

# T C O M

## research notes

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### FUNDING OPPORTUNITIES FOR PRE AND POSTDOCTORAL STUDENTS

Many funding opportunities are listed for pre and postdoctoral study in a publication entitled *A Selected List of Fellowship Opportunities and Aids to Advanced Education for United States Citizens and Foreign Nationals* prepared by The National Science Foundation. The most current version we have is dated 1988. For each funding source there is an address, title of program, purpose of program, citizenship requirements, level (pre or postdoctoral), fields supported, other requirements, number of awards, duration of awards, application deadlines, and stipend amounts. There is also a table that aids in locating information by categories under: undergraduate, graduate, dissertation, postdoctoral, other level, fields unrestricted, life/medical sciences, physical sciences/math, engineering, behavioral/social sciences, humanities, professional fields, other fields, US citizenship, US permanent resident, citizenship unrestricted, citizenship, other, ethnic minorities only, and women only. This is one of the best single sources of funding information available to support undergraduate, graduate student and postdoctoral education. **This publication is available from the Research Office or may be obtained free of charge from The Publications Office, National Science Foundation, 1800 G Street, N.W., Washington, D. C. 20550**

### ARP/ATP PROGRAM REVIEW

The Texas Higher Education Coordinating Board recently hired consultants to review the Advanced Research and Advanced Technology Programs. The review team was chaired by Dr. James D. Ebert, Vice President of the National Academy of Sciences and also included Dr. James B. Wyngaarden, former director of the National Institutes of Health and now Foreign Secretary of the National Academy of Sciences and Dr. Craig Fields, former director of the Defense Advanced Research Projects Agency and now president of MCC in Austin. The thrust of the review was not a technical examination of specific projects but more of a review of the overall program, its appropriateness for state funding, and the extent to which it meets the legislature's objectives. Stay tuned for the results!

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## **NEW MANAGEMENT PLAN AT NIH**

NIH recently released a draft of a financial management plan which will affect how grant applications will be reviewed in the future and how grants will be funded. NIH plans to have a finished document for review by the various institute advisory councils and boards in mid-January. The plan proposes to

1. eliminate the practice of "downward negotiations." The average rate of downward negotiations last year was 15%. Each institute will develop its own plan and some have indicated that they may a) ask the study section to review the specific aims of an application and exclude those specifications that are not high priority; b) cap the indirect costs for continuations; c) cap the maximum amount that can be requested on certain types of applications and/or d) fund applications on a sliding scale with only those with the best priority score receiving full funding;
2. limit the length of grants. Now the average length of a NIH grant is 4.3 years but the projected goal is to limit grants to an average length of 4.0 years by awarding more 3 year grants;
3. increase funding for training graduate students and postdoctoral researchers. The plan calls for a 11% increase over three years;
4. discontinue the concept of "approving" grant applications and adopt the "success rate" method based on the ratio of applications funded to the number of applications reviewed -- a method used by other federal agencies;
5. manage the growth of NIH research centers by controlling NIH appropriations for centers rather than by establishing a ceiling on the number of centers; and
6. implement cost management measures so that the average cost of research project grants increases at the same rate as the Biomedical Research and Development Price Index (an indicator that is about 2% higher than the consumer price index).

## **NIH FISCAL YEAR 1991 BUDGET**

The final conference budget for NIH for FY 1991 totals \$8.3 billion. This figure represents a 2.41% reduction from the initial conference budget figure of \$8.5 billion. The budget contains a provision giving the NIH Director the authority to reallocate up to 1% of the NIH appropriation to high priority needs. Research areas mentioned as areas which need special attention include Alzheimer's Disease and asthma in children.

The Alcohol Drug Abuse and Mental Health Administration (ADAMHA) budget has been set at \$2.9 billion. The Agency for Health Care Policy and Research will receive \$15.1 billion while the Health Resources and Services Administration will receive \$2.3 billion.

