

# NIH Guide for Grants and Contracts

Vol. 12, No. 6, June 17, 1983

U.S. DEPARTMENT OF HEALTH  
AND HUMAN SERVICES

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The NIH Guide is published at irregular intervals to announce scientific initiatives and to provide policy and administrative information to individuals and organizations who need to be kept informed of opportunities, requirements, and changes in grants and contracts activities administered by the National Institutes of Health.

Two types of supplements are published by the respective awarding units. Those printed on yellow paper concern contracts: solicitations of sources and announcement of availability of requests for proposals. Those printed on blue paper concern invitations for grant applications in well-defined scientific areas to accomplish specific program purposes.

#### Have You Moved?

If you present address differs from that shown on the address label, please send your new address to: Grants and Contract Guide Distribution Center, National Institutes of Health, Room B3BN10, Building 31, Bethesda, Maryland 20205, and attach your address label to your letter. Prompt notice of your change of address will prevent your name from being removed from our mailing list.

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NOTICE

SITE VISITS TO ANIMAL CARE FACILITIES

**NATIONAL INSTITUTES OF HEALTH**

As announced in the February 25, 1983 NIH Guide for Grants and Contracts, the Office of Extramural Research and Training (OERT) is embarking on a series of site visits to awardee institutions to assess the adequacy of the NIH's current process for promoting proper care and use of animals in the biomedical research it funds. During January and February of this year, OERT developed a protocol for the visits and used it on three site visits to nearby institutions. The protocol includes meetings with top administrative officials, Animal Care Committee members, selected investigators and attending veterinarian(s) as well as tours of facilities. OERT is now ready to conduct site visits to ten awardee institutions to assess its current policies.

In order to assess the system presently used to ensure and promote animal welfare, OERT has randomly selected institutions which are not accredited by the American Association for Accreditation of Laboratory Animal Care (AAALAC) but which submit annual assurance statements attesting to their observance of the principles set forth in the NIH's Guide for the Care and Use of Laboratory Animals. Ten institutions were selected: one was chosen from each of the ten Department of Health and Human Services (DHHS) geographic regions, and three or four were taken from each of three categories of total annual NIH support of more than \$10 million, \$5-10 million, and less than \$5 million. Using these criteria, OERT randomly selected the following institutions:

<u>DHHS Region</u>	<u>Institution/Location</u>
1	Brandeis University, Waltham, MA
2	New York University, New York, NY
3	Children's Hospital of Pittsburgh, Pittsburgh, PA
4	Bethune-Cookman College, Daytona Beach, FL
5	Northwestern University, Evanston, IL
6	University of Texas-Austin, Austin, TX
7	St. Louis University, St. Louis, MO
8	LDS Hospital, Salt Lake City, UT
9	Syntex Research Division, Palo Alto, CA
10	University of Washington, Seattle, WA

The ten institutions will be visited between June and September of this year by site visit teams composed of NIH employees and non-federal consultants. A member of the NIH staff will have notified the appropriate institutional representative(s) at least one month before the scheduled visit.

Additional information concerning this notice may be obtained from:

Dr. Louis R. Sibal  
Office of Extramural Research and Training  
National Institutes of Health  
Shannon Building - Room 314  
Bethesda, Maryland 20205

Telephone: (301) 496-4716

NOTICE

DELINQUENT LOAN RECIPIENTS

The Public Health Service (PHS), in collaboration with the Office of the Inspector General (OIG) of the Department of Health and Human Services (DHHS), is engaged in an initiative intended to improve the management of debts incurred by recipients of Health Professions and Nursing Student Loans. As a first step, individuals employed by DHHS have been contacted and requested to make appropriate arrangements for repayment of delinquent loans.

A recent review of the National Institutes of Health (NIH) research data base showed that a small number of individuals who are currently principal investigators on NIH grants or contracts are delinquent on such loans, according to the records of the Health Resources and Human Services Administration, which administers the program.

The PHS expects that recipients of research funding will meet their obligations incurred as beneficiaries of PHS loan programs. The purpose of this notice is to encourage delinquent borrowers to contact the school that made the original loan and make appropriate arrangements for repayment.

NIH and PHS regret the circumstances that make this notice necessary, but trust that members of the research community recognize that these few individuals must adhere to the same standards as other recipients of student loans. To countenance delinquency--or even to appear to do so--surely would undermine public confidence in the stewardship of both PHS and the participating institutions.

NOTICE

NEW CANCER CONTROL GRANT GUIDELINES

**DIVISION OF RESOURCES, CENTERS, AND COMMUNITY ACTIVITIES**

**NATIONAL CANCER INSTITUTE**

The Division of Resources, Centers, and Community Activities (DRCCA), National Cancer Institute (NCI), expects to have revised grant guidelines available by June 15, 1983. These guidelines identify DRCCA's areas of programmatic interest for investigator-initiated research.

Copies of the guidelines will be available by writing to:

Chief, Cancer Control Applications Branch  
Division of Resources, Centers, and  
Community Activities  
National Cancer Institute  
Blair Building - Room 1A07  
9000 Rockville Pike  
Bethesda, Maryland 20205

ANNOUNCEMENT

SOCIAL AND BEHAVIORAL RESEARCH ON AGING

NATIONAL INSTITUTE ON AGING

I. BACKGROUND AND GOALS

The National Institute on Aging (NIA) continues to invite grant applications in its Behavioral Sciences Research (BSR) program. This program is concerned with the social, cultural, economic, and psychological factors that affect both the process of growing old and the place of older people in society. Research already shows the power of these factors; it shows that aging and the status of the elderly are not inevitably fixed but are subject to social modification and change. But more research is required on how these factors operate. In order to enhance the quality of life for older people and to contain the personal and social costs of health care and dependency, more knowledge is needed to strengthen the scientific basis for professional practice and public policy.

