NIH GUIDE for GRANTS and CONTRACTS

U.S. DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE

Vol. 4, No. 12, December 11, 1975

MINORITY ACCESS TO RESEARCH CAREERS (MARC PROGRAM)

ANNOUNCEMENT

Under authority of Public Law 93-348, National Research Act, the National Institute of General Medical Sciences (NIGMS) is accepting applications for Faculty Fellowships under the Minority Access to Research Careers (MARC) Program. The program is designed to assist minority institutions in the training of greater numbers of scientists and teachers in health-related fields.

The MARC Faculty Fellowship program provides opportunities for advanced research training for selected faculty members of four-year colleges, universities and health professional schools in which student enrollments are drawn substantially from ethnic minority groups. These institutions may nominate faculty members to apply for MARC Fellowships to support a period of advanced study and research training in graduate departments and laboratories as candidates for the Ph.D. degree or for postdoctoral research training in the biomedical sciences. MARC Faculty Fellows are selected on a competitive basis. Awards may be made for up to 3 years of support. When their training is completed the Fellows are expected to return to sponsoring schools to do research and teaching so as to inspire and assist minority students to prepare for professional careers in the biomedical sciences and in medicine.

Faculty members eligible for the above award are from four-year colleges, universities, and health professional schools in which student enrollments are drawn substantially from ethnic minority groups (American Indians, Blacks, Hawaiians, Mexican-Americans, Puerto Ricans, and other racial descent).

Applications received by	Results announced
January 2	June

Further information regarding tenure, stipends, trainee eligibility and required payback provisions may be found in *NIH GUIDE FOR GRANTS AND CONTRACTS*, Vol. 4, No. 10, October 24, 1975.

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Application forms may be obtained from Mr. Elward Bynum, Director, MARC Program, National Institute of General Medical Sciences, NIH, Bethesda, Maryland 20014, telephone (301) 496-7357. Appropriate institutional officials and faculty members may contact Mr. Bynum for counseling in the preparation of applications.

NOTICE OF AVAILABILITY OF AGED RATS AND MICE

The National Institute on Aging (NIA) maintains under commercial contract a colony of aged inbred Fischer 344 rats and C57BL/6, BALB/c, and CBF_1 (F_1 hybrid cross of C57BL/6 x BALB/c) inbred mice for research on aging. Aged rats and mice 3 to 24-plus months of age may be provided to investigators currently engaged in aging research or for pilot studies in anticipation of later submission of a research grant application on aging. The aged rats and mice are cesarian originated and maintained behind a barrier system to exclude microbial pathogens. Characterization data including life tables, growth curves, organ weights, age-associated pathology and blood chemistries are available on the Fischer rat and are currently under acquisition in the mouse strains.

Investigators interested in acquiring animals from the aging rat or mouse colony must submit a request for the animals indicating numbers of animals required, date and intervals at which animals are needed and any special requirements which must be met. If the investigator is not currently supported by NIA, additional information must be submitted so that merit and relevance of the request for animals can be evaluated. This should include a brief outline of the proposed pilot studies and recent publications indicative of studies related to the proposed pilot project as well as a curriculum vitae.

Since the contract is partially self-sustaining, reimbursement for rats at the rate of $2.60 per month of age and mice at $.60 per month of age must be made by investigators currently supported by NIA. Animals may be provided to investigators for pilot studies in lieu of reimbursement for per diem if it is determined that the data developed from the study may be relevant to the NIA's program in aging research.

Requests for aged rats and mice should be directed to Dr. Don C. Gibson, NIA, Room A709, Landow Building, Bethesda, Maryland 20014, telephone (301) 496-1033.

NATIONAL EYE INSTITUTE
ACADEMIC INVESTIGATOR AWARD

A N N O U N C E M E N T

The National Eye Institute Academic Investigator Award is designed to facilitate the development of academic faculty in laboratory or clinical sciences related to diseases of the eye and the visual system. It will enable the promising young biomedical scientist to obtain laboratory research, clinical research and teaching experience appropriate to the development of academic leadership. For this effort to be successful there must be an institutional commitment to strengthen research and academic activities related to the visual sciences in that institution. The Academic Investigator Award assists in this commitment by enabling awardees to become established in laboratory and clinical visual sciences as investigators and educators. Candidates must have an M.D., Ph.D., O.D., D.V.M., or equivalent degree and should have from three to seven years' postdoctoral research training or an equivalent. The award will provide support for a total of up to three years and is not renewable or transferable. While any aspect of vision research could be the basis of a successful application, preference will be given to those applications which emphasize training in laboratory research or the epidemiology of vision disorders, including the methodology of controlled clinical trials.

