



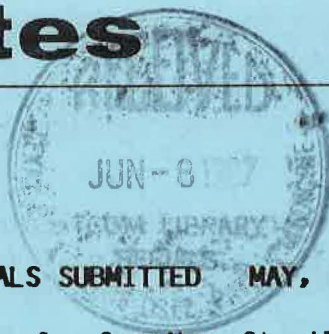
# T C O M

## research notes

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### RESEARCH PROPOSALS SUBMITTED MAY, 1987

- Surgikos "Virucidal Evaluation of a Surgikos Sterilization Device" (1 year - open) **Lois Allen, Ph.D.** (Department of Microbiology /Immunology).
- NIA "Immunologic Correlates of Memory Decline" (continuation - year 2 of 3 year award) **Michael Forster, Ph.D.** (Department of Pharmacology).
- Surgikos "SEM Analysis of Poliovirus" (one year - open) **Gary Wise, Ph.D.** (Department of Anatomy).

### PRESENTATIONS AT MEETINGS

Drs. Harbans Lal, Konrad Retz and Michael Forster, Department of Pharmacology, attended the meeting of the Federation of American Societies for Experimental Biology in Washington, D.C. The following papers were presented:

"Aging-related disinhibition of forelimb motor activity during swimming in C57BL/6Nnia and autoimmune NZB/BINJ mice" by Forster, M.J., Popper, M.D. and Lal, H.

"Autoimmune NZB/BINJ mice, but not C56BL/6Nnia mice, exhibit deficits in motor activity depressing effects of arecoline" by Retz, K.C., Trimmer, C.K., Forster, M.J. and Lal, H.

"Antagonism of the cocaine stimulus during diazepam withdrawal" by Wood, D.M. and Lal, H.

"R015-1788 Produces a pentylenetetrazol-like interoceptive stimulus after chronic diazepam in diet" by Benjamin, D., Harris, C.M., Bhandra, S., Emmett-Oglesby, M.W. and Lal, H.

"Ethanol withdrawal substitutes for an interoceptive discriminative stimulus (IDS) produced by the anxiogenic drug pentylenetetrazol" by Lal, H., Harris, C.M., Emmett-Oglesby, M.W., Bhandra, S. and Benjamin, D.

Faculty of the Department of Psychiatry and Human Behavior presented papers at the Southwestern Psychological Association Meeting which was held in New Orleans, LA. These papers included:

"Psychological components of weight loss: Cognitive restructuring process: by James Hall, S/D Robin Hall and Harvey Micklin.



"Compliance in chronic hemodialysis" by James Hall, Jerry McGill, S/D Robin Hall and Randall Ratliff.

"The validation of the allergy inclination scale" by Jerry McGill, Randall Ratliff, and James Hall.

"Hypergalactosemia inhibits prostaglandin synthesis in bovine lens epithelial cells" by Patrick Cammarata, Tonia Jackson and Thomas Yorio at the meeting of the Association for Research and Vision in Ophthalmology in Sarasota, FL.

"Lens intermediate filament subtypes correlate with accommodative capacity" by Norman Lieska at the ARVO meeting in Sarasota, FL. Dr. Lieska also presented a seminar to the Biochemistry Department at NTSU titled "A novel cytoplasmic filament from lens."

Members of the Department of Microbiology/Immunology participated in the Spring Meeting of the Texas Branch of the American Society of Microbiologists and the College of Microbiologists of the University of Nuevo Leon, Mexico which was held in Monterrey, Mexico. The following poster papers were presented:

"Evaluation of antiviral and cytotoxic activity of 3-deazacytidine and 3-deazauridine derivatives" by L.B. Allen, M.J. Kehoe, P.D. Cook, D.S. McNamara, S.C. Hsu, C.S. Holland, and A.G. Teepe.

"Simplified method of drying virus on inanimate objects for virucidal testing of disinfectants" by M.J. Kehoe, S.C. Hsu, R. Barfield, C.S. Holland, L.B. Allen and S.D. Dimitrijevic.