The BSR is one of the major extramural programs of the NIA. This Institute was established by law in 1974 for the "conduct and support of biomedical, social, and behavioral research and training related to the aging process and the diseases and other special problems and needs of the aged." Under this mandate BSR views health and well-being not narrowly within the framework of biological aging alone, but as the outcome of intricately interacting biological, psychological, social, and environmental processes. This program is coordinated with related programs on aging within NIA (e.g., in Biomedical Research and Clinical Medicine) and in such other organizations as the National Institute of Mental Health (NIMH), the National Institute of Child Health and Human Development (NICHD), and the National Institute of Neurological and Communicative Disorders and Stroke (NINCDS).

This is not a one-time invitation for applications, but rather a standing call for research and training applications in the broad area of social and behavioral research in aging. More specific announcements are issued from time to time.

II. PROGRAM EMPHASES

Within this program four major emphases are applicable to most, but not all, research proposals: 1) The dynamic (rather than static) character of aging as a process and of social and historical change which affects the age structure of society and the ways in which individuals age. 2) The interrelatedness of old age with earlier ages, as later life

This program is described in the Catalog of Federal Domestic Assistance No. 13.866, Aging Research. Awards will be made under the authority of the Public Health Service Act, Title III, Section 301 (Public Law 78-410, as amended; 42 USC 241) and administered under Federal Regulations 42 CFR Part 66. This program is not subject to A-96 Clearinghouse or Health Systems Agency review.

is interconnected with the full life course and older people are interdependent with other people of all ages. 3) The social and cultural variability of age and aging, both within a single society and across societies, as this variability reveals the nature and extent of cultural influences on the aging process, the lives of older people, and the general significance of age in society. 4) The multiple facets of age and aging, as social and psychological aging processes are in continuing interplay with biological and physiological aging.

### III. PROGRAM CONTENT

Three broad, overlapping categories suggest the boundaries within which research is relevant to the Behavioral Sciences Research (BSR) program: 1) Older People and Society; 2) Biopsychological and Cognitive components of the aging process; and 3) Social Psychological Aging. The following outline indicates how these categories fit together into a comprehensive program. The scope of the program is illustrated by the topics listed, but is not limited to them. Research applications on a wide variety of related topics will be considered.<sup>1/</sup>

1. Older People and Society refers to research on age as a structural feature of society, in the population, the organization of social roles and in social institutions. It includes studies of older people in the changing social and demographic structure of society as a whole as well as studies of how social structure influences behaviors, attitudes, and status of older people. Such studies lead to understanding of the conditions influencing the health and well-being of the elderly. Relevant research is currently conducted in such disciplines as sociology, anthropology, social psychology, history, economics, political science, geography, demography, and epidemiology.
  - a. The subarea of age in the population is concerned with such topics as: Age composition of the population (implications for family structure, education, income maintenance programs, etc.); patterns of migration, rural-urban residence; and morbidity, mortality, causes of death.
  - b. The second subarea of age-related societal structures emphasizes age as a structural feature of social systems and of social change. It includes research on, for example: Laws, expectations, and social norms; inequalities of income; differential opportunity for labor force

<sup>1/</sup> Given the expense associated with collecting original data, the employment of pre-existing data sets and their secondary analysis is encouraged, though in many instances the collection of new data may be required. The NIA and AoA have jointly sponsored the establishment of two data archives: 1) the National Archive for Computerized Data on Aging, ICPSR, University of Michigan, Ann Arbor, Michigan 48106, and 2) the Public Use Data Archive, Center for the Study of Aging, Duke University, Box 3003, Durham, North Carolina 27710. A wide variety of data sets of potential interest to researchers of aging may be obtained through these archives, which should be contacted directly for listings of their holdings. An Inventory of Longitudinal Studies of the Middle and Later Years is available through the Social Science Research Council, 605 Third Avenue, New York, New York 10016 or the Behavioral Sciences Research Program (BSRP) NIA.



participation, education; differential access to political opportunities (voting, office holding); environmental design (e.g., housing, communities, transportation systems); age-based conflict; age-integration vs. age-segregation; life-long education vs. age-based education; and social and cultural factors in health maintenance and functioning.

- c. The subarea of older people and social institutions refers to research on the relations of aging individuals to the several social institutions within which they grow old. It includes studies of the age structure of particular institutions, and of how institutions can shape older people's lives and can in turn be shaped by older people themselves. Systems for providing service to older people are included as examples of such institutions, although NIA emphasis is on scientific analysis of these systems generally rather than evaluation of specific services. Examples of topics falling within this subarea are: Family, household, and kin networks; friendships and peer groups; economic (e.g., firms, consumer organizations), religious, educational, political (e.g., age-based political movements), health, welfare, or leisure (e.g., recreational associations, retiree organizations) institutions. This subarea stresses the relation of such topics to changes in the society, for example to the effects of increasing age-grading, to reduced economic dependence of parents on adult children, to changes in mandatory retirement ages, and to rapid shifts in values than can result in estranging older cohorts from the dominant popular culture.
2. Biosychological and Cognitive Components of the Aging Process is concerned with the identification or specification of cognitive, intellectual, and perceptual changes and stabilities that, interacting with biological processes, occur with aging. Such studies lead to understanding of the conditions under which perceptual and cognitive functioning are maintained into the middle and later years. Relevant research is currently conducted in such disciplines as neuroscience, behavioral genetics, psychology, anthropology, and sociology.
    - a. Biosychological Aging deals with the relationships between behavioral aging, on the one hand, and such aspects of physiological aging as constancy and change in neurological, immunological, and endocrine processes.
    - b. Cognitive Aging is concerned with age-related changes and stabilities in: Psychomotor skills (e.g., muscular strength, reaction time, complex tasks such as driving); perception and sensation (e.g., vision, audition, taste and smell, pain, touch, time perception); memory, learning, attention; cognition and intelligence; creativity and wisdom; and emotions and motivation.
  3. Social Psychological Aging emphasizes the changes and stabilities with aging in the health, behavior, personality, and attitudes of people as related to the social environment. Studies in this category lead to understanding of the immediate social conditions under which physical health and psychological, social, and economic functioning are maintained into the middle and later years. A particular emphasis is placed upon longitudinal and cohort studies, including methodological and data-archiving projects.

