

# NIH GUIDE

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**For Grants  
and  
Contracts**

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*National Institutes of Health.*

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## NOTICES

### CHANGES IN THE NEW INDIVIDUAL FELLOWSHIP FORM

P.T. 22; K.W. 1014006, 0720005

National Institutes of Health

As announced in the NIH Guide for Grants and Contracts, Vol. 18, No. 5, February 17, 1989, the application form for competing Individual National Research Service Awards, PHS 416-1, has just been revised. This revision (7/88), which should be used for the May 10, 1989 receipt date and subsequent deadlines, has undergone major changes.

The kit now reflects the expedited review of individual fellowships, including the submission of reference letters with the application. Reference letters in sealed envelopes must be attached to the front of the original copy of the application. Applications without at least three reference letters will be returned without review.

The kit also reflects the following changes in PHS policy;

a) Deletion of the invention reporting requirements for fellows (NIH Guide for Grants and Contracts, Vol. 17, No. 32, October 7, 1988);

b) Addition to the application face page of Item No. 6, Certification of Non-Delinquency on Federal Debt. See NIH Guide for Grants and Contracts, Vol. 17, No. 35, October 28, 1988, or the Important Notice flier now being inserted in application kits; and

c) Addition to the Checklist page of the Scientific Fraud (Misconduct) Assurance. As with research grant application (NIH Guide for Grants and Contracts, Vol. 17, No. 2, January 15, 1988), the Assurance is not required until the DHHS regulations are final. But the sponsoring institution can check the block on the Checklist page if it already has procedures in place to review reports of misconduct. The Notice of Proposed Rulemaking requesting public comment on the development of the regulations was published in the Federal Register on September 19, 1988 (NIH Guide for Grants and Contracts, Vol. 17, No. 31, September 30, 1988). A future announcement in the Guide will note the date of the final regulations.

Additional recent policies include:

a) Debarment and Suspension. See NIH Guide for Grants and Contracts, Vol. 17, No. 38, November 18, 1988, or the Important Notice flier on Debarment and Suspension now being inserted in application kits, for the required certifications by fellowship applicants and sponsoring institutions; and

b) Requirements for a Drug-Free Workplace. See NIH Guide for Grants and Contracts, Vol. 18, No. 1, January 13, 1989, for certifications required from sponsoring organizations and individual applicants effective March 18, 1989. Such certifications are given by individuals when signing the application face page and by Officials Signing for Sponsoring Institutions when signing the Facilities and Commitment Statement. Notice and interim final rules regarding drug-free workplace requirements were published in the Federal Register, Vol. 54, No. 19, January 31, 1989.

Many items on the application form have been consolidated and relocated. This is most evident on page 2, which serves as a summary of the entire application (applicant, sponsor and research project). Other changes include:

a) Design of pages 1 and 2 for optical character recognition;

b) Expansion of the Human Subjects and Vertebrate Animal items (Nos. 9 and 10) on page 1 to include the institutional assurance numbers and IRB and IACUC review dates. A separate HHS 596 form or letter giving this information is no longer necessary unless required for a follow-up certification;

c) Relocation of the sponsoring institution's Entity Identification Number and Business Official items (Nos. 12 and 14) to page 1;

d) Addition of a Table of Contents page;

e) Deletion of the Institutional Allowance item from the Facilities and Commitment Statement. This allowance is automatic, at the maximum level specified in the program announcement;

f) Inclusion on the Checklist page of the Senior Fellowship budget information; and

g) Clarification and expansion of the instructions, including a table of contents page for the entire kit and a glossary.

Direct any questions or comments on the new form to:

Mr. Nicholas Moriarty  
Program Analyst  
Division of Research Grants  
Westwood Building, Room A-25  
National Institutes of Health  
Bethesda, Maryland 20892  
Telephone: (301) 496-7221

Consult the February 17, 1989, issue of the NIH Guide for Grants and Contracts for sources of application kits.