## **NIH SHARED INSTRUMENTATION GRANT**

This program supports the acquisition and updating of expensive shared-use instruments which are not generally available through other PHS mechanisms, such as the regular research project, program project and other grant programs. Biomedical Research Support Shared Instrument Grants provide support for expensive state-of-the-art instruments utilized in both basic and clinical research. Applications are limited to instruments that cost at least \$100,000 per instrument or system. The maximum award is \$400,000. A major user group of three or more investigators should be identified. A minimum of three major users must have PHS peer-reviewed research support at the time of the award; 50 percent of these grants must have been awarded by the NIH. The application must show a clear need for the instrumentation by projects supported by multiple PHS research awards and demonstrate that these projects will require at least 75% of the total usage of the instrument. Major users can be individual researchers, or a group of investigators within the same department or from several departments at the applicant institution, PHS extramural awardees from other institutions may also be included. Applications must be submitted using the standard PHS-398, Rev. 10/88, Reprinted 09/89. Special instructions are available from the Research Office. **Applications must be received by March 26, 1991 at NIH.**

## **NEW NIH/ADAMHA PEER REVIEW CONSULTANT FILE**

The National Institutes of Health and the Alcohol, Drug Abuse, and Mental Health Administration have established a new consultant file of peer reviewers. Reviewers will be selected from a national pool of scientists who are engaged in basic or applied research. Data from qualified respondents will be entered into a new computerized data base. This unique data base will be used as one source from which candidates for membership on NIH/ADAMHA committees and for other peer review activities are drawn. All qualified scientists are encouraged to apply. **If you are interested in being considered for service, please request the "Candidate Information Form" and other informational documents from the Research Office.** Since the new file will be established based solely on positive responses, your response is needed even if you are already a consultant or are a member of a Reviewer's Reserve. This file is independent of other consultant files. If you have any questions, please contact Dr. Jeanne N. Ketley, NIH/ADAMHA Consultant File Project, telephone (301) 496-9403. The merit review process is a good way to learn how to write winning grants when given the opportunity to read and review a variety of proposals.

## **NIH REVISES SALARY CEILING ON CAREER AWARDS**

Beginning with awards made from Fiscal Year 1991 funds, the ceiling for reimbursement of the candidates' base salary on all career awards will be \$50,000. Under this policy, the NIH contribution to the base salary will be consistent with the grantee institution's salary scale up to a maximum of \$50,000. At this time the salary increase will affect the following awards:

1) Special Emphasis Research Career Award; 2) Academic Award; 3) Clinical Investigator Award; 4) Physician Scientist Award; 5) Physician Scientist Award (program); 6) Minority School Faculty Development Award; 7) Dental Scientist; and 8) Dental Scientists Award (program). The salary ceiling on Research Career Development Awards (K04) was raised to \$50,000 in Fiscal Year 1990.



## **PHS ANNOUNCES NEW REQUIREMENT FOR "OTHER SUPPORT" PAGE**

The Public Health Service, including NIH and ADAMHA, has recently announced a new requirement that must be incorporated into the "Other Support Page" of ALL competing and noncompeting continuation grant applications. The principal investigator must specify if program income is anticipated during the grant period and if the answer is "Yes" to provide the following information: an estimate of the amount and source of program income.

Program income is gross income earned by a grant recipient from activities part or all of which is borne as a direct cost by the grant. Examples of program income include:

1. Fees earned from services performed under the grant, such as those resulting from laboratory drug testing;
2. Rental or usage fees, such as those earned from fees charged for use of computer equipment purchased with grant funds;
3. Third-party patient reimbursement for hospital or other medical services, such as insurance payments for patients where such reimbursement occurs because of the grant-supported activity;
4. Funds generated by the sale of commodities, such as software programs, tissue cultures, cell lines, or research animals.

The new requirements will be required for all NEW applications submitted for review on or after February 1, 1991. They will be required for all competing continuation applications on or after March 1, 1991 and for all noncompeting continuation applications for budget periods beginning April 1, 1991.

