

NIH GUIDE

For Grants and Contracts

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NATIONAL INSTITUTES OF HEALTH

NATIONAL RESEARCH SERVICE AWARD

INSTITUTIONAL GRANTS

P.T. 44; K.W. 0720005, 1014002

AUTHORITY AND PURPOSE

Under authority of Section 487 of the Public Health Service (PHS) Act as amended (42 USC 288), the National Institutes of Health (NIH) will award National Research Service Award (NRSA) institutional grants to eligible institutions to develop or enhance research training opportunities for individuals selected by them who are training for careers in specified areas of biomedical and behavioral research. This announcement contains a current description of areas in which research training will be supported (see page 5). Applications that do not fall within the specified areas will be returned to applicants. Preapplication consultation with NIH is highly desirable, especially where predoctoral training is planned. Contacts are listed in the descriptions of research areas.

The purpose of the NRSA program is to help ensure that highly trained scientific manpower will be available in adequate numbers and in the appropriate research areas and fields for the nation's biomedical and behavioral research agenda. Title 42 of the Code of Federal Regulations, Part 66, is applicable to this program as are the following Catalog of Federal Domestic Assistance numbers: 13.121, 13.122, 13.297, 13.306, 13.361, 13.398, 13.821, 13.837-13.839, 13.846-13.849, 13.853-13.856, 13.859, 13.862-13.871, 13.880, and 13.894. Brief descriptions of other selected PHS institutional training programs may be found on page 5.

LEVELS OF TRAINING

Applications will be accepted for predoctoral and/or postdoctoral training. Emphasis will be to stabilize fundamental training in the basic disciplinary areas at the predoctoral level and to use specialized training at the postdoctoral level to meet national research priorities. Training grants are a desirable mechanism for the postdoctoral training of physicians and other health professionals whose doctoral training usually involves only limited research experience. For such individuals, the training may be a part of a research degree program.

APPLICANT ELIGIBILITY REQUIREMENTS

Domestic nonprofit private or public institutions may apply for grants to support research training programs. The applicant institution must have, or be able to develop, 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 to receive NRSA's and for the overall direction of the program.

The training program must provide opportunities for individuals to carry out supervised biomedical or behavioral research with the primary objective of extending their skills and knowledge. 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.

GENERAL PROVISIONS

NRSA's may not be used to support studies leading to the M.D., D.O., D.D.S., D.V.M., or other similar professional degrees, or to support residencies, which means postgraduate training for doctors of medicine, osteopathy, dentistry, optometry, and podiatry, nurses, and other individuals providing health care directly to patients, where the majority of their time is spent in non-research clinical training. However, if a specified period of full-time research training is creditable toward specialty board certification, the NRSA may support such research training if the trainee has shown a clear interest in a research career. Physicians accepted for an NRSA appointment who have had little or no prior research training should be committed to at least two years of initial research training.

Trainees are required to pursue their research training on a full-time basis devoting at least 40 hours per week as specified by the sponsoring institution in accordance with its own policies. Research trainees in clinical areas are expected to devote their time to the proposed research training and to confine clinical duties to those which are a part of the research training.

TRAINEE ELIGIBILITY REQUIREMENTS

The individual to be trained must be a citizen or a non-citizen national of the United States or have been lawfully admitted for permanent residence (i.e., in possession of the Alien Registration Receipt Card I-551 or I-151) at the time of appointment. Individuals on temporary or student visas are not eligible.

Predoctoral trainees must have received a baccalaureate degree as of the beginning date of their NRSA appointment, and must be training at the postbaccalaureate level in a program leading to the award of a doctor of philosophy of science or equivalent degree. Individuals who wish to interrupt their medical, veterinary, dental, or other professional school studies for a year or more to engage in full-time research training before completing their professional degrees are eligible; however, prior approval by the NIH is required before their NRSA appointment.

Postdoctoral individuals must have received, as of the beginning date of the NRSA appointment, a Ph.D., M.D., D.O., D.D.S., D.V.M., O.D., D.P.M., Sc.D., Eng.D., Dr.P.H., D.N.S., or equivalent degree from an accredited domestic or foreign institution. Certification by an authorized official of the degree granting institution that all degree requirements have been met is acceptable.

