# NIH GUIDE

# For Grants and Contracts

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# U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

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The NIH Guide announces scientific initiatives and provides policy and administrative information to individuals and organizations who need to be kept informed of opportunities, requirements, and changes in extramural programs administered by the National Institutes of Health.

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#### NOTICES

#### PREVENTION AND CESSATION OF USE OF SMOKELESS TOBACCO

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P.T. 34; K.W. 0745055

National Cancer Institute

The National Cancer Institute hereby withdraws its program announcement entitled "Prevention and Cessation of Use of Smokeless Tobacco," which appeared in the NIH Guide for Grants and Contracts, Vol. 15, No. 3, February 28, 1986. Please contact the Smoking, Tobacco, and Cancer Program (Dr. Gayle Boyd, (301) 427-8620) if you have any questions concerning this announcement.

## NIH REGIONAL WORKSHOP - PHS POLICY ON THE HUMANE CARE AND USE OF LABORATORY ANIMALS

P.T. 42; K.W. 0201011, 1014003

National Institutes of Health

The National Institutes of Health, Office for Protection from Research Risks, is continuing to sponsor a series of workshops in implementing the revised Public Health Service Policy on the Humane Care and Use of Laboratory Animals. The Workshops are open to institutional administrators, members of animal care and use committees, laboratory animal veterinarians, investigators and other institutional staff who have responsibility for high-quality management of sound institutional animal care and use programs.

Date: March 12-13, 1987

Location: Portland, Oregon

Contact:

Ms. Nancy Praskell
Administrative Assistant
Department of Animal Care
Oregon Health Sciences University - L1110
3181 S. W. Sam Jackson Park Road
Portland, Oregon 97201
Telephone (503) 225-8427

Date: March 30, 1987

Location, Miami, Florida

Contact:

Ms. Kim Adar or Ms. Margaret Moncure 20255 S.W. 360 Street Homestead, Florida 33034 Telephone: (305) 547-6803 or (305) 245-1551

Date: April 29, 1987

Location: Ann Arbor, Michigan

Contact:

Ms. Joan Eadie
Department of Conferences
University of Michigan Extension Service
200 Hill Street
Ann Arbor, Michigan 48104-3297
Telephone: (313) 764-5304



#### DATED ANNOUNCEMENTS (RFPs AND RFAs AVAILABLE)

#### DEVELOPMENT OF PROTEIN-POLYSACCHARIDE PNEUMOCOCCAL CONJUGATE VACCINES

RFP-NIH-NIAID-MIDP-87-23

P.T. 34; K.W. 0740075, 0710070

National Institute of Allergy and Infectious Diseases

The Development and Applications Branch of the Microbiology and Infectious Disease Program of the National Institute of Allergy and Infectious Diseases is soliciting proposals from organizations having the capabilities and facilities to: (1) isolate and purify capsular polysaccharide antigens from selected pneumococcal serotypes; (2) develop modified pneumococcal capsular antigens, using conjugation procedures, which can induce anti-Streptococcus pneumoniae capsular polysaccharide antibodies in infants; (3) perform animal testing for the vaccines safety and potency; and (4) provide sufficient doses of vaccine for human safety, immunogenicity, and efficacy testing.

This is an announcement for an anticipated Request for Proposal (RFP). RFP-NIH-NIAID-MIDP-87-23 will be issued on or about January 26, 1987, and proposals will be due by close of business March 20, 1987. One (1) award is anticipated for a contract period of approximately three (3) years. Requests for the RFP should be directed to:

Thomas C. Porter
Contract Management Branch
National Institute of Allergy and Infectious Diseases
National Institutes of Health
Westwood Building, Room 707
Bethesda, Maryland 20892

Reference: NIAID-MIDP-87-23. Please provide this office with two self-addressed mailing labels. Telephone inquiries will not be honored and all inquiries must be in writing and addressed to the office listed above.

This advertisement does not commit the Government to make an award.

#### DEPRESSION AWARENESS, RECOGNITION AND TREATMENT

P.T. 34; K.W. 0715095, 0502000

National Institute of Mental Health

Application receipt date: March 16, 1987

As part of its Depression Awareness, Recognition and Treatment (D/ART) program, the National Institute of Mental Health has issued a new announcement on Short-term Training Grants in Diagnosis and Treatment of Depressive Disorders, MH-87-03. The Institute seeks applications for programs in continuing education for mental health and other health care professionals. Each program will be short-term (not to exceed 1-week's duration), to be carried out at multiple locations (minimum of six sites). This initiative is intended to provide for the development of effective training which is directly tied to major recent research findings and clinical knowledge and which incorporates both didactic and experiential modes of teaching; it is not designed to test training models. Applications will be accepted under the single receipt date of March 16, 1987. Further information is available from:

