY-89 \$7.1 billion NIH budget.

The PMA Spokesman stresses the the NIH investment was directed more to basic research, while the PMA investment was more in the applied and developmental.

NEW AIDS VACCINE TRIALS PRODUCT OF GOVERNMENT-INDUSTRY COOPERATION

Developed through the combined efforts of the National Institute of Allergy and Infectious Diseases and MicroGeneSys Biopharmaceuticals of Connecticut, the VaxSyn HIV-1 is the first potential AIDS vaccine to receive USFDA approval for use in human clinical trials.

Through genetic engineering technology, NIAID produced a clone of the human immunodeficiency virus (HIV), which was given to MicroGeneSys where the vaccine was developed. The vaccine is designed to bolster immunity, and perhaps provide resistance to the AIDS virus for those who are infected, but who are as yet, disease-free.

Since September, 1987, VaxSyn HIV-1 has been undergoing tests. The results of current testing in non-HIV-infected people at NIAID and six NIAID supported Vaccine Evaluation Units will be compared with vaccine testing in people who test HIV-positive.

NEW NIH BROCHURE AVAILABLE

The NIH has published a new booklet which provides in-depth information on several types of career awards which are available to scientists with clear research potential, but who require additional training and experience. The brochure is titled The K Awards and is available from the Research Office.

NIH AWARDEES MAY REQUEST SUPPLEMENTAL FUNDS FOR ANIMAL CARE COSTS

NIH has indicated that they will be willing to provide additional funds over the amount of the current award when an emergency develops that would significantly affect the progress of the research. As long as the amount requested is less than \$20,000 - \$25,000 (amount varies depending on the Institute), NIH should be able to treat the request as an administrative supplement and the application should probably not require separate review and approval by the study section.

Information normally requested in a supplemental application that could be approved administratively includes: (1) a new face page; (2) a new budget page; (3) a detailed budget justification, including a description as to why this additional request could not have been predicted at the time of the last competitive review. If unexpended funds were returned in the preceding years of the grant, the PI may want to request approval to use those funds to pay for the additional cost of using animals. However, the documentation required for each separate institute varies, and consequently, a telephone call to the Program Officer would be required to discuss the specific information needed by that institute.

ADAMHA NOTE

The Alcohol, Drug Abuse and Mental Health Administration (ADAMHA) has changed the application schedule and funding limits for the small grant program. Beginning June 1, annual research grant deadlines will be *June 1, October 1, and February 1*. Revised applications will be accepted July 1, November 1 and March 1. Grant size will double to \$50,000 a year for up to two years. ADAMHA will continue to fund applications requesting the current \$25,000 one-year grants, but will hold until June 1 applications for larger amounts. One-year applications submitted before June 1 may be revised and re-submitted to take advantage of higher funding levels, but already funded one-year grants may not be extended or increased.

NEW INSTITUTE ESTABLISHED AT NIH

A new institute within the National Institutes of Health has been established - the National Institute on Deafness and Other Communication Disorders (NIDCD). Jay Moskowitz, Ph.D. has been named Acting Director.

With the creation of this new institute, the National Institute of Neurological and Communicative Disorders and Stroke has become the National Institute of Neurological Disorders and Stroke. The Communicative Disorders Review Committee will become part of the new institute and the Division of Research Grants study sections which have conducted the initial review of the bulk of communicative sciences and disorders applications in the past continue to do so. High priority items for the new institute are the establishment of a Deafness Institute Advisory Council and the drafting of a Strategic National Research Plan.

REFERENCE LETTERS FOR NIH APPLICATIONS

Several different NIH grant programs require that letters of reference be sent *with the application package* to expedite the referral and review process.. Two of these programs are the Research Career Development Award (RCDA) and the First Independent Research Support and Transition (FIRST) Award.

RCDA applicants should send the reference forms included in the PHS 398 kit to their referees well in advance of the application submission date and advise them to complete the forms and return them in a sealed envelope. **FIRST** applicants should request reference letters (forms are not included) so that these may be submitted with the application. The sealed envelopes should be attached to the original application.

Applications for the Clinical Investigator Development Award (**CIDA**) of the National Institute of Neurological Disorders and Stroke must include three letters of reference: Two from referees and one from the sponsor. To expedite the review process, the NINDS requires that applications include these sealed letters of reference with their application package.

Failure to include the sealed reference letters, may mean return of your application without it being reviewed.

FUNDING OPPORTUNITIES

NCI - "CANCER PREVENTION AND CONTROL RESEARCH SMALL GRANTS PROGRAM" New as well as experienced investigators in relevant fields and disciplines (e.g. disease prevention and control, epidemiology, social work, nutrition, health policy, health service research, and behavioral science) may apply for small grants to test ideas or to do pilot studies. **Cancer Control Program** areas appropriate for research grants include HUMAN intervention research in the following areas: a) Prevention (chemoprevention, diet and nutrition intervention studies); b) Screening and early detection; c) Cancer control sciences (studies to change current behaviors and/or institute new behaviors or health promotion interventions effective in reducing incidence, morbidity or mortality from cancer); d) Smoking prevention and cessation pilot studies targeted at improving UTILIZATION of current technologies in target populations or organizations are encouraged; e) Application research in modifying, feasibility testing, and adopting proven, state-of-the-art intervention programs and strategies from other research projects; f) Community oncology (improving the application of patient management and continuing care research advances in community settings; and g) Applied epidemiology (using epidemiologic methods to determine the association between exposure to an INTERVENTION and its impact on disease). **DEADLINE:** May 5, 1989. Contact Carlos E. Caban, Ph.D. (301) 496-8577.