RECRUITMENT AND APPOINTMENT OF TRAINEES

The primary objective of the NRSA program is the preparation of qualified individuals for careers in biomedical and behavioral research. Within the framework of the program's longstanding commitment to excellence and projected needs for investigators in particular areas of research, it is important that attention also be given to recruiting individuals from minority groups that now are underrepresented nationally in the biomedical and behavioral sciences. Application information on plans for the recruitment of trainees should include a description of steps to be taken for the recruitment of individuals from underrepresented minority groups. Also, renewal applications should include cumulative information on the subsequent career development of all trainees, including information about their minority status.

Also program directors should be aware of a recruitment pool in the nurse community which may have been overlooked. NRSA program directors should make information about their programs available to the nursing profession.

PAYBACK PROVISIONS

Before trainees can be appointed to a training grant, they must sign an agreement that they will fulfill the NRSA payback requirements. Recipients agree to engage in biomedical or health-related behavioral research and/or teaching for a period equal to the period of NRSA support in excess of 12 months. Once an individual has had 12 months of postbaccalaureate NRSA support, all subsequent NRSA support is subject to payback.

Recipients must begin to undertake the obligated service on a continuous basis within 2 years after termination of NRSA support. For individuals who fail to fulfill their obligation through service, the United States is entitled to recover the total amount of NRSA funds paid to the individual for the obligated period plus interest at a rate determined by the Secretary of the Treasury. Financial payback must be completed within three years beginning on the date the United States becomes entitled to recover such amount. Under certain conditions, the Secretary of Health and Human Services may extend the period for starting service or for repayment, permit breaks in service, or otherwise waive or suspend the payback obligation of an individual.

Applicant organizational officials responsible for recruitment of trainees should familiarize themselves with the terms of the service requirements and explain them to prospective training candidates before or at the time an appointment at the institution is offered.

STIPENDS AND OTHER TRAINING COSTS

The current stipend level for predoctoral individuals at all levels of experience is \$6,552 per annum.

For postdoctorals, the stipend for the first year of support is determined by the number of years of relevant postdoctoral experience at time of appointment. Relevant experience may include research experience (including industrial), teaching, internship, residency, or other time spent in full-time studies in a health-related field beyond that of the qualifying doctoral degree. The stipend for each additional year of NRSA support is the next level on the stipend scale. Current postdoctoral stipends are as follows:

Years of Relevant Experience	Stipend
0	\$15,996
1	17,004
2	21,996
3	23,004
4	24,000
5	26,004
6	27,996
7 or more	30,000

NRSA stipends may be supplemented by an institution from non-Federal funds. No Federal funds may be used for stipend supplementation unless specifically authorized under the terms of the program from which the supplemental funds are derived. An individual may make use of Federal educational loan funds or V.A. benefits when permitted by those programs. Under no circumstances may the conditions of stipend supplementation detract from or prolong the training.

The Tax Reform Act of 1986, Public Law 99-514, impacts on the tax liability of all individuals supported under the NRSA program. Degree candidates who, prior to the enactment of Public Law 99-514, were able to exclude all monies received under an NRSA award from their reported income, may now exclude only course tuition, fees, books, supplies and equipment required for attendance. Non-degree candidates, who formerly were able to exclude from stipends \$300 a month for a period not to exceed 3 years will now be required to report all stipends and any monies paid on their behalf for course tuition and fees required for attendance. These new statutory requirements are in force as of January 1, 1987.

NIH is not in a position to advise students or institutions about their tax liability. In any event, changes in the taxability of stipends in no way alters the relationship between NRSA fellows, trainees and institutions. NRSA stipends are not now, and never have been, salaries. Trainees supported under the NRSA are not in an employer-employee relationship with NIH or the institution in which they are pursuing research training.