- a. Psychosocial Aging includes such components of the social psychological and social aging process as changes and stabilities in: Personality characteristics and processes; psychological coping mechanisms and styles; self-concept, self-esteem, and self-image; social psychological factors in motivation and performance; attitudes, beliefs, and values; interpersonal relationships over the life course (e.g., intimate relationships, isolation, loneliness, social influence and conformity, social exchange and equity, social support and networks, participation in social groups); role sequences and transitions: antecedents, consequences, and adaptations (e.g., life events, sequencing and timing of roles, role conflicts, death and dying, bereavement, retirement, and multiple or successive careers); socialization processes; and effective functioning and productivity.
- b. Biosocial Aging and Health is concerned with how social and environmental processes, interacting with biological processes, influence health in the middle and later years: Interrelationships among health, attitudes, and behaviors; sociobehavioral mechanisms for health promotion and disease prevention; inter-play among work, health, and aging; and social, environmental, and technological factors associated with the need for and utilization of health-care services, including long-term care.

#### IV. MECHANISMS OF SUPPORT

The usual mechanisms are available for obtaining support for research and training. In addition, the NIA offers Small Grant Awards that provide one-year support for pilot and innovative research on selected topics (maximum of \$15,000). Descriptions of mechanisms of support and any special guidelines for preparing applications are obtainable from NIA staff (VII. below).

#### V. METHOD OF APPLYING

Researchers considering submitting an application in response to this announcement are strongly encouraged to discuss their project with NIA staff in advance of formal submission. This can be done through a telephone conversation or through a written and brief (4-5 pages) research prospectus. Such discussions should take place at least two months before the submission of a formal application in order to allow sufficient time for BSR staff to provide consultation.

The appropriate NIH research or research training grant application kits can be obtained from your institution or from:

Office of Grants Inquiries  
 Division of Research Grants  
 National Institutes of Health  
 Bethesda, Maryland 20205

Telephone: (301) 496-7441

After you have completed the application, expedite its routing within NIH by:

- o Printing and underlining NIA SOCIAL AND BEHAVIORAL RESEARCH on the upper margin of the face sheet.

- o Checking the box on the application form indicating that your proposal is in response to this announcement.
- o Enclosing a cover letter repeating tht this application is in response to this announcement of the NIA SOCIAL AND BEHAVIORAL RESEARCH.

Forward cover letter, application, and appropriate copies to:

Division of Research Grants  
National Institutes of Health  
Westwood Building - Room 240  
5333 Westbard Avenue  
Bethesda, Maryland 20205

Receipt dates for Research Project Grant and New Investigator Research Award applications are: July 1, November 1 and March 1; for all others (including Small Grants): June 1, October 1 and February 1.

**VI. INQUIRIES AND CORRESPONDENCE**

Correspondence, including requests for advice on further development of applications, will be directed to the appropriate project officer when mailed to:

Behavioral Sciences Research  
National Institute on Aging  
Building 31 - Room 4C35  
Bethesda, Maryland 20205

Telephone: (301) 496-3136

## ANNOUNCEMENT

### HEALTH AND EFFECTIVE FUNCTIONING IN THE MIDDLE AND LATER YEARS

#### NATIONAL INSTITUTE ON AGING

##### I. INTRODUCTION

The National Institute on Aging (NIA) invites qualified researchers to submit grant applications for research projects designed to specify how psychosocial processes, interacting with biological processes, influence health and functioning in the middle and later years.

This announcement is part of the broad program of the Institute, which was established by law in 1974 for the "conduct and support of biomedical, social, and behavioral research and training related to the aging process and the diseases and other special problems and needs of the aged." Under this mandate, health and well-being are viewed, not narrowly within the framework of biological aging alone, but as the outcome of complex psychological, social, environmental, physiological, and medical processes. Four principles guiding NIA research are: (1) the dynamic character of aging as a process, and of social and historical changes which affect the age structure of society and the ways in which individuals age; (2) the interrelatedness of old age with earlier ages; (3) the social, cultural, and individual variability of age and aging; and (4) the continuing interplay between psychosocial and biomedical aging processes.

The special initiative<sup>1/</sup> on health and effective functioning in the middle and later years is coordinated with related programs in other organizations including the National Institute of Child Health and Human Development (NICHD), the National Institute of Neurological and Communicative Disorders and Stroke (NINCDS), and the National Institute of Mental Health (NIMH).

##### II. BACKGROUND

The 20th century's triumph of extension of life means not only that the numbers of old people are increasing, but that more and more individuals can look forward to living out their lives to the full. As life expectancy has been extended, the proportion of adult life that might be spent in retirement has also been increased. However, it remains to be seen whether and how people will benefit from these added years. How can the relatively vigorous health, effective functioning, and productivity of the middle years be continued into the later years? How can disability and dependency be postponed until the last years of the extended life course?

<sup>1/</sup> See also page 5, this issue, for a description of broad goals, emphases, and content of the NIA program in behavioral sciences research.