#### NOTICE - AVAILABILITY OF A MOUSE GENETIC MODEL FOR HUMAN NEURAL TUBE DEFECTS

P.T. 34; K.W. 0755020, 1002002

National Institute of Child Health and Human Development

The National Institute of Child Health and Human Development has long been interested in the normal process of neuroembryological development as well as the pathogenesis of neural tube defects. This animal model is provided to stimulate interest in characterizing a mammalian model and to search for clues to etiologic mechanisms which could be applicable to the human condition. Mouse embryos homozygous for the curly tail mutation (ct/ct) develop spinal neural tube defects as a result of delay in neural fold closure at the posterior neuropore (Copp, 1985). The defects are similar in site, form and associated anomalies to those occurring in humans; 1-5 percent have defects resembling anencephaly, 55-60 percent have lower spine defects, ranging from all tail flexion defects (curly tails) to open lumbosacral meningocele, which can be associated with elevated amniotic fluid alpha fetoprotein and hydrocephalus; and the remaining 40 percent are morphologically normal. The mutation is inherited as an autosomal recessive trait with incomplete penetrance and results in viable homozygous individuals (Gruneberg, 1954). The ct/ct embryos developing in whole embryo culture produce defects that resemble those that develop in vivo in both type and frequency.

The size of the posterior neuropore at 10 days gestation (25-30 somites), prior to the normal time when spinal neurulation is complete, can distinguish embryos destined to develop spinal defects from their normally developing littermates (Copp, 1985). This morphological marker is consistent, reliable and has been used to identify localized regions of reduced cell proliferation (Copp, et al, 1988) and hyaluronate accumulation (Copp & Bernfield, 1988) in affected ct/ct embryos.

The ct/ct mouse is a suitable experimental model for spinal neural tube defects in humans because of the similar neurulation process in these species, the similarities of the morphologic and associated defects, the ability to distinguish affected mouse embryos from their normal littermates prior to completion of neurulation and the fidelity of the abnormal phenotype in culture. Further genetic, molecular genetic and biochemical characterization of the mutation could help delineate the etiology and pathogenesis of human neural tube defects.

The ct/ct mice are on a CBA/Gr genetic background and are maintained as a closed random-bred colony. Breeding nuclei, produced in the laboratory of Dr. Merton Bernfield as part of contract N01-HD-6-2926, together with information on how to detect future abnormal embryos are available, upon request, from:

Danuta Krotoski, Ph.D.  
Health Scientist Administrator  
Genetics and Teratology Branch  
Center for Research for Mothers and Children  
National Institute of Child Health and Human Development  
Building EPN, Room 643  
Bethesda, Maryland 20892  
Telephone: (301) 496-5541

## REFERENCES

- Copp, A.J. (1985) J. Embryol. Exp. Morph. 88:39-54.  
Copp, A.J. and Bernfield, M. (1988) Devel. Biol. 130:583-590.  
Copp, A.J., Brook, F.A., and Roberts, J.J. (1988)  
Development 104:285-295.  
Gruneberg, J. (1954) J. Genet. 15:52-67.

## DATED ANNOUNCEMENTS (RFPs AND RFAs)

### ISOLATION, PURIFICATION, AND CHARACTERIZATION OF ANTIGENS FROM PURIFIED MYCOBACTERIUM LEPRAE OBTAINED FROM ARMADILLO TISSUE

RFP AVAILABLE: RFP-NIH-NIAID-MIDP-90-14

P.T. 34; K.W. 0780005, 0710060

National Institute of Allergy and Infectious Diseases

The Microbiology and Infectious Diseases Program of the National Institute of Allergy and Infectious Diseases has a requirement for Isolation, Purification, and Characterization of Antigens From Purified Mycobacterium Leprae Obtained from Armadillo Tissues. The successful offeror should have demonstrated adequacy of procedures and plans for maintaining and separation of M. Leprae bacilli from infected armadillo tissues. This NIAID-sponsored project will take approximately five years to complete. One cost-reimbursement contract is anticipated.

RFP NIH-NIAID-90-14 will be issued on or about March 24, 1989, with a closing date for receipt of proposals tentatively set for May 15, 1989. To receive a copy of the RFP, please supply this office with two (2) self-addressed mailing labels. All responsible sources may submit a proposal which will be considered by NIAID.