Tuition and fees, including medical insurance, are allowable trainee costs if such charges are required of all persons in a similar training status at the institution, without regard to their source of support. Tuition at the postdoctoral level, if justifiable, is limited to that required for specific courses in support of the approved training program. Annual increments in tuition costs beyond the first year of a multi-year award (generally 5 years) may not exceed six percent.

Trainee travel, including attendance at scientific meetings, which the institution determines to be necessary to the individual's training, is an allowable trainee cost.

Institutional costs of up to \$1,500 per year per predoctoral trainee and up to \$2,500 per year per postdoctoral trainee may be requested to defray the costs of other training related expenses, such as staff salaries, consultant costs, equipment, research supplies, and staff travel. Also, an indirect cost allowance based on 8 percent of total allowable direct costs, or actual indirect costs, whichever is less, may be requested. Applications from State and local government agencies may request full indirect cost reimbursement.

PERIOD OF SUPPORT

Institutional grants may be made for competitive segments of up to 5 years and are renewable. No individual trainee may receive more than 5 years of aggregate NRSA support at the predoctoral level and 3 years of aggregate NRSA support at the postdoctoral level, including any combination of support from institutional training grants and individual fellowship awards. Any exception to the trainee support

policy requires a waiver from NIH. The grounds for approving extensions of support can be found in the document titled "National Research Service Awards - Guidelines for Individual Awards - Institutional Grants," dated January 6, 1984.

REVIEW PROCESS

Applications are evaluated for merit by NIH initial review groups based on the following criteria: the proposed research training objectives and program design, the qualifications of participating faculty, the previous training record of the research program and its ability to attract high caliber trainees, the availability of research support, the extent of the institutional commitment, and the availability of facilities. The initial review groups, following their assessment of the quality of training grant applications and assignment of priority scores indicative of merit, will comment on each applicant's plans for attracting individuals from underrepresented minority groups into the research training program. These commentaries will cover accomplishments in recruiting individuals from underrepresented minority groups and in training them for research positions, when the application is a renewal of an award made under the new guidelines. Applications are also reviewed by the Council, Board, or other advisory group to the NIH Bureau, Institute, or Division (BID) whose activities relate to the proposed research training. These advisory groups will include among the information they consider, the initial review groups' comments on the recruitment of individuals from underrepresented minority groups into the training program. Final selection will be made based on the review groups' recommendations, the need for research personnel in specified program areas, and the availability of funds. The BID will notify the applicant of the final action shortly after the advisory group meeting.

REVIEW SCHEDULE:

Application Receipt Date	Initial Review Meeting	Council/Board Meeting	Earliest Start Date
January 10	June	September/October	December 1
May 10	October/November	January/February	April 1
September 10	February/March	May/June	July 1

Most institutional training grants have a start date of July 1. Several BIDs make funding decisions once a year in January, or earlier, in order to provide program directors with an adequate recruitment period. A few BIDs restrict receipt and review dates to once a year. Applicants are strongly encouraged to contact appropriate BID staff before submitting an application.

APPLICATION PROCEDURES

Application is made on Grant Application Form PHS 398 (Rev. 9/86). This revision, which replaces Training Grant Application PHS 6025-1 (Rev. 1/83), contains special instructions for institutional NRSAs. Forms are usually available at institutional offices of sponsored research or their equivalent. If not available locally, send a request accompanied by a self-addressed mailing label to:

Office of Grants Inquiries
Division of Research Grants
Westwood Building - Room 449
National Institutes of Health
Bethesda, Maryland 20892

ADDITIONAL INFORMATION

For additional information, see the document entitled "National Research Service Awards - Guidelines for Individual Awards - Institutional Grants," dated January 6, 1984, usually available at the institution; contact the appropriate individual listed under NIH research areas; or contact:

Mr. Nicholas Moriarty
Office of the Chief
Referral and Review Branch
Division of Research Grants
National Institutes of Health
Bethesda, Maryland 20892
Telephone: (301) 496-7221

OTHER NRSA INSTITUTIONAL RESEARCH TRAINING PROGRAMS

SHORT-TERM RESEARCH TRAINING FOR STUDENTS IN HEALTH PROFESSIONAL SCHOOLS

Certain BIDs offer programs designed to introduce students in health professional schools to the opportunities inherent in a research career by supporting full-time research training during off quarters or summer sessions. Prospective applicants are strongly encouraged to contact appropriate BID staff before submitting an application.