Recent research findings are beginning to suggest how the productive middle years might be extended; how many disabilities of old age might be prevented or postponed; and how the costs of health care and dependency might be contained. For example, we now know that intellectual decline with aging (when it occurs) can often be slowed or reversed by relatively simple training interventions; that older people can often learn to compensate for declines in reaction time, memory, and other age-related deficits (e.g., through mnemonic strategies, carefulness, and persistence); that for the visual impairments suffered by many older people, particular styles and sizes of type can facilitate reading, and improved environmental design can offset inability to see large objects in low contrast; that for the serious malnutrition of many older people, food can be adapted to the age-related changes in taste and smell that influence eating behaviors; that health can be promoted through changes in smoking, diet, and exercise across the lifespan; that illness can often be alleviated through social supports and improved coping behaviors; that many serious disabilities (even when experienced in nursing homes) can be reduced by regimens that reward activity and independence.

We know that death is inevitable; but we also know in a most general sense, that biological, psychological, and social processes of growing old are to a considerable extent malleable. However, we need to specify the mechanisms and conditions that influence health and functioning during the middle and later years. NIA's goal in issuing this announcement is to encourage basic research studies of these mechanisms and conditions that can extend the productive middle years of life by preventing, postponing, or reversing current disabilities of old age.

This is not a one-time invitation for applications, but rather a standing call for research and training applications in the broad area of health and effective functioning in the middle and later years. More specific announcements will be issued from time to time.

### III. SPECIFIC OBJECTIVES

The NIA seeks research grant applications for the study of specific mechanisms and conditions affecting particular aspects of health and functioning in the middle and later years of life. Such proposals will often require the formation of multidisciplinary research teams, given NIA's commitment to research on the linkages among behavioral, social, and biomedical processes.

Many researchable issues fall within the realm of health and effective functioning in the middle and later years. The following are offered as illustrations of appropriate topics.<sup>2/</sup> Applications need not, however, be limited to these issues.

#### A. Work and Retirement

- o Aspects of work situations that stimulate intellectual competence, provide incentives and opportunities for sustained or enhanced performance.
- o Factors influencing vigor, intellectual functioning, memory and other physical and psychological capacities and motivations for continuing productivity and creativity.

<sup>2/</sup> Accepted referral guidelines will be followed in assigning applications to NIA or to other Institutes.

- o Processes and conditions associated with retirement that influence physical and mental functioning.
- o Age-related disabilities specific to particular occupations; organizational and technological innovations to remedy or compensate for these deficits.

B. Health Institutions <sup>3/</sup>

- o Psychological and social factors that reduce the need for long-term care of older people; alternatives to institutionalization.
- o Influence of institutionalization on health and functioning of the institutionalized elderly and of their significant others (spouse, children, other relatives, friends).
- o Psychosocial factors in the diagnosis and treatment of elderly by health-care practitioners.

C. Social Support

- o Changes and stabilities in social networks as protections against disabilities in the middle and later years.
- o Positive and negative consequences of social networks for health and functioning.

D. Health Behaviors and Attitudes

- o Specific changes in life style or behavior that maintain health or prevent particular diseases.
- o Age and/or cohort differences in health behaviors, attitudes, and beliefs.
- o Ways of converting awareness of healthful practices into sustained behaviors.
- o Ways of eliciting adherence to unpleasant therapies.
- o Ways of coping with stress, ranging from "daily hassles" to life-threatening events.

<sup>3/</sup> The NIA will support research that extends the knowledge base underlying the provision of health services for the aging and the aged. The NIA does not support demonstration, control, and evaluation projects. Services per se are not supported except in cases in which a service, or package of services, may be one of the experimental variables in a proposed study.

E. Personality

- o Etiology and developmental course of disease-prone personality configurations over the life course (e.g., Type A vs. Type B behavior patterns).
- o Individual differences in psychological and physiological response to chronic or persistent stressful situations.

F. Nutrition, Exercise, Sleep

- o Psychosocial factors influencing age-related changes in food preferences, eating habits, and nutrition.
- o Cohort differences in nutrition and consequences for health in the middle and later years of life.
- o Long-term and short-term effects on health and effective functioning of various types of exercise.
- o Psychosocial factors in etiology and therapies for age-related sleep disorders.
- o Behavioral consequences of age-related sleep disorders.

G. Family and Household

- o Psychosocial, physiological, and medical consequences of bereavement and the processes linking bereavement with health and functioning.
- o Changes in household composition and resources and their interaction with health and functioning.
- o Family and household decision-making, and patterns of intergenerational exchanges of material and emotional support, as they affect health and later-life development.

H. Methodological Studies

In addition to substantive topics, applications are sought for methodological projects which promise new understanding of the complex processes which influence health and effective functioning in the middle and later years.

- o Improved longitudinal designs for examining the linkages between psychosocial and biomedical aging processes.
- o Development of cohort-comparative, cross-cultural, and historical-comparative designs for examining the interrelationship between societal changes and variations in the individual aging process.
- o Development of statistical and mathematical models of age-related behavioral changes that are suitable for the analysis of longitudinal and cohort-comparative data.

- o Improved measures of health, productivity, and functioning, suitable for use in the field or in the laboratory.
- o Development and improvement of measures of human performance and functioning suitable for tracing changes over the full life course.

#### IV. METHODOLOGY

While research applications need not be limited to any particular methodology of data collection or analysis, the use of objective, reliable, and valid measures of psychosocial, or biological health and performance is essential. Consideration should be given to the relative advantages and disadvantages of cross-sectional vs. longitudinal or cohort designs, or to the use of experimental and quasi-experimental designs in a variety of settings (including the laboratory, nursing home, health-care institution, residence, the community, and the workplace). Given the expense associated with collecting original data, the employment of pre-existing data sets and their secondary analysis is encouraged,<sup>4/</sup> though in many instances collection of new data may be required to meet particular objectives.