AMERICAN CANCER SOCIETY "RESEARCH DEVELOPMENT PROGRAM GRANTS" These grants are intended to provide more rapid funding for a variety of critical and urgent needs in scientific investigations related to cancer which cannot be supported quickly through the Society's other grant programs. Applications can be in either the basic areas or clinical research. Grants are usually made for a period of twelve months or less and in amounts under \$75,000. This Program cannot be used as a source of continuing support or as a substitute for the other research support programs of the Society. Expect a reply from the Society within three months. **NO DEADLINE.** Contact John Laszlo, Ph.D., Senior Vice President of Research , (404) 329-7558.

NCI - "CLINICAL TRIALS OF ANTICANCER AGENTS (PHASE II) NCI is seeking organizations with the capabilities and facilities to provide resources for the conduct of early and high priority Phase II trials. Specifically, the organization shall a) test new agents which have just completed Phase I trials; b) determine the antitumor activity of existing agents which can be administered in significantly higher doses when used with colony stimulating factors which modulate toxicity or antitumor activity; c) determine the antitumor activity of combinations of antitumor agents and modalities; d) evaluate laboratory parameters which may correlate with or predict response; and e) determine the spectrum of antitumor activity for new agents in selected human cancers. **DEADLINE:** APRIL 22, 1989. Contact (301) 496-0526.

NHLBI - "HMG COA REDUCTASE INHIBITORS IN THE ELDERLY: PILOT STUDY" This program, which is also of interest to the NIA, will support the design and performance of a pilot study for a collaborative randomized clinical trial to determine whether lowering elevated serum cholesterol levels after age 60, by use of a new class of potent cholesterol-lowering drugs, the 3-hydroxy-3-methylglutaryl coenzyme A (HMG CoA) reductase inhibitors, will reduce mortality

due to the sequelae of atherosclerotic cardiovascular disease and thereby prolong life. This pilot study should consider possible protocols for such a trial, evaluate possible mechanisms for minimizing the cost of conducting such a trial successfully, and assess the feasibility of recruiting eligible participants into such a trial and sustaining their participation. The administrative and funding mechanism to be used to undertake this program will be the cooperative agreement. **DEADLINE:** May 8, 1989. Contact Dr. David J. Gordon, (301) 496-1681.

AMERICAN HEART ASSOCIATION - "CLINICIAN SCIENTIST AWARD" The purpose is to encourage promising clinically trained physicians to undertake careers in investigative science. These are three year awards for rigorous full-time research training. US citizenship or permanent visa is required. Award consists of a \$35,000 stipend plus fringe benefits. Institutional supplementation is permitted. Applicants must contact the American Heart Association for application forms. **DEADLINE:** JUNE 1, 1989. Contact (214) 706-1453.

AMERICAN HEART ASSOCIATION - "ESTABLISHED INVESTIGATOR AWARD" The purpose is to assist promising physicians and scientists to develop independent research careers in academic medicine and biology. Awardees generally have five to nine years postdoctoral research experience. US citizenship or permanent residence is required. The award consists of a \$35,000 stipend plus fringe benefits. Institutional supplementation is permitted. Applicants must contact the American Heart Association for application forms. **DEADLINE:** JUNE 1, 1989. Contact (214) 706-1453.

NATIONAL STROKE ASSOCIATION - "FELLOWSHIP IN CEREBRAL VASCULAR DISEASES" The fellow must be a young investigator with a doctoral degree and sponsored by a senior investigator doing work related to cerebral vascular diseases. US citizenship is not required, but the research must be performed in the US, and the fellow must have an expressed commitment to remain in a research career in the US. **DEADLINE:** JUNE 1, 1989. Contact Carolyn Burkhardt, M.D. (303) 762-9922.

AMERICAN FOUNDATION FOR AIDS RESEARCH - AmFAR invites interested investigators to submit a pre-application Letter of Intent for projects in biomedical, humanistic, and social sciences research relevant to AIDS. It should be noted that AmFAR allocates a portion of its resources to grants for research on the psychological, ethical, legal, and economic implications of the epidemic. The program announcement seeks applications for 1) **RESEARCH GRANTS** - provide institutionally affiliated post-doctoral investigators with up to \$50,000 in direct costs for one year in support of AIDS related biomedical and social sciences research. One application per investigator; 2) **SMALL GRANTS** - grants provide affiliated post-doctoral investigators up to US \$5,000 for short-term study or training at another US institution. Funds are for travel, per diem, and housing plus a host institution payment; 3) **FELLOWSHIP GRANTS** grants provide up to \$102,000 salary and fringe benefit support over three years to non-tenured post-doctoral researchers in biomedical and social sciences strongly related to AIDS research. **LETTER OF INTENT DUE APRIL 11, 1989.** Contact (213) 857-5900 or write to American Foundation for AIDS Research, Grants Department, 5900 Wilshire Blvd., Second Floor, East Satellite, Los Angeles, CA 90036-5032.