Request for the RFP shall be directed:

Mr. William C. Roberts  
National Institute of Allergy and Infectious Diseases  
Westwood Building, Room 707  
5333 Westbard Avenue  
Bethesda, Maryland 20892  
Telephone: (301) 496-2508

This advertisement does not commit the Government to award a contract.

### DETAILED DRUG EVALUATION AND DEVELOPMENT OF TREATMENT STRATEGIES FOR CHEMOTHERAPEUTIC AGENTS

RFP AVAILABLE: NCI-CM-07315-72

P.T. 34; K.W. 0740020, 0755060

National Cancer Institute

The Developmental Therapeutics Program, Division of Cancer Treatment (DCT), National Cancer Institute (NCI), is seeking a contractor to evaluate compounds for anticancer activity in experimental in vivo tumor models. Studies will focus on agents identified by the program's disease-oriented, in vitro drug screen and will employ human tumors growing in immuno-deficient (athymic) mice. Experiments will be designed and conducted to optimize drug activity and evaluate the drug's therapeutic potential. Some in vivo studies may involve mouse tumors growing in pathogen-free immune-competent mice and some cell culture support will be required for use of the human tumors. Compounds to be studied will be selected and assigned by the Government. As compounds of a commercially confidential nature (discreet) may be evaluated, pharmaceutical and chemical firms will be excluded from the competition. Also, since structural formulas of discreet materials may be provided by the Government on occasion, the organization must be willing to sign a confidentiality of information sheet. Facilities for handling pathogen-free immune-competent and immune-deficient mice and utilize methods to protect the facilities from pathogenic organisms are required. Additionally, facilities/equipment are required for: frozen storage of tumors, tumor transplantation, drug preparation, and treatment; the handling of potentially carcinogenic or hazardous materials; and the propagation and testing human tumor lines in vitro.

One incrementally-funded contract will be awarded for a period of five (5) years, on a "level of effort" basis specifying approximately 95,000 labor hours over five years. The current effort is being performed by Southern Research Institute, Contract No N01-CM-73726.

RFP No. NCI CM-07315-72 will be available on or about March 13, 1989. Responses will be due by April 25, 1989. All responsible sources may submit a proposal for consideration by the NCI. Copies of the RFP may be obtained by sending a request to:

Ms. Jacqueline Ballard  
Contracting Officer Representative  
Treatment Contracts Section  
Research Contracts Branch, OAM, NCI  
Executive Plaza South, Room 603  
Bethesda, Maryland 20892  
Telephone: (301) 496-8620

#### SPECIALIZED CENTERS OF RESEARCH (SCOR) IN THROMBOSIS

RFA AVAILABLE: NIH-89-HL-08-B

P.T. 04; K.W. 0715040, 0745020, 0745027, 0745070

National Heart, Lung, and Blood Institute

Application Receipt Date: January 22, 1990

The Division of Blood Diseases and Resources of the National Heart, Lung, and Blood Institute (NHLBI), National Institutes of Health, announces the availability of a Request for Applications (RFA) for Specialized Centers of Research (SCOR) in Thrombosis. New applications and applications for renewal of existing programs are invited. Copies of the RFA and Instructions for the Preparation of Applications are currently available from NHLBI staff.

The objective of this program is to expedite the development and application of new knowledge essential for improved prevention, diagnosis, and treatment of thrombosis and thromboembolic disorders by focusing resources, facilities, and manpower on the problems of thrombosis and other related derangements of hemostasis. Applications for this program are required to contain both basic and clinical research projects.

The requirements and format for applications submitted in response to this announcement and copies of the RFA may be obtained from:

Carol H. Letendre, Ph.D.  
Division of Blood Diseases and Resources  
National Heart, Lung, and Blood Institute  
National Institutes of Health  
Federal Building, Room 516  
Bethesda, Maryland 20892  
Telephone: (301) 496-8966