#### V. MECHANISMS OF SUPPORT

The usual mechanisms of support for research and training are available, including the Small Grant Award (for one-year support for innovative and pilot research on selected topics; maximum of \$15,000). Descriptions of these mechanisms are obtainable from NIA staff (VII. below).

#### VI. BACKGROUND READINGS - SELECTED EXAMPLES

D.S. Krantz, D.C. Glass, and N.E. Miller, "Behavior and Health" in the National Science Foundation, "Five-Year Outlook on Science and Technology," Vol. II, Washington, D.C.: U.S. Government Printing Office (NSF 81-41), November 1981, pp. 561-568.

Conferences on Epidemiology of Aging, DHEW Publication No. (NIH) 77-711 and NIH Publication No. 80-969.

D.L. Featherman, "The Life-Span Perspective," in the National Science Foundation, "Five-Year Outlook on Science and Technology," Vol. II, Washington, D.C.: U.S. Government Printing Office (NSF 81-41), November 1981, pp. 621-648.

W.T. Bielby and R.M. Hauser, "Structural equation models." Annual Review of Sociology, 1977, 3, 137-161.

M.T. Hannan and B.B. Tuma, "Methods of temporal analysis." Annual Review of Sociology, 1979, 5, 303-328.

J.R. Nesselroade and P.B. Baltes (eds.), Longitudinal Research in the Study of Behavior and Development. N.Y.: Academic Press, 1979.

M.W. Riley, B.B. Hess, and K. Bond (eds.), Aging in Society: Selected Reviews of Recent Research. Hillsdale, N.J.: Erlbaum, 1983.

<sup>4/</sup> NIA and AoA have jointly sponsored two archives: 1) the National Archive for Computerized Data on Aging, Inter-university Consortium for Political and Social Research, University of Michigan, Ann Arbor, Michigan 48106, and 2) Public Use Archive, Center for the Study of Aging, Duke University, Box 3003, Durham, NC 27710. An Inventory of Longitudinal Studies on the Middle and Later Years is available from the Social Science Research Council, 605 Third Avenue, N.Y., N.Y. 10016 or from Behavioral Sciences Research, NIA. Write directly to the archives for listings of their holdings.



VII. APPLICATION SUBMISSION AND REVIEW

Potential applicants are strongly encouraged to discuss their project with NIA staff in advance of formal submission. This can either be done through a telephone conversation or through a written and brief (4-5 pages) research prospectus.

Applicants should use the regular research project and program project grant application form (PHS 398), which is available at the applicant's institutional Application Control Office or from the following:

Office of Grants Inquiries  
Division of Research Grants  
National Institutes of Health  
Bethesda, Maryland 20205

Telephone: (301) 496-7441

In order to expedite the application's routing within NIH, Please (1) check the box on the application form's face sheet indicating that your proposal is in response to this announcement and print (next to the checked box) NIA HEALTH AND EFFECTIVE FUNCTIONING IN MIDDLE AND LATER YEARS, and (2) enclose a cover letter repeating that the application is in response to this announcement.

The cover letter and the completed application (along with six copies) should be mailed to:

Division of Research Grants  
National Institutes of Health  
Westwood Building - Room 240  
5333 Westbard Avenue  
Bethesda, Maryland 20205

Receipt dates for Research Project Grant and New Investigator Research Award applications are: July 1, November 1, and March 1; for others, including Small Grants: June 1, October 1, and February 1.

Address requests for additional information, research prospectuses, and/or letters of intent to:

National Institute on Aging  
Behavioral Sciences Research  
Building 31C - Room 4C35  
Bethesda, Maryland 20205

Telephone: (301) 496-3136

ANNOUNCEMENT

SOURCES SOUGHT FOR SMALL BUSINESS ORGANIZATIONS CAPABLE OF  
COMPETING FOR SMALL BUSINESS INNOVATION RESEARCH (SBIR) PROGRAM  
FUNDS TO DEVELOP REMOTE SPECTROMETRY FOR USE WITH GASTROINTESTINAL  
FIBEROPTIC ENDOSCOPY NIADDK-83-SS  
NATIONAL INSTITUTE OF ARTHRITIS, DIABETES, DIGESTIVE  
AND KIDNEY DISEASES

SOURCES SOUGHT: SMALL BUSINESS ORGANIZATIONS CAPABLE OF COMPETING FOR SMALL BUSINESS INNOVATION RESEARCH (SBIR) PROGRAM FUNDS TO DEVELOP REMOTE SPECTROMETRY FOR USE WITH FIBEROPTIC ENDOSCOPY IN RESEARCH, DIAGNOSIS AND TREATMENT OF DISEASES OF THE DIGESTIVE TRACT AND ASSOCIATED ORGANS. The Division of Digestive Diseases and Nutrition (DDDN), National Institute of Arthritis, Diabetes, Digestive and Kidney Diseases (NIADDK), National Institutes of Health (NIH), is seeking organizations eligible to compete for grant support under the Small Business Innovation Research Program (SBIR) to create and develop through research remote spectrometry technology and devices for use with the fiberoptic endoscope, to measure physiological parameters in situ (1).

This is not a request for proposals or applications. This "Sources Sought" announcement is issued to determine the availability of organizations capable of performing the above described research and are interested in submitting an SBIR grant application to perform such research. The response to this inquiry will guide the NIADDK in a decision to release a request for applications or to determine other means to develop remote spectrometry technology for digestive diseases research.