Dr. Harold Goldstein
Prevention Research Branch, Division of Clinical Research
Parklawn Building, Room 14C-02
National Institute of Mental Health
5600 Fishers Lane
Rockville, Maryland 20857
Telephone: (301) 443-4140 or

Anne Cooley
Division of Extramural Activities
Parklawn Building, Room 9-95
National Institute of Mental Health
5600 Fishers Lane
Rockville, Maryland 20857
Telephone: (301) 443-4673

#### RURAL MENTAL HEALTH DEMONSTRATION PROGRAM

P.T. 12; K.W. 0715095, 0730050

National Institute of Mental Health

Application receipt date: April 1, 1987

The National Institute of Mental Health (NIMH) announces the Rural Mental Health Demonstration Program, MH-87-10, to provide grants to States to assist States and local communities in meeting the immediate and critical mental health needs of rural residents currently affected by the farm crisis, and to improve the long-term capacity of State and local governments to deliver appropriate mental health services in rural areas. Congress has provided \$1,200,000 to NIMH to establish four State demonstration projects with the goal of promoting the development within communities of comprehensive community mental health, health, job retraining, employment, and related services and opportunities appropriate to rural Americans experiencing emotional and behavioral problems or mental disorders. Support may be requested for up to 18 months. Applications in response to this announcement will be accepted under the single receipt date of April 1, 1987. Further information may be obtained from:

James W. Thompson, M.D., M.P.H. Biometric and Clinical Applications Branch Division of Biometry and Applied Sciences, NIMH 5600 Fishers Lane, Room 1BC-04 Rockville, Maryland 20857 Telephone: (301) 443-3364

# CENTERS FOR RESEARCH ON THE ORGANIZING AND FINANCING OF CARE FOR THE SEVERELY MENTALLY ILL

P.T. 34; K.W. 0715095, 0730050

National Institute of Mental Health

Application receipt date: April 1, 1987

The National Institute of Mental Health (NIMH) announces the availability of support for Centers for Research on the Organizing and Financing of Care for the Severely Mentally Ill, MH-87-06. The purpose of these centers is to provide a stimulating and productive research environment in which experienced health services, clinical, and sociocultural researchers can interact and direct their energies toward the conceptualization, development, and conduct of studies on the delivery of services to individuals with severe mental disorders. In Fiscal Year 1987, NIMH will award a grant to support one center. It is anticpated that a second center will be funded in Fiscal Year 1988. Applications in response to this announcement will be accepted under the single receipt date of April 1, 1987. Further information may be obtained from:

Dr. Lawrence Chaitkin Biometry and Clinical Applications Branch Division of Biometry and Applied Sciences National Institute of Mental Health Parklawn Building, Room 18C-04 5600 Fishers Lane Rockville, Maryland 20857 Telephone: (301) 443-4233

#### SUPERFUND HAZARDOUS SUBSTANCES BASIC RESEARCH PROGRAM, PHASE I

P.T. 34; K.W. 1007001, 1007003, 1007009, 0710030

National Institute of Environmental Health Sciences

Application receipt date: May 1, 1987

The National Institute of Environmental Health Sciences (NIEHS) announces the first phase of a special Program of basic research grants directed towards understanding, assessing, and attenuating the adverse effects on human health resulting from exposure to hazardous substances. This first phase will be limited to biomedical research proposals; expansion of the program into related engineering and ecological research topics will be described in a subsequent announcement to be released in the spring of 1987. Grants made under this Program will be for coordinated,

multi-component, interdisciplinary programs, and the objective is to establish a unique program linking biomedical research with the other components. No single-project applications will be accepted.

#### BACKGROUND

The Superfund Amendments and Reauthorization Act (SARA) of 1986 established a university-based program of basic research within the NIEHS to complement existing activities within the Environmental Protection Agency (EPA), the principal manager of the Superfund Program, and the Agency for Toxic Substances and Disease Registries (ATSDR). The EPA has specific mandated research responsibilities in the areas of assessment of the environmental impact of hazardous substances at hazardous waste sites, hazardous waste containment and destruction technologies, and environmental transport and fate of chemicals, as well as monitoring and testing for hazardous substances in the environment. The ATSDR provides site-specific, public health assessments and advisories to the EPA and to state and local agencies, citizens, and health care providers. Its research mission includes applied research into the development and evaluation of toxicologic profiles of hazardous substances found at Superfund sites and the assurance that toxicologic testing of these substances is conducted when necessary. The ATSDR also supports research into improved clinical laboratory methods to assess human exposure in communities affected by Superfund sites as well as the establishment of exposure registries, health surveillance systems, and epidemiologic studies.

The NIEHS Research Program is a new facet of the Superfund Program. It is intended to support a wide range of research to address the broad public health concerns arising from the release of hazardous substances and hazardous wastes into the environment, particularly from uncontrolled, leaking waste disposal sites. While some of the research currently supported by the Institute's extramural grants program is relevant to these concerns, the new Superfund Program is distinct in that its primary objective is to expand the base of scientific knowledge needed for adequate assessment of exposure and health risks from environmental contamination, reduction in the amount and toxicity of hazardous substances, and, ultimately, prevention of adverse human health effects.