#### PROGRAMS OF EXCELLENCE IN ENDOCRINOLOGY RESEARCH

RFA AVAILABLE: 89-DK-05

P.T. 34; K.W. 0785050, 0765033, 0745020, 0745070, 0760020, 0765010, 0790000

National Institute of Diabetes and Digestive and Kidney Diseases

#### BACKGROUND

Endocrinology represents one of the broadest areas of biomedical research endeavors. Through investigator-initiated research, acquisition of basic knowledge in endocrinology has progressed rapidly. New techniques in molecular and cell biology and immunology are directly relevant to research in endocrinology and will permit further growth of knowledge in this field. Research in endocrinology has led to fundamental new understandings of intra- and inter-cellular communication, of regulation of gene expression, cell growth and metabolism, and of the integration of the endocrine system with the immune and nervous systems. These advances in our understanding of fundamental endocrinology are relevant not only to diseases of the endocrine system but also to cancer, osteoporosis, and cardiovascular, neurologic, immunologic and psychiatric disorders.



## RESEARCH GOALS AND SCOPE

The goal of this RFA is to solicit applications for the support of coordinated multi-disciplinary research programs in areas of particular importance to the Endocrinology Research Program of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). The long range purpose is to enhance our fundamental knowledge of endocrine processes, and to facilitate application of that knowledge to the study of human physiology and disease.

To achieve this goal, program project grants will be awarded for the support of multi-disciplinary research with a specific major objective. Areas of investigation of interest to NIDDK include, but are not limited to: (1) the pathogenesis, diagnosis and therapy of endocrine disorders; (2) thyroid, parathyroid, adrenal, pituitary, endocrine hypothalamic and pineal physiology and pathophysiology; (3) the regulation and integration of endocrine systems; (4) the biosynthesis, processing, secretion, transport and metabolism of hormones and hormone-like agents; (5) mechanisms of hormone action, including hormone binding to receptors, synthesis and regulation of receptors, second messengers, and hormonal regulation of gene expression; (6) growth factors, cytokines, neuropeptides, gastrointestinal peptides, vitamin D, hormones of the immune system, prostaglandins, paracrine and autocrine factors and other substances with hormone-like activity; (7) the structure and function of the hypothalamic releasing hormones as they affect endocrine function; (8) bone active hormones and cytokines and the endocrine control of bone metabolism; (9) endocrine aspects of osteoporosis and of the metabolic bone disease associated with renal failure; (10) endocrine regulation of human growth including the roles of growth factors, somatomedins, somatostatin and GHRH; (11) the regulation of the growth and proliferation of endocrine cells including benign endocrine neoplasia; (12) endocrine aspects of obesity, growth disorders, stress, atherosclerosis, hypertension, cancer and other diseases in which endocrinology plays a major role.

## MECHANISM OF SUPPORT

The administrative and funding mechanism will be the program project award. A Program Project award is for the support of a broadly-based multidisciplinary or multifaceted research program which has a specific major objective or central theme. The regulations and the policies that govern the research grant programs of the Public Health Service will prevail. The award may support: (a) research projects, (b) core functions, and (c) feasibility studies. Collectively, these projects should demonstrate essential elements of unity and interdependence and result in a greater contribution to program goals than if each project were pursued individually.

Although this solicitation is included in the funding plans for Fiscal Year 1990 for NIDDK, the award of grants pursuant to this RFA is contingent upon the receipt of appropriated funds for this purpose. The duration of proposed projects may be up to five years. Projects may be extended through competing continuation applications. A program project application may request up to \$6.25 million in direct costs over a 5-year period.

The NIDDK plans to designate a total of \$3.0 million (direct and indirect costs) in FY 1990 contingent on the receipt of highly meritorious applications in response to this solicitation. However, the specific amount to be funded will depend upon the overall merit and scope of applications received.

## REVIEW PROCEDURES AND CRITERIA

All applications responsive to the RFA will be reviewed for scientific and technical merit by an NIDDK initial review group (IRG), which will be convened solely to review these applications. It is not anticipated that site visits will be part of the review process; therefore, each proposal should be complete in itself and should be prepared as if no visit is expected. Following the IRG review, the applications will be reviewed by the National Diabetes and Digestive and Kidney Diseases Advisory Council.

## METHOD OF APPLYING

Applicants should request NIDDK Administrative and Review Guidelines for Program Project Grant Applications. These guidelines contain important additional information on the format of applications and review criteria. Prospective applicants should request the complete text of this RFA and NIDDK's program project guidelines from one of the program administrators indicated below.