BACKGROUND

Studies have shown the feasibility of measuring a variety of useful physiologic parameters using a detector placed at the end of a fiberoptic bundle. Investigators at the Oak Ridge National Laboratory have developed remote instrumentation for measuring the concentrations of plutonium and uranium in reprocessing solutions (2). Investigators in the Division of Research Services of the NIH have prepared a flexible, 0.4mm diameter fiberoptic pH probe which has been used to measure pH in the blood (3,4). There appears to be an opportunity for the further development, through research, for this type of technology to be used to measure many physiologic parameters of the digestive system in health and disease.

The potential for the application of fiberoptic remote spectrometry to the study of animal and human digestive diseases physiology and pathology should be developed. It is probable that substances, present in body fluids and known to induce color-indicator

changes, could be measured. It is anticipated that such devices would have application in biomedical research, where endoscopy is emerging as a research tool, and in diagnostic and therapeutic procedures, where endoscopy is established.

REFERENCES

1. Small Business Innovation Research Program (SBIR); Small Business Innovation Development Act of 1982 (P.L. 97-219). NIH Guide for Grants and Contracts 11/(14):
2. Maugh T.H. Remote spectrometry with fiberoptics, Science 218:875-876, 1982.
3. Goldstein, S.R., J.I. Peterson, R.V. Fitzgerald. A miniature fiberoptic pH sensor for physiological use. J. Biomech. Eng. 102: 141-146, 1980.
4. Peterson, J.I., S.R. Goldstein, R.V. Fitzgerald, D.K. Buckhold. Fiberoptic probe for physiological use. Analyt. Chem. 52: 864-869, 1980.

INTERESTED ORGANIZATIONS

Please submit a letter of interest to the office named below, providing information on facilities and equipment available to perform remote spectrometry research, related organizational experience, and the qualifications and experience of key personnel.

Address replies and/or inquiries to:

Dr. Kirt Vener  
National Institutes of Health  
Westwood Building - Room 3A16  
5333 Westbard Avenue  
Bethesda, Maryland 20205

Telephone: (301) 496-7821

**ANNOUNCEMENT****REQUEST FOR RESEARCH GRANT APPLICATIONS: RFA 83-3****NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES****MYCOLOGY RESEARCH UNITS**

Application Receipt Date: October 14, 1983

**I. BACKGROUND INFORMATION**

The National Institute of Allergy and Infectious Diseases (NIAID) invites applications for program project grants to be initiated during FY 1984 for participation in an ongoing program of research in Mycology. NIAID is presently funding two Mycology Research Units (MRU), whose support terminates on August 31, 1984. In accordance with NIAID policy, program project proposals for Special Programs will now be received only at designated times. Support of new MRU or continuation of existing units will be on a competitive basis. We hope to fund at least two research units; however, the number awarded will depend upon the quality of the approved proposals. It is estimated that the direct costs for each of the research units will be approximately \$250,000 per year.

Severe, sometimes life-threatening, systemic infections caused by fungal organisms have long been recognized in all age groups and in all parts of the U.S. Treatment of these infections now requires prolonged administration of relatively toxic drugs; this therapy may be ineffective even in the otherwise healthy patient. These infections are being recognized with increasing frequency as a major cause of both morbidity and mortality in patients with impaired immune defenses. Such patients as those with underlying disease who are undergoing immunosuppressive therapy, those with renal or other organ transplants, or severely debilitated patients, are all in a high risk group significantly subject to these severe systemic fungal infections. As the use of immunosuppressive therapies increases in the treatment of patients with malignant and immunologically mediated disease or with organ transplants, the frequency of systemic mycoses will undoubtedly increase as well and will continue to be a major health problem. Of particular concern are those increasing numbers of patients having the Acquired Immune Deficiency Syndrome (AIDS), many of whom are afflicted with life-threatening mycotic infections, especially severe candidal infections of oropharynx and esophagus.

This program is described in the Catalog of Federal Domestic Assistance No. 13.856, Microbiology and Infectious Diseases Research. Awards will be made under the authority of the Public Health Service Act, Title III, Section 301 (Public Law 78-410, as amended; 42 USC 241) and administered under PHS grant policies and Federal Regulations 42 CFR Part 74. This program is not subject to A-95 Clearinghouse or Health Systems Agency review.

Geographic distribution of primary fungal infections also plays a role in the epidemiology of some of these diseases; e.g., coccidioidomycoses are more prevalent in the dry southwestern U.S., while histoplasmosis infections are found most commonly in the more humid eastern and central U.S. The fungi of medical importance include, but are not limited to, Coccidioides immitis, Histoplasma capsulatum, Blastomyces dermatitides, Cryptococcus neoformans, Candida albicans, and Aspergillus fumigatus. Superficial infections of the skin caused by dermatophytes are of lesser significance as a major public health problem, but nevertheless merit imaginative new approaches in research. An active research program in mycology and related areas is of crucial importance to help resolve the serious public health problem of fungal disease.

Research in medical mycology also needs to be encouraged and stimulated because greater knowledge and understanding of these microorganisms will help resolve fundamental problems in microbiology and immunology. The questions asked when studying nonpathogenic microorganisms can also be directed to the pathogens. Contemporary approaches and sophisticated techniques currently used for fundamental investigations on nonpathogens (e.g., *Saccharomyces*) can also be applied to similar studies on pathogenic fungi. Modern methods in molecular biology, biochemistry, immunology, and genetics should be applied to this field as they have been so successfully applied to other fields of microbiology.