"Biosynthesis of glycopeptidolipid antigens associated with Mycobacterium avium Complex" by E.L. Wright and W. Barrow

"Susceptibility to intravaginal herpes simplex virus type 2 is estrous cycle dependent and highest during murine diestrous" by A.G. Teepe, L.B. Allen, and E.F. Harris.

## PUBLICATIONS

Harris, C.M., Emmett-Oglesby, M.W., Robinson, N.G., and Lal, H. "Withdrawal from chronic nicotine substitutes partially for the interoceptive stimulus produced by pentylenetetrazol (PTZ)" Psychopharm., 90: 85-90 (1986).

Idemudia, S.O., Mathis, D.A., Lal, H. and Harris, C.M. "A subjective effect of diazepam withdrawal is enhanced by bicuculline." Soc. for Neurosci. Abs., 12:484 (1986).

Forster, M.J., Popper, M.D., Paul, S.K., Retz, K.C. and Lal, H. "Age dependent declines in reflexive and motor capacities: Similarities between senescent 5C7BL/6Nnia and young autoimmune mice." Soc. for Neurosci. Abs., 12:1314 (1986).

Retz, K.C., Forster, M.J., Popper, M.D., Paul, S.K., and Lal, H. "Temporal decay of memory for t-maze escape learning by mice: A novel procedure which detects memory-enhancing drugs." Soc. for Neurosci.



Abs., 12:715 (1986).

Lal, H., Benjamin, D. and Harris, C.M. "Anxiolytic activity of ethanol demonstrated in pentylenetetrazol discrimination." Soc. for Neurosci. Abs., 12:286 (1986).

Benjamin, D., Emmett-Oglesby, M.W. and Lal, H. "Intraamygdala and intracerebroventricular (ICV) midazolam and R05-3663: Effects on the interoceptive discriminative stimulus produced by pentylenetetrazol." Soc. for Neurosci. Abs., 12:937 (1986).

Mathis, D.A., Harris, C.M., Idemudia, S.O., Emmett-Oglesby, M.W. and Lal, H. "A subjective effect of diazepam withdrawal is blocked by phenobarbital." Soc. for Neurosci. Abs., 12:925 (1986).

Lal, H., Forster, M.J. and Retz, K.C. "Immunologically abnormal mice as experimental models of senescence related brain dysfunctions." Proc. Int. Union Physiol. Sci., 16:273 (1986).

Spencer, D.G., Jr., Humphries, D., Mathis, D. and Lal, H. "Behavioral impairments related to cognitive dysfunction in the NZB mouse: Potential for an auto-immunological animal model for senile dementia." Behav. Neurosci., 100:353-358 (1986).

Forster, M.J., Harris, C.M., O'Verley, M.D. and Lal, H. "Senescence-like deterioration of learning ability occurs in autoimmune mice." J. Am. Osteo. Assn., 86:688 (1986).

Harris, C.M., Springfield, A.C., Ranschaert, E., Jr., and Lal, H. "Lethal drug interaction: Isoniazid and methylxanthines." Drug Dev. Res., 9:299-304 (1986).

Wise, G.E., Oakford, L.X., and Cantu-Crouch, D.B. "A comparison of wheat germ agglutinin binding between normal and sickle red blood cells." Cell & Tiss. Res., 248:267-273 (1987).

Yonekura, S., N. Watanabe, J. Caffrey, J. Gaugl and H.F. Downey. "Mechanisms of attenuated pressure-flow autoregulation in right coronary circulation of dogs." Circ. Res. 60: 133-141 (1987).

Mass, H.J., J.T. Gean and P.A. Gwartz. "Computer analysis of cardiovascular parameters." Comput. Biol. Med. 17(2): 75-84 (1987).

Jones, C.E., I.Y.S. Liang, H.J. Mass and P.A. Gwartz. "Response to brief coronary stenosis in conscious dogs after ventricular sympathectomy." Am. J. Physiol. 252 (Heart Circ. Physiol. 21): H923-H932 (1987).