SPECIAL PROGRAMS FOR MINORITY INSTITUTIONS

Contact the following BIDs about special training programs for institutions with predominantly minority enrollments.

Minority Access to Research Careers
(MARC), National Institute of
General Medical Sciences
National Institutes of Health
Westwood Building, Room 9A-18
Bethesda, MD 20892

The National Heart, Lung
and Blood Institute
(See appropriate NHLBI
contact listed below)

ALCOHOL, DRUG ABUSE, AND MENTAL HEALTH ADMINISTRATION

This agency also provides support through NRSA institutional grants at both the predoctoral and postdoctoral levels. For information and application forms, contact the following offices:

Grants Management Officer
National Institute of Alcohol Abuse and Alcoholism
Room 16-86
5600 Fishers Lane
Rockville, Maryland 20857
Telephone: (301) 443-4703

Grants Management Officer
National Institute of Drug Abuse
Room 10-25
5600 Fishers Lane
Rockville, Maryland 20857
Telephone: (301) 443-6710

Grants Operation Section
Grants Management Branch
National Institute of Mental Health
Room 7C-05
5600 Fishers Lane
Rockville, Maryland 20857
Telephone: (301) 443-4414

NIH RESEARCH AREAS OF INTEREST AND STAFF CONTACTS

For purposes of assignment to the appropriate NIH funding component and initial review group, an application should be identified as responding to one of the areas listed below. Applicants should contact the individuals designated below for additional information concerning the areas of research, if an application including predoctoral training is planned, and for preapplication consultation.

NATIONAL INSTITUTE ON AGING (AG)

Awards may be for predoctoral and postdoctoral trainees or a combination of the two. Training may be for laboratory, clinical, or field research, and may be multidisciplinary. It may relate to:

1. The biology of aging including, but not limited to, cellular and molecular mechanisms, animal models, genetics, immunology, neurobiology, endocrinology, nutrition, exercise physiology, and pharmacology at the tissue and organ level as well as in intact organisms. Special emphasis is given to research using mammalian systems or models.
2. Physiologic changes with age in the nervous, endocrine, immune, musculoskeletal and other organ systems.

3. Special medical problems of the aged: diseases concentrated predominantly among the elderly, or special factors affecting the pathogenesis, diagnosis, treatment or prevention of diseases in the elderly.
4. Neuroscience and neuropsychology of aging and the aged; change in sensory function or sensory integration; alzheimer disease and other dementias; neuropsychological diagnostic indicators; epidemiology and biostatistics.
5. Psychological aspects of aging and the aged, e.g., biopsychological and cognitive factors; personality; attitudinal changes with aging; stress and coping; and influence of behavior on health and effective functioning.
6. Societal aspects of aging, e.g., changing social and demographic structure of the population as a whole; influence of societal structures on behavior, attitudes, health, and statuses of older people; ways in which social institutions affect and are affected by the growing numbers of older people.

Dr. Miriam Kelty
 Telephone: (301) 496-9322

NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES (AI)

1. Allergic and Immunologic Diseases
 and Basic Immune Mechanisms

 Allergy
 Immunochemistry
 Immunology
 Immunopathology
 Immunogenetics
 Clinical Immunology
 Autoimmunity
 Transplantation Biology
2. Infectious Diseases and Basic
 Microbiological Mechanisms

 Bacteriology
 Virology
 Parasitology
 Mycology
 Pathogenesis of Infectious Diseases
3. Epidemiology of Allergic,
 Immunologic and Infectious Diseases

Proposed institutional training programs may be multidisciplinary.