## II. RESEARCH GOALS AND SCOPE

- A. The NIAID proposes to maintain its program initiative in mycology and fungal disease research. The goal of this program is to increase knowledge of the biology of the causal microorganisms and of host-parasite interactions. This fundamental knowledge will then be applied to development and improvement of means of diagnosis, prevention, and therapy of these infections.
- B. The NIAID wishes to develop multidisciplinary Mycology Research Units to serve as foci for research in fungal diseases. These units will be funded as program project grants. The areas of research emphasis for these program projects can be any or all of the categories listed in Item C. It is, however, desirable that a strong clinical component be made a part of any program project application. In addition, these programs will have certain characteristics distinguishing them from individual research grant proposals:
  1. They will be based at a teaching hospital of a university or medical school, or at a medical school-affiliated hospital.
  2. The program project will be multidisciplinary, combining the efforts of investigators in both clinical and basic science disciplines to focus on different facets of the overall problem of fungal infections.
  3. Integration and coordination of different departments within an institution, or of different collaborating institutions, usually will be necessary for adequate program development.

4. The program project will consist of a number of individual subprojects, each with a clearly identified research task, and each with a principal investigator, staff, and budget.
  5. The Program Director will be responsible for the overall direction and administration of the total project. It is expected that the principal investigators of each of the subprojects will act as members of a strong and coordinated research team, the whole directed toward resolving some of the many problems in fungal diseases. Translation of observations showing potential for clinical application should be considered as part of the research effort.
  6. It is suggested that efforts be made to stimulate research in mycology and to make students more aware of the needs and opportunities in mycology research, at both the clinical and fundamental levels.
  7. Only institutions with demonstrated expertise in both clinical and basic sciences, and with strong, ongoing research programs and resources that can focus on a multidisciplinary and multifaceted attack on fungal diseases will be considered for program project support under the provisions of this program.
- C. The research interests in this program can focus on any or all of the following specific areas:
1. Biology of the causal organisms - growth, metabolism, genetics, chemical composition, antigenic structure, dimorphism, or phase variation of certain fungi;
  2. Virulence factors of fungal agents;
  3. Epidemiology of fungal disease and the causal agent;
  4. The role of antibody and cell mediated immune responses in pathogenesis, recovery, and resistance;
  5. Immunogens and immunopathology;
  6. Pathogenesis and mechanisms of recovery and resistance;
  7. Animal model systems;
  8. Immunodiagnosis - antigen detection, identification, and specificity;
  9. Immunotherapy and immune prophylaxis - development of potential vaccine materials, antiserum therapy;
  10. Chemotherapy - development of antifungal agents, pharmacology of antifungal drugs.

### III. MECHANISM OF SUPPORT

In fiscal year 1984, the NIAID plans to fund at least two new or competing renewal MRU applications. Each grant will have a duration of not more than five years. Funding beyond the first year of the grant will be contingent upon satisfactory progress during the preceding year and availability of funds.

The receipt date for applications will be October 15, 1983. They will undergo initial review in February-March 1984, and subsequent review by the National Advisory Allergy and Infectious Diseases Council in May 1984. September 1, 1984 will be the earliest starting date for successful applicants.

Grant funds may be utilized to support the research activities of scientific and professional personnel, consultation services, equipment, supplies, travel, and publication costs. Support for research-related costs of patient involvement and medical care may be authorized. Since the program cannot provide funds for new construction, adequate physical facilities must be available for the primary needs of the unit.

### IV. LETTER OF INTENT

Prospective applicants are encouraged to submit to the address below, a one-page letter of intent that includes a brief synopsis of the proposed research and identification of any other participating institutions. The Institute requests such letters for the purpose of providing an indication of the number and scope of applications to be received. A letter of intent is not binding. It will not enter into the review of any application subsequently submitted, and is not a necessary requirement for application.

Inquiries should be directed to:

Darrel D. Gwinn, Ph.D.  
Mycology Program Officer  
Microbiology and Infectious Diseases Program  
National Institute of Allergy and  
Infectious Diseases  
National Institutes of Health  
Westwood Building - Room 738  
Bethesda, Maryland 20205

Telephone: (301) 496-7728

### V. REVIEW PROCEDURES AND CRITERIA

These are outlined in the NIAID Information Brochure on Program Projects (see "METHOD OF APPLYING" below).

VI. CONSEQUENCES OF LACK OF RESPONSIVENESS TO THE RFA OR LATE SUBMISSION

Formal applications that are not responsive to the RFA or are not received by October 14, 1983, will not be accepted for review and will be returned to the applicant.

VII. METHOD OF APPLYING

Before preparing an application, the prospective applicant should request a copy of the NIAID Information Brochure on Program Projects from:

Susan Spring, Ph.D.  
Executive Secretary  
Microbiology and Infectious Diseases  
Advisory Committee  
National Institute of Allergy and  
Infectious Diseases  
National Institutes of Health  
Westwood Building - Room 706  
Bethesda, Maryland 20205

Telephone: (301) 496-7465

The Information Brochure contains special instructions for preparing program project grant applications, review procedures and criteria, and other important information.

Use the standard research grant application form PHS 398 (Rev. 5/82). In addition to following accompanying format instructions for the development of a Center application, include expanded material listed above under the eight points for the "letter of intent." For purposes of identification and processing, the words "Mycology Research Unit" should be typed in item 2 on the face page of the application and a brief covering letter should be attached indicating submission is in response to this NIAID announcement.