Applications for the Academic Investigator Award Program will be accepted from citizen or non-citizen nationals of the United States, or those who have been lawfully admitted to the United States for permanent residence. Candidates must be nominated for the proposed program by an appropriate non-Federal public or private non-profit institution located in the United States, its possessions or territories, and must have demonstrated considerable potential for developing the qualifications necessary to pursue careers in research and academic medicine. Awards will be made to the sponsoring institution on behalf of the candidate.

Applications for the Academic Investigator Award will be accepted annually on February 1, June 1, and October 1. Notification of action will occur about 8 months following the receipt date.

For application kits or additional information contact:

Samuel C. Rawlings, Ph.D.
Assistant to the Branch Chief
Scientific Programs Branch
National Eye Institute
Room 6A52, Building 31
Bethesda, Maryland 20014

Telephone: (301) 496-5301

REQUEST FOR RESEARCH GRANT APPLICATIONS: RFA ANNOUNCEMENT

TITLE - *AEROSOL THERAPY*

The Division of Lung Diseases of the National Heart and Lung Institute is encouraging research on the transport and deposition of hygroscopic medical aerosols in normal and diseased lungs. This request invites research applications in this area.

The Request for Application (RFA) is utilized when there is a need to stimulate investigator interest in a particular research area that is important to the national program of the Division. Unlike the Request for Contract Proposals (RFP), the RFA identifies the scope of the Division's interest but does not require that the proposal conform to specified research requirements. Moreover, the RFA is supported through the customary NIH grant-in-aid and is governed by the policies for regular research grants. However, the RFA solicitation represents a single competition, with a specified deadline for receipt of applications. All applications in response to the RFA will be reviewed at the same time by a special ad hoc review panel. All funded applications will be administered in the same fashion as regular research grants.

Information for the preparation of the grant applications, their submission to NIH and their review is outlined below and further described in the following sections.

I. PROGRAM OBJECTIVES AND REQUIREMENTS

- A. The Special Programs and Resources Branch
- B. Program Goals and Objectives
- C. Scope of Research
- D. Mechanism of Support

II. METHOD AND CRITERIA FOR REVIEW

- A. Review Procedures
- B. Review Criteria

III. METHOD OF APPLYING

- A. Letter of Intent
- B. Application Format
- C. Application Procedure

If you have questions relating to this announcement, you should contact Dr. Lynn H. Blake at (301) 496-7171.

We hope that this RFA and participation in the program will be of interest to you.

AEROSOL THERAPY

I. PROGRAM OBJECTIVES AND REQUIREMENTS

A. Special Programs and Resources Branch

The Special Programs and Resources Branch of the Division of Lung Diseases, National Heart and Lung Institute supports research, development and evaluation of resources for the study, diagnosis and treatment of lung diseases. Efforts are being made to expand the valuation of specific modes of respiratory therapy.

B. Program Goals and Objectives

The specific goal of this program is to encourage research on the effects of particle size and electrical charge, breathing patterns, and methods of aerosol application upon the transport and deposition of hygroscopic medical aerosols in normal and diseased lungs. These data are needed to provide a basis for improved administration of respiratory medications such as water vapor, bronchodilators, mucolytic agents and antimicrobials.

The deposition and clearance of non-hygroscopic (stable) aerosols have been extensively studied. Theoretical and experimental studies of stable aerosols have been underway for many years. However, the investigations of the transport and deposition of hygroscopic (unstable) aerosols are limited.

Hygroscopic aerosols will change in size upon entering the humid conditions of the respiratory airways. The rate of this change is a complex function of the relative himidity, the size of incoming droplets or particles and their chemical composition. Small particles may grow large enough during their passage along bronchial airways to alter their site of deposition. However, there are circumstances (as with aerosols of pure water) in which small droplets not only fail to grow in humid air but actually evaporate, even under conditions of 100 percent relative humidity. This fact has created some confusion among those employing mist tents or otherwise concerned with the delivery of water to respiratory surfaces.

The current status of respiratory therapy was the focus of a recent conference on the Scientific Basis of Respiratory Therapy that was co-sponsored by the American Thoracic Society and the Division of Lung Diseases. The proceedings of the conference, published in the American Review of Respiratory Disease, Vol. 110, No. 6, December 1974, identified several important aspects of aerosol therapy that require further study and investigation; one was the transport and deposition of hygroscopic, unstable medical aerosols of the type used in treatment of obstructive lung diseases.

C. Scope of Research

To be responsive to this RFA, the application must present a plan to investigate the transport and deposition of hygroscopic medical aerosols in the human respiratory system. The research topics presented below are intended to suggest the scope of research that would meet the goals of this program. However, the topics cited are for illustrative purposes only; investigators are encouraged to consider other projects relevant to the goals of this program.