Dr. William Bennett
 Telephone: (301) 496-5030

NATIONAL INSTITUTE OF ARTHRITIS AND MUSCULOSKELETAL AND SKIN DISEASES (AR)

The Institute supports research training in basic and clinical disciplines where the project relates to the programs of the Institute. Major areas include:

1. Structure, function and physiology of connective tissue, joints, muscle, bone and skin
2. Metabolism of muscle, bone and skin
3. Development and genetic diseases of connective tissue, muscle, bone and skin
4. Exercise physiology of the musculoskeletal system and gait analysis
5. Rheumatic and connective tissue diseases and disorders
6. Bone diseases and disorders
7. Muscle diseases
8. Musculoskeletal disorders
9. Skin diseases and disorders

Dr. Richard W. Lymn
 Telephone: (301) 496-7495

NATIONAL CANCER INSTITUTE (CA)

The goal of the Cancer Research Manpower Development Program is to ensure that an adequate number of highly competent basic and clinical cancer research specialists will be trained to meet needs in the following areas of cancer research:

1. Etiology
2. Prevention
3. Detection
4. Diagnosis
5. Treatment
6. Restorative Care

Applications in surgical, radiation and preventive oncology are of special interest. Proposed institutional training programs may be multidisciplinary.

Dr. Barney Lepovetsky
Telephone: (301) 427-8898

NATIONAL INSTITUTE OF DENTAL RESEARCH (DE)

The Institute supports research in basic and clinical disciplines related to the following areas:

1. Behavioral Studies
2. Caries
3. Craniofacial Anomalies including Malocclusion
4. Epidemiology
5. Oral Medicine
6. Pain Control
7. Periodontal Disease
8. Restorative Materials

Applicants are urged to consult with NIDR staff prior to preparation of proposals.

Dr. Thomas M. Valega
Telephone: (301) 496-6324

NATIONAL INSTITUTE OF DIABETES AND DIGESTIVE AND KIDNEY DISEASES (DK)

Proposals should demonstrate capability to provide opportunity for (1) the clinically-trained to acquire expertise in scientific research; e.g., biochemistry, biophysics, cell biology, epidemiology, genetics, physiology, or psychology; and (2) the scientifically-trained to obtain further training in biomedical research or clinical investigation relating to:

1. Diabetes, Endocrine or Metabolic Diseases
2. Digestive Diseases, Liver Diseases or Nutrition
3. Kidney, Urologic or Hematologic Diseases

Dr. Walter Stolz
Telephone: (301) 496-7277

NATIONAL INSTITUTE OF ENVIRONMENTAL HEALTH SCIENCES (ES)

1. Environmental Toxicology (including Teratogenesis, Carcinogenesis and Behavioral Toxicology)
2. Environmental Mutagenesis
3. Environmental Pathology - Pathophysiology
4. Environmental Epidemiology and Biostatistics

Dr. Christopher Schonwalder
Telephone: (919) 541-7634

NATIONAL EYE INSTITUTE (EY)

Training is directed primarily to clinical and scientific investigators who are outstanding candidates for independent research on eye diseases and visual problems affecting man. Trainees are "enrolled" in formal, multidisciplinary, programs of research training which emphasize laboratory and clinical research on clinically important, disease-oriented areas of investigation, and which emphasize scientific areas of high programmatic relevance to the National Eye Institute as described in "Vision Research - A National Plan: 1983-1987".

Dr. Peter Dudley
Telephone: (301) 496-5301

NATIONAL INSTITUTE OF GENERAL MEDICAL SCIENCES (GM)

Awards will be made to applicants presenting the most meritorious, broadly-based programs in the following areas, which match the NIGMS research programs:

For Predoctoral Training Grants:

1. Cellular and Molecular Biology
2. Genetics
3. Pharmacological Sciences
4. Systems and Integrative Biology
5. Medical Scientist Program (combined M.D./Ph.D. degree program)

For Postdoctoral Training Grants:

1. Basic Pathobiology
2. Clinical Pharmacology
3. Genetics (with emphasis on Medical Genetics)
4. Trauma and Burn Research
5. Anesthesiology

Dr. John Norvell
Telephone: (301) 496-7260

NATIONAL INSTITUTE OF CHILD HEALTH AND HUMAN DEVELOPMENT (HD)

Awards provide opportunities for research training in the biological and/or behavioral science aspects of the areas listed below. Primary concern in awarding institutional awards will be given to multidisciplinary or interdisciplinary programs which cannot be provided through individual fellowships. Although major concern is for postdoctoral training, predoctoral training will be considered where a special case for support can be justified.