**Format for Application:**

Applications should be submitted on the standard PHS 398 application form available at most institutional business offices or from the Division of Research Grants, NIH, (301) 496-7441. On item 2 of the face page of the application, applicants should enter: RFA: Programs of Excellence in Endocrinology Research and the RFA number, 89-DK-05. The RFA label available in the 9/86 revision of Application Form 398 must be affixed to the bottom of the face page. Failure to use this label could result in delayed processing of the application to the extent that it may not reach the review committee in time for review.

**Application Procedure:**

Applications must be received by September 20, 1989; the original and four copies of the application should be sent or delivered to:

Application Receipt  
Division of Research Grants  
National Institutes of Health  
Westwood Building, Room 240  
Bethesda, Maryland 20892\*\*

Two additional copies of the application should be sent to:

Review Branch  
National Institute of Diabetes and Digestive and  
Kidney Disease  
Westwood Building, Room 406  
Bethesda, Maryland 20892

**Timetable:**

A letter of intent should be submitted no later than June 30, 1989. Applications must be received by September 20, 1989. Any applications received after this date will be considered ineligible for this special solicitation.

APPLICATION RECEIPT DATE	INITIAL REVIEW	COUNCIL REVIEW	EARLIEST START
Sept. 20, 1989	Feb./Mar. 1990	May 1990	July 1, 1990

**Inquiries:**

Inquiries regarding this announcement, the guidelines for structuring a program project application and method of applying should be directed to the program administrators:

Judith A. Fradkin, M.D.  
Chief, Endocrinology and Metabolic  
Diseases Programs Branch  
NIDDK  
Westwood Building, Room 603  
Bethesda, Maryland 20892  
Telephone: (301) 496-7791

Robert A. Tolman, Ph.D.  
Director, Endocrinology  
Research Program  
NIDDK  
Westwood Building, Room 605  
Bethesda, Maryland 20892  
Telephone: (301) 496-7504

Francisco O. Calvo, Ph.D.  
Associate Director, Endocrinology  
Research Program  
NIDDK  
Westwood Building, Room 603  
Bethesda, Maryland 20892  
Telephone: (301) 496-7341

**NATIONAL RESEARCH SERVICE AWARD-INSTITUTIONAL GRANTS (T32)**

RFA AVAILABLE: 89-DE-7

P.T. 44; K.W. 0720005, 0715148, 0785040

National Institute of Dental Research

Application Receipt Date: September 10, 1989

**AUTHORITY AND PURPOSE**

Under authority of Section 487 of the Public Health Service (PHS) Act as amended (42 USC 288), the National Institute of Dental Research (NIDR) is



awarding National Research Service Award (NRSA) institutional grants to eligible institutions to develop or enhance research training opportunities for individuals selected by them who wish to prepare themselves for careers in biomedical and behavioral oral health research. With this Request for Applications (RFA), the NIDR is announcing the next application receipt date for this program and the training areas of special interest to the Institute.

The announcement in the July 15, 1988, issue of the NIH Guide for Grants and Contracts, Volume 17, No. 23, contained a complete and detailed description of the new structure and administration of our NRSA institutional grants program. A modified version of that document is available from the NIDR (please see below) and should be used in preparing a response to this RFA.

#### APPLICANT ELIGIBILITY REQUIREMENTS

Domestic nonprofit private or public institutions may apply for grants to support research training programs. The applicant institution must have the staff and facilities required for the proposed program. The training program director at the institution will be responsible for the selection and appointment of trainees and for the overall direction of the program. Clinical departments or programs should have a significant relationship with basic scientists that will assure trainees with clinical backgrounds the opportunity to acquire the necessary foundation for future investigative work.

#### REVIEW SCHEDULE

The schedule (indicated below) is designed to allow Program Directors time to recruit candidates during the fall of the academic year (1990) for appointments to begin the following summer.

Application Receipt Date	Initial Review Meeting	Council Meeting	Earliest Award Date
September 10, 1989	February/ March 1990	May/ June 1990	August 1990

#### ADDITIONAL INFORMATION

The NIDR supports training in all the areas of biomedical and behavioral oral health research. However, for this cycle NIDR is interested only in applications proposing training in the basic and clinical sciences pertaining to cariology and periodontology. Application(s) submitted in any other area(s), will be returned as non-responsive to this RFA.