Form PHS 398 (used for new and competing continuation applications) and Form PHS 2590 (used for noncompeting continuation applications) will be changed as part of the general revision of these forms. Until the new forms are revised, approved, and distributed, investigators will need to add a section to the current "Other Support Page."

## **NIH RETURNING APPLICATIONS BECAUSE OF PRINT SIZE**

Applications have been returned for the following reasons: 1) height of the capital letters was a little under 1/8 inch in height; 2) the legend under a graph was reduced in size and was smaller than 15 characters per inch; 3) the number of lines per page had been increased so that the "amount of white space between lines" was reduced. Please refer to the PHS 398 application instructions on page 12 and follow the specifications to the letter.

## NEW NSF APPLICATION GUIDE AND FORMS

The National Science Foundation application guide entitled *Grants for Research and Education in Science and Engineering*, NSF 90-77, replaces 83-57, and should now be used for all grant applications to NSF. There are some important changes to the new cover sheet page, a new form entitled *Disclosure of Lobbying Activities*, and minor changes to other forms. These application booklets also provide instructions on how to prepare an NSF grant proposal. **Copies are available from the Research Office.**

### RECENT RESEARCH AWARDS

**BEN G. HARRIS, Ph.D.**, (Department of Biochemistry and Molecular Biology), "Characterize recombinant enzymes from *Haemonchus contortus* and define the mechanism of action of PFK inhibitors", The Upjohn Company, 12/17/90 - 12/17/91, \$15,000.

**BEN G. HARRIS, Ph.D.**, (Department of Biochemistry and Molecular Biology), "Minority High School Apprentice Program", The Pate Foundation, 06/01/91 - 08/31/91, \$2,000.

**EUGENE E. QUIST, Ph.D.**, (Department of Pharmacology), "Regulation of Cardiac Function by Muscarinic Agonists", NIH-NHLBI, 12/24/90 - 11/30/91, \$88,375.

**TOTAL FUNDING AWARDED** **\$105,375**

### EXTERNAL GRANT PROPOSALS SUBMITTED

**December 1, 1990 to January 31, 1991**

**RAFAEL ALVAREZ-GONZALEZ, Ph.D.**, (Department of Microbiology and Immunology), "Chemical and Kinetic Mechanisms of Poly(ADP-ribose)polymerase", The Welch Foundation, 06/01/91 - 05/31/94, \$75,000.

**RAFAEL ALVAREZ-GONZALEZ, Ph.D.**, (Department of Microbiology and Immunology), "ACS PROJECT SEED - Summer Educational Experience for the Disadvantaged" American Chemical Society, 06/01/91 - 08/31/91, \$4,000.

**BARBARA A. BARRON, Ph.D.**, (Department of Physiology), "Opioids in Cardiac Myocytes", American Heart Association, Texas Affiliate, Inc., 07/01/91 - 06/30/93, \$66,000.

**MICHAEL B. CLEARFIELD, D.O.**, (Department of Medicine), "Post-prandial Hyperlipidemia as an Indicator of CHD risk", American Heart Association, Texas Affiliate, Inc., 07/01/91 - 06/30/93, \$64,383.

**H. FRED DOWNEY, Ph.D.**, (Department of Physiology), "Effects of Smokeless Tobacco on Blood Flow to Tissues of the Mouth", Smokeless Tobacco Research Council, 07/01/91 - 06/30/93, \$87,549.

**H. FRED DOWNEY, Ph.D.,** (Department of Physiology), "American Physiological Society High School Science Teachers Research in Physiology", American Physiological Society, 06/01/91 - 08/15/91, \$3,250.

**H. FRED DOWNEY, Ph.D.,** (Department of Physiology), "Oxygen Supply-Demand Balance in Right Ventricular Myocardium", American Heart Association, Texas Affiliate, Inc., 07/01/91 - 06/30/93, \$66,000.

**MICHAEL EMMETT-OGLESBY, Ph.D.,** (Department of Pharmacology), "Treatment of Cocaine Dependence" Glaxo Inc., 02/01/91 - 01/31/93, \$187,454.