The legislation specifically authorizes the NIEHS to establish a university-based basic research and training program (including epidemiologic and ecologic studies) of: a) advanced techniques for the detection, assessment, and evaluation of the effects on human health of hazardous substances; b) methods to assess the risk to human health presented by hazardous substances; and c) methods and technologies to detect hazardous substances in the environment and basic biological, chemical, and physical methods to reduce the amount and toxicity of hazardous substances.

The NIEHS interprets this mandate also to include funding for engineering, ecological, and hydrogeological research, and will support projects in these areas as long as they are to be performed in conjunction with biomedically-related programs.

#### DESCRIPTION OF THE PROGRAM

The SARA legislation establishing the NIEHS Superfund research, development, and training program authorized funding at levels of \$3 million in Fiscal Year 1987, \$10 million in 1988, \$20 million in 1989, \$30 million in 1990, and \$35 million in 1991. (These dollar amounts are budget ceilings and actual amounts will be appropriated each year, according to the Federal budget process.) The NIEHS has chosen to implement the program in a staged process consistent with the anticipated budgetary growth and in order to develop a comprehensive plan as required by the legislation.

The first phase of the NIEHS Superfund Research Program (FY87) will consist of only biomedical research components. The scope of this phase is described below. Beginning in the second year, engineering, ecological, and hydrogeological components will be included insofar as they are integral parts of a larger, broad-based biomedical research program grant. Preference will be given to programs that have the capability of integrating several disciplines into their final program. A second announcement outlining the scope of the entire Program will be published in the spring of 1987 and applications containing all components will be received on September 15, 1987. A detailed timetable for application deadlines is shown later in this announcement. Applications approved but not funded in FY 1987 will remain in competition for FY88 funds. Recipients of awards in phase I (biomedical research components only) may submit supplemental applications to incorporate engineering, ecological, and hydrogeological components into their programs.

The legislation also authorizes the NIEHS to support training activities and continuing education for state and local health and environmental agency staff and others who handle hazardous wastes, as well as graduate or advanced training in environmental and occupational health and the geosciences. This part of the Program will also be announced later and implemented in the second year.

#### RESEARCH OBJECTIVES AND SCOPE

The following discussion of research opportunities for the biomedical components of this Program is intended to offer examples of possible approaches as identified by the NIEHS through consultation with the scientific community. THESE EXAMPLES ARE ONLY ILLUSTRATIVE OF TYPES OF RESEARCH EFFORTS THAT MAY BE APPROPRIATE TO THIS PROGRAM AND ARE NOT MEANT TO BE ALL-INCLUSIVE OR RESTRICTIVE. The Institute encourages new and innovative approaches, since most of the approaches now used in the field will probably be inadequate to provide the new information needed to deal with Superfund problems.

#### METHODS/TECHNOLOGIES TO DETECT HAZARDOUS SUBSTANCES IN THE ENVIRONMENT

- o New methods need to be developed to detect and determine the truly toxic and most hazardous chemicals or agents present at or near dump sites. These methods should have the sensitivity and specificity needed to detect the lowest concentrations of chemicals which could pose toxic threats to humans. Special attention needs to be paid to the fact that most chemicals or hazards at dump sites will occur in complex mixtures—both of chemicals of many kinds as well as with soil, water, and air. The development of these new methods for detection and quantification of chemicals present at or near dump sites should be linked to the study and review of the toxicity of those chemicals present at the sites, so as to have guidelines as to the sensitivity and specificity needed in the new methods.
- o Improved techniques are needed for measuring and modeling movement and alteration of chemicals through the media surrounding the waste dump so as to increase the reliability of measurements for risk assessment at such sites. Animals living in or near or placed at the dump sites might be sampled to detect the presence and spread of truly toxic chemicals from the dump, and to establish the important adverse health effects of these chemicals in animals. These animals might be feral (rats, rabbits, fish, reptiles, birds) or domestic (pets of households close to the dump.)