The NIDR expects to fund approximately five new and/or renewal institutional training program in response to this RFA.

Complete details on the mechanism of the award, application procedure, review criteria, and copies of the RFA may be obtained from:

Thomas M. Valega, Ph.D.  
Special Assistant for Manpower  
Development and Training  
National Institute of Dental Research  
National Institutes of Health  
Westwood Building, Room 510  
Bethesda, Maryland 20892  
Telephone: (301) 496-6324

#### ONGOING PROGRAM ANNOUNCEMENTS

##### INDIVIDUAL MEDICAL INFORMATICS POSTDOCTORAL FELLOWSHIPS

P.T. 22; K.W. 1004017, 1004000, 1004008, 1004015

National Library of Medicine

Application Receipt Dates: January 10, May 10, September 10

#### BACKGROUND

There is a growing need for qualified, talented investigators, well equipped to address fundamental issues in the use of computers and automated information systems in health care, health professions education, and biomedical research. These investigators will contribute to the growth of science by their studies of knowledge management and by advancing the

frontiers of the computer sciences for organizing, retrieving, and utilizing health knowledge. Medical informatics, as a discipline with an integral role in academic medicine, will also be enhanced. It is expected that the fellows will become able, cross-disciplinary translators, taking the computer sciences to all of medicine.

The recent designation of the National Library of Medicine (NLM) as the National Center for Biotechnology intensifies the Library's interest and responsibilities in a special area of informatics. The appearance of new experimental methods in the past several years has greatly increased the rate at which data are accumulating about the molecular control of life processes. Because of their size and complexity, the data that are generated by such undertakings must be analyzed and compared using computerized techniques for storage, searching, and analysis. The computer databases that hold this information, currently numbered in millions of nucleotide base pairs and thousands of amino acids, are expected to grow by three orders of magnitude to encompass sequences totaling billions of nucleotides.

#### GOALS AND SCOPE

The discipline of medical informatics goes beyond the use of the computer as a computational tool and extends into the process of knowledge representation, storage, retrieval, and manipulation largely to support inferential reasoning and to rationalize decision-making in the health sciences. To support these pursuits, the span of relevant disciplines is far ranging. Engineering, computational linguistics, computer science, information science, statistics and cognitive sciences must all be brought to bear in the context of the health sciences to achieve the desired goals.

Appropriately trained individuals able to conduct these types of multidisciplinary informatics research are in very short supply. A fellowship program in medical informatics research training will assist in alleviating the shortages.

The NLM's Long Range Plan counts medical informatics training and career development among its top priorities. There is a large and growing number of qualified individuals seeking training in this field - a number which exceeds the combined capabilities of currently active institutional training sites. Clearly, other institutions are providing, or can also provide, quality training in medical informatics and a number of these have the requisite institutional environment for training in the special informatics area of biotechnology; i.e., the representation and analysis of molecular biology data by computer. The scope of this announcement is intended to encompass research fellowship applications in medical informatics generally or in the biotechnology category of informatics.

#### MECHANISM OF SUPPORT

Individual postdoctoral fellowship applications in medical informatics are welcomed from persons trained in the physical or computer sciences who desire to bring such approaches to medical informatics research or from biologists and physicians who wish to acquire research training in biocomputation, knowledge representation, inferential reasoning or other areas related to informatics.

Individuals must be, at the time of application, citizens or noncitizen nationals of the United States, or have been lawfully admitted to the United States for permanent residence and have in their possession an Alien Registration Receipt Card (I-151 or I-551). Before submitting an application, an applicant must arrange for appointment to an appropriate institution and acceptance by a sponsor, who will supervise the training and research experience.

The stipend level for the individual postdoctoral fellowship ranges from \$17,000 to \$31,500 depending on years of relevant experience subsequent to the award of the doctorate degree. In addition, the applicant's institution/organization may request an institutional allowance up to \$3,000 per year for support of supplies, equipment, travel, tuition, fees, insurance and other training related costs.