## NEWS AND NOTES

**Patrick Cammarata, Ph.D.**, Department of Anatomy, was recently invited to serve on the Peer Review Committee of the Texas Affiliate of the American Diabetes Association. The Texas Affiliate of the ADA will offer an opportunity for young diabetes-related researchers to obtain postdoctoral, and possibly, predoctoral support.

**John Measel, Ph.D.**, Department of Microbiology/Immunology, has been notified by NASA that his grant application "The effect of zero gravity with and without stress on murine lymphoid tissues" has been accepted for further definition. B.I. Edelson, Associate Administrator for Space Science and Applications, states in his letter to Dr. Measel that this proposal is "one of only a small group of high quality studies which has been selected." He further stated that "this selection is, indeed, an important step towards establishing a long-term foundation for our Life Sciences program."

**Michael Emmett-Oglesby, Ph.D.**, Department of Pharmacology, has been invited to present a paper at the symposium sponsored by the British Association for Psychopharmacology at Cambridge University in July, 1987. The title of his presentation is "Tolerance and withdrawal assessed in an animal model of subjective drug effects."

**Shuji Yonekura, M.D.** has been on leave from the Division of Cardiology, Department of Medicine, Sapporo Medical School, Sapporo, Japan, where he is a cardiology Fellow. Dr. Yonekura has been working in Dr. Fred Downey's laboratory since May, 1985 to gain research experience. He will return to Japan, May 21, 1987.

**S/D Douglas Wood**, candidate for the D.O./Ph.D. degree, presented his thesis seminar titled "Neuropharmacological characteristics of tolerance for cocaine used as a discriminative stimulus" in fulfillment of the doctoral requirement. S/D Wood is the first TCOM student to complete the Pharmacology doctoral program for the joint degree.

## BIOMEDICAL RESEARCH SUPPORT GRANTS AWARDED

Dr. Andras Lacko, Program Director of the Biomedical Research Support Award has announced the following institutional awards:

**Robert Bourdage, Ph.D.**, (Department of Anatomy) "Smooth Muscle Contractile Activity in the Rabbit Oviduct" \$2,500.

**Patrick Cammarata, Ph.D.** (Department of Anatomy) "Aldose Reductase in Basal Lamina-Eicosanoid Dysfunction" \$2,500.

**Michael Emmett-Oglesby, Ph.D.** (Department of Pharmacology) "Cocaine Dependence and Diazepam Antagonists" \$4,000.

**Thomas Yorio, Ph.D.** (Department of Pharmacology) "Regulation of Epithelial Acidification and Morphology by Eicosanoids" \$5,600.

**Ming-Chi Wu, Ph.D.** (Department of Biochemistry) "Molecular Cloning of Colony



Stimulating Factor Genes" \$8,000.

**Andras G. Lacko, Ph.D.** (Department of Biochemistry) "Age-Related Alterations of Cholesterol Metabolism" \$7,500.

**James L. Caffrey, Ph.D.** (Department of Physiology) "Opiate Receptor Interactions in the Control of the Circulation" \$7,000.

#### INTERNATIONAL SYMPOSIUM TO BE HELD AT TCOM

The 8th International Symposium on ADP-Ribosylation, "Niacin Nutrition, ADP-Ribosylation and Cancer" will be held in Fort Worth from May 30 - June 3, 1987. Organizers of the symposium are Dr. Myron Jacobson, Department of Biochemistry and Dr. Elaine Jacobson, Departments of Medicine/Biochemistry. Many of the activities associated with the meeting will take place at the Worthington Hotel which is the conference center. However, on Monday, June 1 and Tuesday, June 2, presentations will take place in the TCOM auditorium located in Med Ed 1. Scientists from nine foreign countries, eleven US universities and the National Institutes of Health will be presenting the most current research on ADP-ribosylation.