ADVANCED TECHNIQUES FOR THE DETECTION, ASSESSMENT, AND EVALUATION OF THE EFFECTS ON HUMAN HEALTH OF HAZARDOUS SUBSTANCES

- Methods need to be developed for human dosimetry—e.g., by personal monitors or by sampling tissues. Specific and sensitive methods to detect and quantify toxic chemicals in human tissues or excreta, at the concentrations likely to occur after environmental exposures, are needed for almost all toxic chemicals likely to occur at dump sites. The application of newer analytical techniques to biological samples often requires extensive adaptation and validation. It is desirable to couple these studies with pharmacokinetic analysis, and to link all of this with studies of the biological effects of the exposures. In these ways, carefully designed epidemiological and risk assessment studies of persons exposed to dump site chemicals may be carried out.
- o Methods to detect and quantify chemical metabolites and adducts of chemicals with human or animal tissue macromolecules (enzymes, other tissue proteins, and DNA/RNA) may also be useful in detecting and quantifying exposure, and in estimating times of exposure to hazardous materials or chemicals. Some metabolites or stable adducts may give estimates of cumulative exposures to chemicals.
- o Methods are needed to "fingerprint" the biological effects of specific hazardous chemicals or pollutants so that exposures to such chemicals can be more easily and clearly defined and set apart from effects produced by other chemicals or causes. These methods should be applicable to humans, and to the levels of (and perhaps intermittent exposures to) hazardous chemicals likely to be present at waste sites.

Exposures to toxic chemicals may result in different gene expressions or repressions and these might be detected by gene products—different types or amounts of enzymes or proteins. Oncogenes/anti-oncogenes would be a subset of these phenomena and marking their activation or repression could also mark exposures to toxic chemicals. Three examples follow.

The peculiar cytochrome P-450 isozymes produced in both animals and humans and in several tissues by some pollutants might be used to detect and quantify the exposure of the person so sampled to substances such as PCBs or TCDD.

New enzyme formation following pollutant exposure may be detected by measuring enzyme activity. Newer techniques for such measurements can be applied to humans and animals and may be done with non-radioactive (e.g., carbon-13 labeled) "substrates."

Specific induction of sets of genetic changes might distinguish between different mutagens or chemicals. An example is the increase in sister chromatid exchanges in cultured lymphocytes from animals and humans exposed to some PCBs or cigarette smoke.

- o Behavioral or neurological effects of low-level exposures to toxic chemicals might be investigated as possible early indicators of pollutant contacts around dump sites. An example is the use of learning tests or video challenge games designed to measure small decrements in integrated CNS functions produced by neurotoxic chemicals.
- o Possible effects of dump-site chemicals on all aspects of the reproduction process need to be assessed in animals and humans. Several approaches to screening for these effects might be incorporated into a research proposal. In males, semen and sperm analysis is possible (e.g., measurement of chemicals (adducts/metabolites)), and it is also possible to study effects on sperm biochemistry, morphology, activity, ability to fertilize hamster eggs, etc. In females, present tests are probably inadequate and new tests are needed, but menstrual cycle irregularities, time to menopause, and failure to conceive are now used.

Pregnancy rates and outcomes may be monitored, and studies on fetuses and newborns of animals or people living near dump sites might be very valuable. Maternal exposures to chemicals can be indicated by changes in maternal, fetal, and placental enzymes or by testing for the presence of chemicals/metabolites/adducts in amniotic fluid, maternal, placental, and fetal/newborn tissues (sampled before or at birth, when amniocentesis is done, or when there is a miscarriage).

Teratology and later developmental defects in animals (feral or domestic pets) or humans and their relation to chemical exposures (e.g., in utero) needs study, both by laboratory testing of dump site chemicals, and careful epidemiology in field studies. Early tests of pregnancy (hCG assays) may be helpful for both diagnosis and disease prevention strategies.

o Immunological studies of exposed populations might be useful, since many pollutants can change immune reactions such as the TCDD- or PBB-induced depression of the immune response to viruses. This area needs better methodology and validation for low level exposures.

The NIEHS emphasizes the illustrative nature of these topics and encourages potential applicants to expand upon these to use institutional strengths and ideas to prepare applications directed towards the broad goals of the Program as stated above. The intent is to create an environment in which various groups of scientists can interact, exchange ideas, and proceed expeditiously towards solving the complex problems of assessing and attenuating risks to human health from hazardous substances.

#### **ELIGIBILITY CRITERIA**

Section 311(a)(3) of SARA limits recipients of awards to "accredited institutions of higher education," which are defined in the Higher Education Act, 20 USC (annotated) 3381. However, grantees are permitted under the law, and encouraged by the NIEHS, to subcontract as appropriate with any organization, public or private, necessary to conduct their research. These organizations may include generators of hazardous wastes, persons involved in the detection, assessment, evaluation, and treatment of hazardous substances, owners and operators of facilities at which hazardous substances are located, and state and local governments.

#### MECHANISM OF SUPPORT

The mechanism of support will be the grant-in-aid for a period not to exceed five years. Since the Program has a five-year authorization, no commitment of funds can be made for budget periods beginning after Fiscal Year 1991 (October 1, 1990 - September 30, 1991). Administrative adjustments may be necessary to make the funding periods coincide with this timeframe.

Grants funded under this Program must be multiproject, interdisciplinary efforts bringing together a group of investigators to direct discrete research projects, each of which is related to the goals of the Superfund Research Program as outlined above. THIS PROGRAM IS NOT INTENDED TO SUPPORT INDIVIDUAL RESEARCH PROJECT GRANTS. Such projects may be appropriate for support through the existing grant programs of the Institute.