Application kits may be obtained from the institution's application control office. If not available there, they may be obtained from:

Office of Grants Inquiries  
Division of Research Grants  
National Institutes of Health  
Westwood Building - Room 448  
Bethesda, Maryland 20205

Forward the complete application to:

Division of Research Grants  
National Institutes of Health  
Westwood Building - Room 240  
Bethesda, Maryland 20205



Please forward a copy (not the original) of the cover letter and the application face page to:

Darrel D. Gwinn, Ph.D.  
Mycology Program Officer  
Microbiology and Infectious Diseases Program  
National Institute of Allergy and  
Infectious Diseases  
National Institutes of Health  
Westwood Building - Room 738  
Bethesda, Maryland 20205

Telephone: (301) 496-7728

## ANNOUNCEMENT

### IRISH MEDICAL RESEARCH COUNCIL FELLOWSHIPS

#### FOGARTY INTERNATIONAL CENTER

The Medical Research Council of Ireland (MRCI) provides a limited number of postdoctoral research fellowships to U.S. health scientists to conduct research in Ireland. The purpose of these fellowships is to enhance the exchange of research experience and information in the biomedical and behavioral sciences. The types of activity that are supported by this program include collaboration in basic or clinical research, and the familiarization with or utilization of special techniques and equipment not otherwise available to the applicant. The program does not provide support for activities that have as their principal purpose brief observational visits, attendance at scientific meetings, or independent study.

The program is administered for the MRCI through the Fogarty International Center (FIC), National Institutes of Health (NIH).

#### ELIGIBILITY

Applicants for the program must meet the following requirements:

- o U.S. citizenship or permanent U.S. residency,
- o A doctorate in clinical, behavioral or biomedical science,
- o Ten years or less of postdoctoral experience,
- o Professional experience in the health sciences for at least two of the last four years.

#### SUPPORT

The MRCI will provide the following support:

1. Stipend: Stipends are between IR~~€~~10,000 and IR~~€~~15,000 per annum. The appropriate level is determined by the age and experience of the applicant at the time of award. Research experience such as teaching, internship, or residency training may be considered relevant experience.
2. Travel: Roundtrip tourist class air fare expenses are provided for fellows from point of origin in the United States to the Irish training institution. Fellows must purchase their flight tickets through the Aer Lingus office in New York or Boston. No reimbursement will be made for any other expenses en route, nor for costs of transporting personal or household effects.

#### DURATION OF PARTICIPATION

Fellowships are awarded for a one year period, but exceptions may be considered if recommended by the training institution and approved by the MRCI. The starting date of the fellowship is set by mutual agreement of the applicant and the institution, provided it is within the twelve-month period immediately following the date of the award.

#### APPLICATION AND SELECTION

Information and applications are provided by the Fogarty International Center. In addition to biodata and reference reports, the applicant will be required to include a clear and explicit description of the proposed activity to be carried out in Ireland and the benefit expected from the experience. The sponsor's portion of the application should reflect that he or she is prepared to guide and administer the proposed research project, and can provide the necessary facilities. It is the applicant's responsibility to arrange for his or her research training with the sponsor either through direct correspondence with a scientist in Ireland or through correspondence in the applicant's behalf by a senior scientist in the United States with an Irish colleague.

Deadline for receipt of applications at the Fogarty International Center is October 1. Applications are reviewed for scientific merit by the NIH and are transmitted to the Medical Research Council of Ireland for final selection. Shortly after the MRCI meeting which is held in May, candidates will be notified of the results.

#### INQUIRIES AND APPLICATION KITS

Chief, International Research and Awards Branch  
Fogarty International Center  
Building 38A - Room 613  
National Institutes of Health  
Bethesda, Maryland 20205

ANNOUNCEMENT

BIOMEDICAL RESEARCH FELLOWSHIP OPPORTUNITIES ABROAD

**JOHN E. FOGARTY INTERNATIONAL CENTER FOR ADVANCED  
STUDY IN THE HEALTH SCIENCES**

The John E. Fogarty International Center for Advanced Study in the Health Sciences (FIC) of the National Institutes of Health (NIH), announces the availability of postdoctoral fellowships to U.S. health scientists who wish to conduct collaborative research abroad. The purpose of these fellowships is to enhance the exchange of research experience and information in the biomedical, behavioral and health sciences.

Programs Available to U.S. Citizens or Permanent U.S. Residents:

ALEXANDER VON HUMBOLDT FOUNDATION POSTDOCTORAL RESEARCH FELLOWSHIPS  
(Supported by the Federal Republic of Germany)

FRENCH NATIONAL INSTITUTE OF HEALTH AND MEDICAL RESEARCH POSTDOCTORAL FELLOWSHIPS  
(Supported by the Government of France)

IRISH MEDICAL RESEARCH COUNCIL POSTDOCTORAL FELLOWSHIP  
(Supported by the Government of Ireland )

NIH-FRENCH NATIONAL CENTER FOR SCIENTIFIC RESEARCH EXCHANGE PROGRAM  
(Jointly Supported by the Governments of France and the United States)

SWEDISH MEDICAL RESEARCH COUNCIL FELLOWSHIPS  
(Supported by the Government of Sweden)

SWISS NATIONAL SCIENCE FOUNDATION POSTDOCTORAL FELLOWSHIPS  
(Supported by the Government of Switzerland)

The eligibility requirements of each program vary and this information is provided in each program's brochure which is available upon request. However, at a minimum, each candidate must have an earned doctoral degree in one of the behavioral, biomedical or health sciences and some postdoctoral experience.

The receipt date for all applications except those to the Alexander von Humboldt Foundation is October 1, 1983. Applications for the Alexander von Humboldt Foundation Postdoctoral Research Fellowships are available and are accepted throughout the year. For those fellowship programs with an October 1 receipt date, application kits will be available from April 1, 1983 to September 15, 1983. The organization that provides

financial support for each of the programs selects candidates for participation. While the maximum period of support for all programs is one year, the minimum period of support varies with each program.

All correspondence should refer clearly to the specific program of interest. For further information, please send a self-addressed label with your request to:

International Research and Awards Branch  
Fogarty International Center  
National Institutes of Health  
Bethesda, Maryland 20205