#### PHS APPLICATION DEADLINES

**JUNE 1, 1987** - NEW RO-1 Grant Applications  
Research Career Development Applications  
Conference Grant Applications

**JULY 1, 1987** - Competing Continuation Applications  
Supplemental Research Grant Applications

All protocols involving human or animal participation in research must be reviewed by the cognizant internal review boards and receive approval prior to submission of the grant application. Approvals from both the Institutional Review Board for the Protection of Human Subjects and the Animal Care Committee must have been received within the last twelve month period or they are not valid. The dates on both PHS Form 596 and the Animal Verification Letter must be within the period June 1, 1986 to the present. Any date prior to June 1, 1986 is not an acceptable approval date and if submitted, the application will be deferred and not sent for review.

#### NIH NON-COMPETING CONTINUATION GRANTS

NIH has sent a reminder to grantees that non-competing continuation grant applications must be submitted on time and complete. That means that progress reports **MUST** be submitted at least 60 days prior to the award date and with all IRB and animal forms approved. NIH will not issue an award until the required information has been reviewed. Late or incomplete applications may result in late awards.



## NIH RESEARCH GRANTS (R01)

A memorandum from William F. Raub, Deputy Director for Extramural Research and Training, NIH, states that the three-year R01 often leads to inefficiency and instability. Although during the last two decades individual research projects have typically covered three-year periods, the NIH is encouraging all R01 applicants to request five years of support whenever warranted and he expects reviewers and staff to refrain from arbitrarily shortening award periods.

## NEW PHS GRANT APPLICATION FORM TO BE ISSUED THIS MONTH

After many years of discussion and revision, revised grant applications will be issued by PHS this month. These applications will be used for new NIH grant proposals (PHS 398) and continuation grants (PHS 2590). They incorporate a number of changes which the applicant should familiarize her/himself with prior to filling out. Specific changes are:

- o deletion of form 596 - information on protection of human subjects is now provided in box 4 on application face page.
- o information on use of vertebrate animals is provided in box 5 on application face page.
- o box 7a and box 8a on the application face page require the inclusion of the indirect costs to be included in the **"Total Cost"**.
- o percentage of the principal investigator's time and effort devoted to the project must be detailed in the section **"Detailed Budget for First 12-month Budget Period"**. This applies to all personnel on project.
- o strict page limit on the aims, background, progress report and design sections of the proposal.

It is **not** required that we use the new applications for the June 1 or July 1 deadlines. Most likely they will be required by the October 1, 1987 application date.

## PLAYING THE NIH GRANT REVIEW GAME

At a recent seminar on NIH proposal writing which was held in Boston, MA some very pertinent tips were provided by Liane Reif-Lehrer, a former NIH grant reviewer and Harvard Medical School faculty member. She stressed the following areas:

1. A clearly presented proposal has a strong advantage. This may sound rather sophomoric, and yet it is one of the greatest failings of proposals that do not get funded.
2. The half-page abstract is a critical part of the proposal. It is often the first thing that is read by the primary reviewer and it may be the only part of the proposal that some reviewers have time to read.



**Advice on the abstract:** Don't write the abstract until the proposal is done, so it reflects the contents of the application. Present the information in the abstract in the same order that it appears in the full proposal, for quick reference by study section members during their discussions. Emphasize the **health relatedness** of the project. Avoid summaries of past accomplishments.

3. Use NIH's language to respond to questions. If the form asks for the broad, long term objectives of the proposal, begin the response with the statement "the broad, long term objectives are." That's the format that NIH wants. Use as much of the wording as you possibly can.

4. As for the proposal, she advises that investigators spend most of their time outlining their ideas before they begin writing. One of the questions that applicants often overlook is **why they are uniquely qualified to perform the research**. She also said that numbers speak louder than opinions and suggests that applicants use data to strengthen their arguments where they can.

5. Proposals should avoid medical language. The proposals are reviewed primarily by non-physicians who have to consult a medical dictionary every time they see an unfamiliar medical term. It can set up an antagonism with the panel.

6. Remember that NIH is in the business to improve health, not to fund good science. Grant proposals must show health benefits. Funding good science is only a means and not an end at NIH.

7. Pink sheets containing the panel's summary review of the proposal can provide strong clues about the panel's thinking. If the critique questions the capability of the principal investigator, it may be appropriate to resubmit the proposal with a collaborator. If the critique contains criticisms about the protocol or data analysis, the applicant - after a little more homework, may be able to resubmit.