Applicants are expected to furnish their own estimates of the time required to achieve specific objectives of the proposed work, a schedule for completion of the work, and an outline of the segments into which the proposed program can be logically divided. The applicant and co-investigators will plan, direct, and execute the research program, but any substantial modifications in the scope or objectives must be mutually agreed upon by the grantee institution and the NIEHS. Because a variety of approaches will be responsive to this announcement, it is anticipated that there will be a range of costs among individual grants awarded.

Unless specifically stated otherwise, all policies and requirements that govern the grants programs of the Public Health Service will prevail.

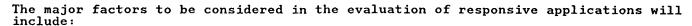
#### PROGRAM COORDINATION

To facilitate administration and coordination of this Program, the NIEHS will designate a program administrator for the Superfund Research Program. The program administrator will coordinate plans for any special activities of mutual interest to the Institute and grantees, and may make periodic visits to grantee institutions to evaluate progress and provide assistance in administrative considerations.

In addition, it is anticipated that grantees under this Program will meet annually in conjunction with a meeting of the Advisory Council on Hazardous Substances Research and Training, which is a new Council created under the legislation to review related Superfund research, training, and demonstration activities and assist in the coordination of these Federal programs. Applicants should budget funds for appropriate staff to attend a 3-day annual meeting in Research Triangle Park, N.C.

#### REVIEW PROCEDURES AND CRITERIA

Following staff review for responsiveness to the objectives of this Program, applications will be reviewed and evaluated by a group of predominantly non-Federal consultants with expertise in fields relevant to the innovative research the NIEHS is seeking to encourage. For this first phase of the Program, the short time period between receipt of the applications and award of grants will not permit site visits. However, review of applications for subsequent receipt dates may involve a site visit. The review group(s) will be convened by the NIEHS in conjunction with the Division of Research Grants, NIH, solely to review these applications. A second level of review will be performed by the National Advisory Environmental Health Sciences Council.



- the scientific merit of each proposed project, including the novelty, originality and feasibility of the approach and the adequacy of the experimental design;
- o the technical merit and justification of each core unit;
- o the competence of the investigators to accomplish the proposed research goals, their commitment, and the time they will devote to the program;
- o the scope of the overall effort in relation to the objectives of the Program to create unique interdisciplinary programs to eventually include not only biomedical components but also engineering, ecological, and/or hydrogeological components;
- o the adequacy of the facilities to perform the proposed research;
- o the integration of the various projects and core units into an effective program and plans for interactions among investigators;
- o the qualifications, experience, and commitment of the principal investigator, the ability to devote adequate time and effort to provide effective leadership;
- o the scientific and administrative structure of the program and integration of the projects into an effective overall effort;
- o the adequacy and commitment of institutional resources to administer an integrated, collaborative program; and
- o  $\,$  the appropriateness of the budget for the proposed program.

#### METHOD OF APPLYING

Letters of Intent

Prospective applicants are asked to submit a brief letter of intent which includes a descriptive title of proposeded areas of research and responsible investigators, and identification of any other participating institutions. This letter should be received no later than April 1, 1987, and should be addressed to:

Anne P. Sassaman, Ph.D.
Associate Director, Extramural Program
National Institute of Environmental Health Sciences
Post Office Box 12233
Research Triangle Park, NC 27709

The Institute requests such letters to provide an indication of the number and scope of applications to be received, and may use this information to discuss projects of questionable responsiveness with potential applicants. A letter of intent is not binding, it will not enter into the review of any proposal submitted subsequently, nor is it a necessary requirement for application.

Application Procedure

A signed original and four signed copies should be sent or delivered to:

Extramural Program
Grants Processing
National Institute of Environmental Health Sciences
Post Office Box 12233
104 Alexander Drive
Research Triangle Park, NC 27709

In addition, two signed copies of the application should be sent or delivered to:

Grant Application Receipt Office Division of Research Grants National Institutes of Health Westwood Building, Room 240 5333 Westbard Avenue Bethesda, Maryland 20892-4500

To ensure their review, applications must be RECEIVED BY MAY 1, 1987. PLEASE NOTE THE CHANGE IN APPLICATION PROCEDURE FROM THE USUAL SUBMISSION.

Format for Applications

Applications should be submitted on form PHS 398, which is available from an applicant's Office of Sponsored Research or from the NIH Division of Research Grants. To identify the application as a response to this announcement, check "yes" on item two of page one of the application and enter the title: NIEHS SUPERFUND RESEARCH PROGRAM. Since this form is used primarily for the traditional project-grant application, several sections have to be modified and expanded so that this form can be used to provide the additional information needed for the Superfund Program applications. Applicants should request a copy of the Information Bulletin on Program Project Grants and special instructions for Superfund applications from the Superfund Coordinator, MD 3-01, Extramural Program, NIEHS, at the address listed above.