**BRIAN H. FORESMAN, D.O.,** (Department of Medicine), "Sleep Deprivation Alters Blood Pressure Regulation", American Heart Association, Texas Affiliate, Inc., 07/09/91 - 06/30/93, \$74,637.

**BEN G. HARRIS, Ph.D.,** (Department of Biochemistry and Molecular Biology), "Biomedical Research Support Grant", NIH, 04/01/91 - 03/31/92.

**BEN G. HARRIS, Ph.D.,** (Department of Biochemistry and Molecular Biology), "Regulation of Metabolism in Parasitic Helminths", NIH-NIAID, 04/01/91 - 03/31/92, \$173,415.

**BEN G. HARRIS, Ph.D.,** (Department of Biochemistry and Molecular Biology), "Minority High School Apprentice Program", The Pate Foundation, 06/01/91 - 08/31/91, \$2,000.

**BEN G. HARRIS, Ph.D.,** (Department of Biochemistry and Molecular Biology), "Characterize Recombinant Enzymes from *Haemonchus contortus* and Define the Mechanism of Action of PFK Inhibitors", The Upjohn Company, 12/17/90 - 12/17/91, \$15,000.

**ANDRAS G. LACKO, Ph.D.,** (Department of Biochemistry and Molecular Biology), "Alteration of Plasma Components in Alzheimer's Disease", Alzheimer's, 07/01/91 - 06/30/94, \$132,528.

**ROBERT T. MALLETT, Ph.D.,** (Department of Physiology), "Substrate-enhanced Inotropism, Energetics, and  $\text{Ca}^{2+}$  Homeostasis in 'Stunned' In Situ Canine Myocardium" American Heart Association, Texas Affiliate, Inc., 07/01/91 - 06/30/93, \$66,000.

**KONRAD W. SCHEEL, Ph.D.,** (Department of Physiology), "Factors Influencing Nutritive Flow to Ischemic Myocardium", NIH-NHLBI, 12/01/91 - 11/30/94, \$493,916.

**KONRAD W. SCHEEL, Ph.D.,** (Department of Physiology), "Regulation of Coronary Blood Flow by the Venous System", American Heart Association, Texas Affiliate, Inc. 07/01/91 - 06/30/93, \$65,540.

**XIANGRONG SHI, Ph.D.,** (Department of Physiology), "Interactions of the Cardiopulmonary and Carotid Baroreflexes: Effect of Fitness", American Heart Association, Texas Affiliate, Inc., 07/01/91 - 06/31/93, \$74,064.



**PAULA SUNDSTROM, Ph.D.**, (Department of Microbiology and Immunology), "Proteins of *Candida albicans*, an AIDS-related Pathogen", NIH, 06/01/91 - 05/31/96, \$825,711.

**TOM YORIO, Ph.D.**, (Department of Pharmacology), "Prostaglandin Regulation of Proton Transport in Epithelial Cells", Welch Foundation, 06/01/91 - 05/31/94, \$182,847.

### **PHYSIOLOGY RECEIVES PRIVATE GIFT**

The TCOM Department of Physiology has received \$30,000 from the Myrtle Lewis Endowment for Heart Research. This gift is greatly appreciated and will support heart research projects in the Department of Physiology.

### **RECENT PUBLICATIONS**

**Downey, H. F.** 1990. Adrenal Release of Catecholamines in the Coronary and Myocardial Response to Nicotine. In *Tobacco Smoking and Atherosclerosis*. J. N. Diana, Ed., Plenum Press, New York, pp. 327-337.

**Gracy, R. W., K. Ü. Yüksel, M. L. Chapman, and S. D. Dimitrijevič.** 1990. Isoprotein Changes in Aging: Biochemical Basis and Physiological Consequences. In *Isozymes-Structure, Function and Use in Biology and Medicine*. Eds. Z. I. Ogita and C. L. Markert, Wiley-Liss, New York. 344: 787-817.