Dr. Reif-Lehrer offers consultations on proposal writing nationwide through Tech-Write Consultants.

#### **NIA RESEARCH RESOURCES**

The National Institute on Aging made provision of resources one of its highest priorities. The availability of high quality material for conducting aging research has continued to be a priority area for NIA, with current resources spanning a broad spectrum, including a cell bank, a nematode bank, rodent colonies, and nonhuman primate colonies. From these resources, the NIA has provided support for pilot study and dissertation research on aging by furnishing a limited number of animals free of charge for these projects.

Effective September 1, 1986, the NIA has instituted a change in the policy regarding this program. Costs for animals is now scheduled as follows: the first 24 animals will be available without charge; the next 24 will be available at **25% of normal cost**. For additional information contact: (301) 496-9350.



## SUMMER HIATUS FOR RESEARCH NOTES

The June, 1987 issue of Research Notes will be the final issue of this academic year. Publication will be suspended for the months of July and August and resume in September, 1987. Please continue to send the pertinent research information as we shall publish a Summer issue in the beginning of September.

## FEDERAL GRANT OPPORTUNITIES

NICHHD "Studies of Morphogenesis and Malformations of the Skin" - encourages research into the development of the skin. Structural aspects of skin development can be included, but increased emphasis should be placed on the molecular, cellular, and developmental contributions to skin maturation. Studies are sought that include examination of intrinsic factors and of non-genetic embryonic, intra-uterine, and exogenous factors that influence the developmental activation and switching of cutaneous genes. Investigations are encouraged to examine the expression of protein, glycoprotein, proteoglycan and lipid markers that characterize differentiation of the developing skin, and that form the skin's epidermis, dermis, and its basement membrane zone that separates these two layers. **DEADLINE: SEPTEMBER 15, 1987.** Contact: Anne K. Krey or Delbert H. Dayton, M.D. (301) 496-5541.

NSF "Cellular Biosciences" - the target date for the following NSF programs is **JULY 1, 1987.**

Cell Biology	(202) 357-7474
Cellular Physiology	(202) 357-7377
Developmental Biology	(202) 357-7989
Regulatory Biology	(202) 357-7975

"Biological Centers Program" - target date is **AUGUST 1, 1987.**

The goal of the program is to stimulate the growth of fundamental knowledge in biological research areas important to the continued development of biotechnology. Research Center awards are intended to stimulate and provide direct support for large-scale, multidisciplinary research, possibly including instrumentation development activities, as well as the acquisition of major items of equipment. The Research Center award will be of three to four years duration and are expected to total \$2 to \$4 million each. **CONTACT:** Dr. Edward Zapolski (202) 357-7652.

"Small Grants for Psychobiological Research" - welcomes research proposals for durations of up to 2 years with no more than \$20,000 maximum budget per proposal in direct plus indirect costs. These awards are intended to encourage research by new investigators, exploratory or pilot projects and the development of new research methods including research on behavior and its genetic, environmental, hormonal, and motivational determinants. Both basic and applied research may be supported. **NO SET DEADLINE; CONTACT:** Dr. Fred Stollnitz (202) 357-7949.