Timetable - Phase I

Letter of Intent:
Application Receipt Date:
Review by National Advisory
Environmental Health Sciences Council:
April 1, 1987
May 1, 1987
September 14-15, 1987
Anticipated Award Date:
September 30, 1987

Note: Approved applications not funded in FY87 will be held in competition for funds available in FY88.

Proposed Timetable - Phase II

Letter of Intent: Application Receipt Date: Review by National Advisory Environmental Health Sciences Council: Anticipated Award Date: October 15, 1987 December 1, 1987

June, 1988 July-September, 1988 Application Receipt Date (Supplemental Applications only): Review by National Advisory Anticipated Award Date:

January 15, 1988 September, 1988

Further information regarding receipt dates for both full program applications and supplemental applications will be provided in subsequent announcements.

#### INQUIRIES

Inquiries regarding this announcement may be directed to:

Anne P. Sassaman, Ph.D.
Associate Director, Extramural Program
National Institute of Environmental Health Sciences
Post Office Box 12233
Research Triangle Park, NC 27709
Telephone: (919) 541-7723

# SUPERFUND HAZARDOUS WASTE WORKER HEALTH AND SAFETY TRAINING GRANTS PROGRAM

P.T. 44; K.W. 0502017, 0725010, 0725020

National Institute of Environmental Health Sciences

Application receipt date: May 1, 1987

The National Institute of Environmental Health Sciences (NIEHS) announces a program of health and safety training and education grants directed toward workers engaged in hazardous waste removal, containment or emergency response activities. Recipients of these grants are to be nonprofit organizations with demonstrated experience with implementing and operating worker health and safety programs and with demonstrated ability to identify, describe and access target worker populations. Target populations for this training are workers and supervisors engaged in:

- o Waste handling and processing at active and inactive hazardous substance treatment, storage and disposal facilities.
- Clean-up, removal, containment or remedial actions at waste sites.
- o Hazardous substance emergency response.
- o Hazardous substance disposal site risk assessment and investigation, remedial actions or clean-up by State and local personnel.
- o Transportation of hazardous wastes.

Health and safety training will include both classroom instruction and hands-on training which simulates conditions at hazardous waste sites.

Copies of the Program Announcement can be obtained from the following address:

Extramural Program
National Institute of Environmental Health Sciences
P.O. Box 12233
Research Triangle Park, NC 27709
Telephone: (919) 541-7723

Please specify that the request is for the Worker Safety Training announcement.

#### PROGRAM PROJECTS ON THE BIOLOGY OF THE IMMUNE SYSTEM

RFA AVAILABLE: 87-AI-12

P.T. 34; K.W. 0705040, 0710030, 0710070, 0760030, 0780015

National Institute of Allergy and Infectious Diseases

Application receipt date: July 15, 1987

#### BACKGROUND INFORMATION

The Immunobiology and Immunochemistry Branch of the Immunology, Allergic and Immunologic Diseases Program of the National Institute of Allergy and Infectious

Diseases (NIAID), supports fundamental studies on the structure and function of the immune system to gain an understanding of immune response mechanisms at their basic cellular and molecular levels as they function in health and disease. Program Projects on the Biology of the Immune System represent an award mechanism which the Branch has employed to meet this objective. They are intended to support integrated, multidisciplinary, basic studies of immunologically-functional lymphocyte and other relevant cell populations. Eleven such program projects are currently funded although support for two is scheduled to conclude in 1988. This request for applications (RFA) is intended to encourage the development of proposals from collaborating investigators and to coordinate the submission and review of new and renewal program project applications.

#### RESEARCH GOALS AND SCOPE

The goal of these Program Projects is the attainment of a complete understanding of the structure and function of the immune system and its products, its interaction with other body systems, and full knowledge of the genetic and other factors which regulate its development and function. An ultimate practical application of this information is the use of selected cloned cells of the system, or their products, for the clinical care or reconstitution of immunodeficient individuals, to alleviate allergic states, to provide resistance to life-threatening infections and to correct aberrant or defective immunoregulatory mechanisms.

The scope of these program projects includes studies of every facet of the immune response, ranging from the initial step of antigen recognition to the final elaboration of immunologically distinctive products of specific immunocytes. Research currently supported by this mechanism was designed to expand knowledge of the morphologic and functional heterogeneity of lymphocyte populations and develop the capability for identification and selection of lymphocyte subpopulations, with specific immune reactivity or molecular composition, for use in somatic hybridization of such populations and selective production of specific, biologically active, lymphocyte products. Similar studies of macrophages, other accessory and effector cells, and networks of cells and molecules that affect the activation, differentiation and regulation of cells of the immune system are appropriate. Projects that involve improving the efficiency or scale of preparing and selecting hybridomas and other relevant cell lines for defined purposes, and projects designed to modify genes encoding immunologically relevant macromolecules to improve their biological efficiency, or diagnostic and therapeutic utility, are encouraged.