1. Mathematical Models

Physical and mathematical models of particulate transport and deposition in the respiratory tract need to be extended to include hygroscopic effects of medical aerosols. Such models could investigate the effects of aerosol size, composition and electrical charge upon the mechanisms of transport and deposition. These studies may provide a basis for further investigation into the influence of such factors as delivery techniques and breathing maneuvers on aerosol transport and deposition.

2. Animal Model

Animal models may be developed and used to investigate the influences of aerosol particle size, breathing patterns and regional variations of ventilation upon aerosol deposition and transport. Non-invasive as well as invasive techniques may be used to investigate the characteristics of transport and deposition of hygroscopic aerosols using non-hygroscopic aerosols for comparison.

3. Clinical Studies

Studies to determine the deposition of hygroscopic medical aerosols (including water vapor) may be performed in normal subjects as well as those with obstructive lung disease. The subject's pulmonary condition should be characterized by detailed clinical, radiologic, and pulmonary function studies. Such investigations should include the use of various particle sizes and methods of aerosol administration, to determine the influence of each upon the regional distribution of the aerosol.

The most widely used methods to monitor the pulmonary distribution of inhaled aerosols employ radioisotope techniques. However, improvement in the currently available methods of detection of radioactivity is necessary. The use of biplane scintiphotography and positron camera systems are possibilities to be considered. Consideration may also be given to methods other than radioisotopes, such as the use of radiopaque and magnetic substances.

The applicant should clearly define the hypotheses to be investigated, the rationale and background for the work, the specific goals of the program, the methods of procedure and the significance of the research to clinical use of aerosols.

D. Mechanism of Support

The support mechanism for this program will be the traditional NIH grant-in-aid; successful applicants will plan and execute their own research program. Therefore, except where stated to the contrary, the current policies which govern the research grant programs of the NIH will prevail. Upon initiation of the program, the Division of Lung Diseases may sponsor periodic workshops to encourage exchange of information among participating investigators.

A variety of approaches would represent valid responses to this announcement. Accordingly, it is anticipated that there will be a range of costs among individual grants awarded. Applicants are requested to furnish their own estimates of the time required to achieve the objectives of the proposed research project; however, the total project period of the proposal may not exceed five years. Following the initial grant period, renewal applications may be submitted for competitive review.

Although this program is included in the financial plan for fiscal year 1976, award of grants pursuant to this RFA is contingent upon availability of appropriated funds.

II. METHOD AND CRITERIA FOR REVIEW

A. Review Procedures

Applications will be reviewed by the Division of Research Grants (DRG) and NHLI staff for responsiveness to this announcement. If an application is judged unresponsive, the applicant will be given an opportunity to withdraw the application or to submit it for consideration in the traditional grant program of NIH. Applications judged responsive will be reviewed initially for scientific merit by a Special Study Section, and secondly by the National Heart and Lung Advisory Council.

B. Review Criteria

Applications will be evaluated by the following criteria:

- o potential of the proposed methods and plans for achieving the goals of this RFA.
- o the scientific merit of the research design, approaches and methodology.

- o the availability and competence of the professional staff to conduct the proposed investigations.
- o appropriateness of the budget to the proposed work.
- o adequacy and availability of existing and proposed facilities and resources.
- o adequacy of organizational arrangements for scientific direction.
- o evidence of institutional commitment to the program.

III. METHOD OF APPLYING

A. Letter of Intent

Prospective applicants should submit a one-page letter describing the proposed research program not later than January 15, 1976, to:

Dr. Lynn H. Blake
Division of Lung Diseases
National Heart and Lung Institute
Room 6A10, Westwood Building
Bethesda, Maryland 20014

The Institute requests such letters only to provide a perspective of the number and the scope of applications. A letter of intent is not binding, and it will not enter into the review of any proposal subsequently submitted.

B. Application Format

Applications should be submitted on Form NIH-398, the application form for the traditional research grant. The conventional presentation for research grant applications should be utilized; the points identified under the Review Criteria must be fulfilled.

C. Application Procedure

The original and twenty-four (24) copies of the application must be received before 5:00 p.m. Eastern Time on February 16, 1976.

Applications should be sent or delivered to:

Division of Research Grants
National Institutes of Health
Room 240, Westwood Building
5333 Westbard Avenue
Bethesda, Maryland 20014

A brief covering letter should accompany the application indicating that it is in response to the Program Announcement-NHLI Program on Aerosol Therapy. A copy of the covering letter should be sent to Dr. Lynn H. Blake, Division of Lung Diseases, National Heart and Lung Institute, Room 6A10, Westwood Building, Bethesda, Maryland 20014, to indicate that the application has been submitted.

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