Center for Research for Mothers and Children

1. Pregnancy and Infancy
2. Developmental Biology and Nutrition
3. Learning and Behavior
4. Mental Retardation

Center for Population Research

1. Fertility - Infertility
2. Fertility Regulation
3. Nutrition and Reproduction
4. Social and Behavioral Aspects of Reproduction
5. Population Change

Ms. Hildegard Topper
Telephone: (301) 496-1848

NATIONAL HEART, LUNG, AND BLOOD INSTITUTE (HL)

1. Division of Heart and Vascular Diseases

The research training may be in fundamental studies of basic processes and functions; behavioral studies, including risk factor modification (e.g., diet, smoking); genetics (including studies of populations); and primary or secondary prevention or clinical investigations directed toward long-term involvement in research toward increasing our knowledge and understanding in cardiovascular areas related to our programs in:

Hypertension
Arteriosclerosis
Coronary Heart Disease
Cardiovascular Aspects of Diabetes
Arrhythmias
Heart Failure and Shock
Cerebrovascular Disease
Peripheral Vascular Disease
Congenital and Rheumatic Heart Diseases
Cardiomyopathies and Infections of the Heart
Circulatory Assistance
Cardiovascular Devices and Technology

Dr. D. M. MacCanon
Telephone: (301) 496-1724

2. Division of Lung Diseases

The Division supports multidisciplinary research training in fundamental and clinical disciplines. Training programs should be addressed to one or more of the following categories:

Structure and Function of the Lung
Pediatric Pulmonary Diseases
Emphysema and Chronic Bronchitis
Fibrotic and Immunologic Lung Diseases
Respiratory Failure
Pulmonary Vascular Diseases
Epidemiology of Respiratory Diseases

Ms. Diane Aiken
Telephone: (301) 496-7668

3. Division of Blood Diseases and Resources

The Division supports research training programs that will allow: 1) the clinically-trained to acquire expertise in basic science disciplines, such as biochemistry, physiology, genetics, cellular and molecular biology, biophysics, endocrinology, or immunology; and 2) the scientifically-trained to enhance their

skills in biomedical research technologies and in clinical investigation related to:

Thrombosis
Hemostasis
Red Blood Cell Diseases
Sickle Cell Disease
Blood Resources
Transfusion Medicine

Dr. Fann Harding
Telephone: (301) 496-1817

NATIONAL CENTER FOR NURSING RESEARCH (NR)

Nursing research and research training related to patient care, the promotion of health, the prevention of disease, and mitigation of the effects of acute and chronic illnesses and disabilities. In support of studies of nursing interventions, procedures, delivery methods, and ethics of patient care, NR programs are expected to complement other biomedical research programs that are primarily concerned with causes and therapy of disease.

Director, Division of Extramural Programs
Telephone: (301) 496-0526

NATIONAL INSTITUTE OF NEUROLOGICAL AND COMMUNICATIVE DISORDERS AND STROKE (NS)

Applications are accepted in the following four areas. Listed are examples of training disciplines in which applications would be appropriate.

1. Basic Neurosciences

Developmental Neurology
Neuroanatomy
Neurobiology
Neurochemistry
Neuroimmunology
Neuropharmacology
Neurophysiology
Neuroradiobiology
Neurovirology
Sensory Physiology and Biophysics

2. Clinical Neurosciences

Clinical Investigation
Neuroepidemiology
Neuropathology

3. Basic Communicative Sciences

Audiology
Sensory Physiology and Biophysics
Speech Pathology

4. Clinical Communicative Sciences

Audiology
Clinical Investigation
Otopathology
Speech Pathology

Ms. Kathryn Phillips
Telephone: (301) 496-4188

DIVISION OF RESEARCH RESOURCES (RR)

Laboratory Animal Science and Medicine

Dr. William I. Gay
Telephone: (301) 496-5175