#### MECHANISM OF SUPPORT

Program project grants are awarded to an institution on behalf of a program director for the support of a broadly based, multidisciplinary, long-term research program which has a specific major objective or basic theme. A program project generally involves the organized efforts of groups of investigators who conduct research projects related to the overall program objective. The grant can provide support for the projects and for certain core resources shared by individuals where the sharing facilitates the total research effort. Each component project, supported under a program project grant, is expected to contribute and be directly related to a common theme. The projects should demonstrate an essential element of unity and interdependence. At least two awards are planned for 1988.

#### STAFF CONTACT

A more detailed RFA may be obtained from:

Joseph F. Albright, Ph.D.
Chief, Immunobiology and Immunochemistry Branch, IAIDP
National Institute of Allergy and Infectious Diseases
Westwood Building, Room 757
National Institutes of Health
Bethesda, Maryland 20892
Telephone: (301) 496-7551

Prospective applicants are encouraged to submit a one-page letter of intent that includes a descriptive title of the proposed research and identification of any other participating institutions. The NIAID requests such letters by March 15, 1987, 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. Letters of intent and inquiries should be directed to Dr. Albright at the address shown above.

#### PROGRAM PROJECTS ON MECHANISMS OF IMMUNOLOGIC DISEASES

RFA AVAILABLE: 87-AI-13

P.T. 34; K.W. 0715120, 0755030, 0765035, 1002019, 1002015, 0710100

National Institute of Allergy and Infectious Diseases

Application Receipt Date: July 15, 1987

#### BACKGROUND INFORMATION

The Clinical Immunology and Immunopathology Branch of the Immunology, Allergic and Immunologic Diseases Program of the National Institute of Allergy and Infectious Diseases (NIAID) is concerned with cellular and molecular mechanisms of immunologic diseases. This request for applications (RFA) is intended to encourage development of applications from collaborative basic science and clinical investigative groups, and to coordinate the submission of new and renewal program project applications providing equitable opportunity for both to compete for funds currently available for existing programmatic activities concerned with the study of mechanisms of immunologic diseases. Fourteen such program projects are currently funded although support for two is scheduled to conclude in 1988.

#### RESEARCH GOALS AND SCOPE

Realizing that immunologic diseases and inflammatory disorders constitute major areas of endeavor of the Clinical Immunology and Immunopathology Branch, the goals of these program projects are aimed at understanding the underlying mechanisms of disease and the development of diagnostic measures and approaches to effective prevention, control and treatment of a wide variety of immunologic disorders.

The scope of these program projects is intended to include studies of all aspects of immunologic responses aimed at defining etiologic factors and pathogenetic mechanisms.

Research approaches in this area include clinical immunology studies of acquired and inherited diseases associated with dysfunctions of the immune system, as well as basic immunopathology studies of the genetics, cytology, biochemistry, physiology, and pharmacology of the immune system and its disorders.

Of special interest to NIAID are program projects with specific emphasis on the immunopathogenesis of neurologic disorders. Recent evidence discloses important relationships between the immune and nervous systems and investigators are encouraged to develop studies aimed at clarifying the immune mechanisms of neurologic disorders.

Major advances have also occurred in our understanding of childhood immunodeficiency disorders. Program projects are encouraged to further our understanding of basic mechanisms, as well as the development of new approaches to diagnosis, treatment and prevention of these disorders.

#### MECHANISM OF SUPPORT

Program project grants are awarded to an institution on behalf of a program director for the support of a broadly based, multidisciplinary, long-term research program which has a specific major objective or basic theme. A program project generally involves the organized efforts of groups of investigators, members of which conduct research projects related to the overall program objective. The grant can provide support for the projects and for certain core resources shared by individuals in a program where the sharing facilitates the total research effort. Each component project supported under a program project grant is expected to contribute to and be directly related to the common theme of the program; they should demonstrate an essential element of unity and interdependence. At least two awards are planned for 1988.

#### STAFF CONTACT

A more detailed RFA may be obtained from:

Robert A. Goldstein, M.D., Ph.D. Chief, Clinical Immunology and Immunopathology Branch, IAIDP National Institute of Allergy and Infectious Diseases Westwood Building, Room 757 Bethesda, Md. 20892 Telephone: (301) 496-7104

Prospective applicants are encouraged to submit a one-page letter of intent that includes a descriptive title of the proposed research and identification of any other participating institutions. The Institute requests such letters by March 15, 1987, 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. Letters of intent and inquiries should be directed to Dr. Goldstein at the address shown above.