## OTHER FUNDING AGENCIES

- 7/01/87 **Amyotrophic Lateral Sclerosis Association** - "Research Grants" - stimulate research into the cause, prevention and cure of ALS. The Society welcomes research in the following categories: normal biology of motor neurons; neuronal degeneration and response to injury; neurotrophic factors, nerve growth factor, neuronal DNA repair and hormonal factors; motor system transmitters; axoplasmic flow and receptor activity of motor nerve terminals; influence of muscle, nerve terminals, sprouting on integrity of neuronal function; environmental toxins that affect the motor system; neuron specific antigens and immune response to normal surface antigens; pharmacology of drugs influencing motorneuron functions and spasticity; cell culture systems involving neurons and neuron-muscle interactions; and cell separation procedures. \$20-\$50,000. Contact: (818)990-2151.
- 7/01/87 **Leukemia Society of America** "President's Research Development Award" - award has been established to recognize the need to provide funds to senior investigators to accelerate new research which may be considered potentially critical to furthering our understanding of leukemia and related diseases. Applicant must hold a Ph.D. and be on tenure track. \$50,000 for one year. Contact: (212) 573-8484.
- 7/01/87 **American Heart Association, National** - "Established Investigator Award" Stipend support to assist promising physicians and scientists to develop independent research careers in the cardiovascular field is available. Requirements include a minimum of 4 years and a maximum of 7 years postdoctoral experience and U.S. citizenship or permanent visa. \$35,000. Contact: (214) 750-5300.
- 7/01/87 **American Institute of Cancer Research** - "Research" - Grants are awarded for research clearly relevant to an understanding of the effects of dietary and nutritional practices on the onset, development and treatment of cancer. Fundamental laboratory investigators are also welcome if they inquire into the molecular and/or subcellular mechanism(s) of carcinogenesis for specific and important dietary constituents. \$50,000 per year for 1 to 2 years. Contact: Gracelyn Deebo, (703) 237-0159.
- 7/01/87 **Pfizer Scholars Program for New Faculty** - "Research Grant" - program is intended to provide an opportunity for developing the research potential of physicians during the years just after completing their clinical and research training. Must have demonstrated the motivation and ability to conduct original or basic research in the areas of biological psychiatry, cardiovascular medicine, diabetes, infectious diseases and rheumatology and who have or will have a full time faculty appointment and possess a D.O. degree. Applicants should plan to devote a minimum of 75% of their professional time to research and a minimum of two thirds of their research time to the proposed Pfizer Scholars Program. Award is \$50,000 per year for two years.
- 7/10/87 **Muscular Dystrophy Association** - "Research Programs" - research is sponsored under the following programs: a) basic research; b) clinical research; c) task force on drug development; d) task force on genetics;



e) research development; f) clinical development. The deadline for receipt of completed applications is **July 10, 1987**. Grant applications are sent only to qualifying applicants after review of a written request. Contact: Research Department, 810 Seventh Avenue, New York, NY 10019.

7/15/87 **Deafness Research Foundation** - "Research Grants" - offered for new research directed to any aspect of the ear; that is, investigation of function, physiology, biochemistry, genetics, anatomy or pathology. \$15,000 per year for 1 to 3 years. Contact: (212) 684-6556.

9/01/87 **Office of Naval Research** - "Behavioral Immunology Research Program" - The Office of Naval Research has initiated a program of basic research that addresses the interactive mechanisms relating 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. Contact: Office of Naval REsearch, Biological Sciences Division, ATTN: Dr. Jeannine A Majde, Code 1141SB, 800 N. Quincy Street, Arlington, VA 22217-5000.

9/01/87 **Epilepsy Foundation of America** - "Research Grants" - One year research grants are given to support basic research 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. \$25,000. Contact: (301) 459-3700.

10/1/87 **American Heart Association, National** - "Grant-in-Aid" - Support is available for all basic disciplines and for cardiovascular epidemiological and clinical investigations, including stroke. \$30,000 per year for 1 to 3 years. Applications must be individually requested. Contact: (214) 730-5300.

### 1988-89 FULBRIGHT SCHOLAR AWARDS

The awards for 1988-89 include more than 300 grants in research and 700 grants in university lecturing for periods ranging from 3 months to a full academic year. There are openings in over 100 countries, and in some instances, the opportunity for multi-country research is available. Fulbright Awards are granted in virtually all disciplines, and scholars in all academic ranks are eligible to apply.

The basic eligibility requirements are U.S. citizenship; Ph.D. or comparable professional qualifications; university or college teaching experience; and, for selected assignments, proficiency in a foreign language. It should be noted that the new policy removes the limit of two Fulbright grants to a single scholar. Contact: Council for International Exchange of Scholars, Eleven Dupont Circle, N.W., Washington, D.C. 20036-1257 (202) 939-5401.