**Hara, S., M. A. Payne, K. D. Schnackerz, and P. F. Cook.** 1990. A Rapid Purification Procedure and Computer Assisted Sulfide Ion Selective Electrode Assay for O-Acetylserine Sulfhydrylase from *Salmonella typhimurium*. *Protein Expression and Purification*. 1: 70-76.

**Jacobson, T. M., K. Ü. Yüksel, S. R. Grant, and R. W. Gracy.** 1990. Rapid Isolation of Triosephosphate Isomerase Utilizing High Performance Liquid Chromatography (HPLC). *Protein Expression and Purification*. 1: 9-12.

**Murakami, H. S.J. Kim, S. C. Lee, D. Strete, and H. F. Downey.** 1990. Adenosine Exacerbates Ischemic Myocardial Injury During Regional Coronary Hypoxemia in the Dog. *Japanese Heart Journal*. 31: 365-383.

**Sun, A. Q., K. Ü. Yüksel, T. M. Jacobson, and R. W. Gracy.** Isolation and Characterization of Human Glucose 6-Phosphate Isomerase Isoforms Containing Two Different Size Subunits. *Arch. Biochem. Biophys.* 183: 120-129.

**Tang, C. Y., K. Ü. Yüksel, T. M. Jacobson and R. W. Gracy.** 1990. Isoforms of Chicken Triosephosphate Isomerase are due to Specific Oxidation of Cysteine-126. *Arch. Biochem. Biophys.* 183: 12-19.

**Yüksel, K. Ü. and R. W. Gracy.** Triose- and Hexose-phosphate Isomerases. In *Enzyme Mechanisms*, Ed. S. A. Kuby, CRC Press Inc., Boca Raton. 3: 457-484.

## PAPER PRESENTATIONS

**Paul F. Cook, Ph.D.**, Professor and Chairman, Department of Microbiology and Immunology, presented a paper entitled "Mechanism of O-Acetylserine Sulfhydrylase from *Salmonella typhimurium* LT-2" at the Twelfth Enzyme Mechanism Conference in San Diego, California, January 4-6, 1991. He also presented a lecture entitled "Chemical Mechanism of the NAD-Malic Enzyme from *Ascaris suum*" at the Mexican Society of Biochemistry meeting held at San Luis Potosi, Mexico, November 11-16, 1990. This lecture was part of a symposium entitled "Progress in Studies of the Structure and Function of Proteins."

**Pamela Gayheart, Carl Jones, and Nancy Longlet**, Department of Physiology, presented a paper entitled "Unmasking an Alpha Adrenergic Coronary Vasoconstriction During Esophageal Distension" at the annual meeting of the American Heart Association held at Dallas, Texas, November 12-16, 1990.

## POSTERS PRESENTED

**Rafael Alvarez-Gonzalez, and Mario Pedraza-Reyes**, Department of Microbiology and Immunology, presented a poster entitled "Covalent Modification of the Rat Liver Nuclear Lamins with ADP-ribose Polymers Utilizing 3'-deoxyNAD as a Substrate" at the 18th National Congress of the Sociedad Bioquimica de Mexico held in San Luis Potosi, Mexico the week of November 12, 1990.

## LIZANELL AND COLBERT COLDWELL FOUNDATION ESTABLISHED

This foundation was established to fund and provide for the maintenance of institutions or associations for the advancement of medical science and to aid in the educational and research activities to include, but not be limited to, the prevention and care of heart and cancer disease. In the spring of 1991, the foundation expects to begin accepting applications from organizations engaged in medical research, educational activities or other activities related to the advance of medical science in the state of Texas. Applications are expected to be considered on an annual basis in April of each year. The deadline for submission of an applications for 1991 funding is February 28, 1991. It is anticipated that approximately \$150,000 will be available annually for distribution. **For further information contact the Research Office or the Lizanell and Colbert Coldwell Foundation, Texas Commerce Bank - El Paso, Trust Department, P.O. Drawer 140, El Paso, Texas 79980.**