#### BIOMEDICAL RESEARCH FELLOWSHIP OPPORTUNITIES ABROAD

P.T. 22, 26; K.W. 0720005, 0710030, 0404000

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 announces the availability of postdoctoral fellowships to U.S. and foreign health scientists who wish to conduct collaborative research abroad and in the United States, respectively. The purpose of these fellowships is to enhance the exchange of research experience and information in the biomedical, behavioral, and health sciences.

#### PROGRAMS FOR U.S. SCIENTISTS

SENIOR INTERNATIONAL FELLOWSHIPS. These fellowships offer opportunities to U.S. biomedical, behavioral, or health scientists to conduct research in a foreign institution. The program is for scientists who have established themselves in their chosen career in the United States and whose professional stature is well recognized by their peers and institutional officials.

The purpose of this program is to enhance the exchange of ideas and information about the latest advances in the health sciences, both basic and clinical, and to permit U.S. scientists to participate abroad in ongoing study or research in the health sciences.

Fellowships are awarded for a period of 3 to 12 months and provide stipend, travel, foreign living allowance, and host institutional allowance.

FOREIGN-SUPPORTED FELLOWSHIPS. These fellowships are supported by specific foreign countries. They provide opportunities for scientists to conduct collaborative research in the country that provides funding.

The purpose of this program is to enhance the exchange of research experience and information in the biomedical, behavioral, and health sciences. The maximum period of support for all programs is 1 year and the minimum period of support varies with each program.

Participating countries are: FINLAND, FRANCE (CNRS AND INSERM), FEDERAL REPUBLIC OF GERMANY, IRELAND, ISRAEL, NORWAY, SWEDEN, SWITZERLAND, AND TAIWAN.

#### PROGRAM FOR FOREIGN SCIENTISTS

INTERNATIONAL RESEARCH FELLOWSHIPS. These fellowships offer opportunities to foreign scientists in the formative stage of their research career to extend their research experience in a U.S. laboratory. Selections are first made by the Nominating Committee in a participating country or region. Over 50 countries or regions in the Americas, Africa, Asia and the Far East, Australia, Europe, and New Zealand participate in the program.

The purpose of this program is to forge relationships between distinguished scientists in the United States and qualified scientists in other countries in order to solve health-related problems of mutual interest.

Fellowships are awarded for a minimum of 12 months and provide stipend, travel, and institutional allowance.

#### PROGRAM FOR EXCHANGE VISITS

HEALTH SCIENTIST EXCHANGES. This program supports short-term (2-12 weeks) exchange visits between the United States and HUNGARY, POLAND, ROMANIA, YUGOSLAVIA, OR THE SOVIET UNION.

The purpose of this program is to conduct collaborative activities in one of the health sciences or the health-related fields that are of mutual benefit to the United States and the participating country. Priority is given to visits designed to strengthen or expand ongoing collaborative relationships or to explore prospects for long-term cooperation.

The financial provisions include round-trip travel and in-country costs.

#### APPLICATION PROCEDURES

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. While the maximum period of support for all programs is 1 year, the minimum period of support varies with each program.

Application receipt dates for Senior International Fellowships are January 10, May 10, and September 10. Application kits are available only from the dean or equivalent institutional official. Only these persons can request the application kits from the FIC.

Applications to the Health Scientist Exchange Program, the Alexander von Humboldt Foundation, and the Visiting Scientists Program for the National Science Council, Taiwan, are available and are accepted throughout the year. Applications to all other foreign-supported fellowships must be submitted by May 10, 1986. These application kits are available from the FIC between 1 December and 30 April.

Prospective applicants for the International Research Fellowship Program must contact the Nominating Committee in their respective country for information and application procedure. Application kits are available only through the Nominating Committee. The Nominating Committees submit their applications to the FIC annually by August 1.

The National Institutes of Health is responsible for the scientific review of all applications except those that are submitted to the Alexander von Humboldt Foundation and the National Science Council, Taiwan.

You must send to the Fogarty International Center a self-addressed label if you need additional information. All correspondence should refer clearly to the specific program of interest.

Requests for additional information about the Health Scientist Exchange Programs should be sent to:

International Coordination and Liaison Branch Fogarty International Center National Institutes of Health Bethesda, Maryland 20892

All other requests should be sent to:

International Research and Awards Branch Fogarty International Center National Institutes of Health Bethesda, Maryland 20892

#### **ERRATUM**

#### COOPERATIVE AGREEMENTS FOR INVESTIGATIONS IN VACCINE ADJUVANTS

RFA AVAILABLE: 87-AI-11

P.T. 34; K.W. 0715120, 0740075, 0710070

National Institute of Allergy and Infectious Diseases

Application Receipt Date: April 1, 1987

The receipt date for the above-referenced announcement was omitted in the original publication in the NIH Guide Vol. 16, No. 2, January 16, 1987. Applications submitted in response to this announcement are due April 1, 1987.