Individual postdoctoral fellowships are made for project periods of up to three years.

#### APPLICATION AND REVIEW PROCEDURES

Applications must be submitted on Form PHS 416-1 (Rev. 7/88). These forms, with appropriate descriptive information about NLM's Individual Medical Informatics Postdoctoral Fellowship program, may be obtained from:

Roger W. Dahlen, Ph.D.  
Chief, Biomedical Information  
Support Branch  
Extramural Programs  
National Library of Medicine  
Bethesda, Maryland 20894  
Telephone: (301) 496-4221

Applications will be accepted in accordance with the usual receipt dates for new fellowship applications: January 10, May 10, September 10. The review process will be completed approximately six months after the respective receipt dates. Applications received too late for one cycle of review will be held until the next receipt date.

Applications will be received by the NIH's Division of Research Grants (DRG) and referred to the Biomedical Library Review Committee for scientific and technical merit review. The review criteria customarily employed by the NIH for fellowship applications will prevail.

The original and two (2) copies of the application should be directed to:

Application Receipt Office  
Division of Research Grants  
National Institutes of Health  
Westwood Building, Room 240  
Bethesda, Maryland 20892\*\*

NOTE: Please type the following information in Item 3, page 1, the face page of the application form: "Medical Informatics (NLM)."

This program is described in the Catalog of Federal Domestic Assistance, Medical Library Assistance, 13.879. Grants will be awarded under the authority of the Public Health Act, Section 472 (42 USC 286b-3) and administered under PHS grant policies and Federal Regulations, most specifically at 42 CFR 61.

#### NATIONAL RESEARCH SERVICE AWARDS FOR PREDOCTORAL M.D./PH.D. FELLOWS

P.T. 22; K.W. 0404003, 0404009, 0715095, 0715129, 0404000

National Institute of Mental Health  
National Institute on Alcohol Abuse and Alcoholism  
National Institute on Drug Abuse

The Alcohol, Drug Abuse, and Mental Health Administration (ADAMHA) provides National Research Service Awards (NRSAs) to individuals for research training in specified areas of biomedical and behavioral research. The purpose of the NRSA for Predoctoral M.D./Ph.D. Fellows is to help ensure that highly trained physicians/scientists will be available in adequate numbers and in appropriate research areas to meet the Nation's alcohol, drug abuse, and mental health needs. An applicant for an ADAMHA NRSA M.D./Ph.D. individual fellowship must show evidence of high academic performance and evidence of significant interest in research. He or she must be enrolled in an M.D./Ph.D. program at an approved medical school, accepted in a related scientific Ph.D. program, and supervised by a mentor in the scientific discipline when the application is submitted. The ADAMHA NRSA M.D./Ph.D. fellowship program provides combined medical school and predoctoral Ph.D. support for a maximum of 6 years. The annual stipend for predoctoral fellows at all levels is \$8,500.

ADAMHA expects to begin support of up to 15 of these fellowships in 1990, 20 in 1991, and 25 in 1992. Approximately \$375,000 will be set aside for this purpose in 1990, \$875,000 in 1991, and \$1,500,000 in 1992.

Applications in response to this announcement will be accepted and reviewed once each year according to the following schedule:

Receipt Date--September 10  
Initial Review Group Meeting--February  
Notification--March to June  
Earliest Possible Start Date--July 1

Potential applicants interested in obtaining further information should contact one of the following:

National Institute of Mental Health

Leonard Lash, Ph.D.  
Division of Clinical Research  
Room 10-99  
Telephone: (301) 443-3264

National Institute on Alcohol Abuse and Alcoholism

David B. Lozovsky, M.D., Ph.D.  
Division of Basic Research  
Room 14C-20  
Telephone: (301) 443-4223

Elsie Taylor  
Division of Clinical and Prevention Research  
Room 16C-03  
Telephone: (301) 443-1677

National Institute on Drug Abuse

Charles Sharp  
Division of Preclinical Research  
Room 10A-31  
Telephone: (301) 443-6300

The mailing address for all of the above is:

Parklawn Building  
5600 Fishers Lane  
Rockville, Maryland 20857

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5333 Westbard Avenue  
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