NIH GUIDE

for GRANTS

and CONTRACTS

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

Vol. 7, No. 4, March 10, 1978

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HAVE YOU MOVED?

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If your present address differs from that shown on the address label, please send your new address to: Grants and Contract Guide Distribution Center, Division of Research Grants, NIH, Room 219, Westwood Building, Bethesda, Maryland 20014, 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.

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

Supplements, printed on yellow paper, are published by the respective awarding units concerning new projects, solicitations of sources, and requests for proposals.

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INFORMATION PAMPHLET PUBLISHED

FOR GCRC PATIENTS



A new pamphlet designed to acquaint patients and their families with the purpose and operation of the NIH General Clinical Research Centers (GCRC) has been published by the Division of Research Resources.

Entitled General Clinical Research Center Patient Information, the sixpage pamphlet succinctly gives a description of a typical GCRC, how the centers were created, their objectives, their funding, the personnel involved, criteria for and conditions of admittance, and other pertinent information which incoming patients and their families would want to know.

All 82 GCRCs throughout the United States have been supplied with the new patient orientation booklet for distribution to both inpatients and outpatients. A single free copy of *General Clinical Research Center Patient Information* is available from the Office of Science and Health Reports, Division of Research Resources, National Institutes of Health, Bethesda, Maryland 20014.

NATIONAL INSTITUTE OF ARTHRITIS, METABOLISM, AND DIGESTIVE DISEASES



TITLE: CHARACTERIZATION OF ANIMAL MODELS FOR DIABETES RESEARCH

In an attempt to increase basic and clinical research into the cause, cure, and prevention of diabetes mellitus and related endocrinologic and metabolic disorders, the NIAMDD is inviting research grant proposals for the characterization of potential animal models for diabetic research as a supporting mechanism. These models must be spontaneous with some proven reproducible characteristic(s) mimicking the features of the human disease.

We are offering this means of support to allow for the further characterization of such models. Proposals should include a plan to build on the available information about the identified genetic defect, the rationale for the use of the model for diabetes research and a plan to further characterize the model. Characterization may include research into the genetics, morphological, physiological and/or biochemical aspects.

This support will be through the NIAMDD research project grant. Initial review of the applications will be arranged by the Division of Research Grants and special consideration will be given to the evaluation of the scientific merit of the research proposed to characterize the model in relation to the potential use of the model in contributing to our understanding of the underlying causes of the defects involved in diabetes mellitus. The dual review will be completed by a subsequent NIAMDD Council review.

Support for such models as the Chinese hamster and the db/db and ob/ob mouse models which are already well characterized will be considered through other mechanisms.

RECEIPT DATES FOR APPLICATIONS

Applications must be submitted on form PHS 398 available at most grantee institutions. Applications will be accepted on the established receipt dates for new applications: July 1, November 1, and March 1. The phrase "PREPARED IN RESPONSE TO NIH DIABETES PROGRAM ANNOUNCEMENT FOR ANIMAL MODELS" should be typed across the top of the first page of the application.

Inquiries about this program should be directed to:

Diabetes Program Director for Cellular and Molecular Studies NIAMDD, NIH Room 628, Westwood Building 5333 Westbard Avenue Bethesda, Maryland 20016

Telephone: (301) 496-7731

REQUEST FOR RESEARCH GRANT APPLICATIONS: RFA

TITLE: VITILIGO: PATHOPHYSIOLOGIC MECHANISMS

NATIONAL INSTITUTE OF ARTHRITIS, METABOLISM

AND DIGESTIVE DISEASES



INTRODUCTION

The Dermatology Extramural Program of the National Institute of Arthritis, Metabolism, and Digestive Diseases invites applications for grants to study the pathophysiologic mechanisms associated with the onset, progression, and resolution of vitiligo. Vitiligo appears to be a genetically determined skin disease that is characterized by a loss of melanin resulting in bizarre patchy loss of pigmentation, extreme sun sensitivity and potentially destructive phychological effects.

SCIENTIFIC PROGRAM REQUIREMENTS

The NIAMDD seeks studies aimed at but not limited to understanding the pathophysiologic mechanisms which contribute to the onset of vitiligo and the vitiliginous process. Although vitiligo is associated with malignant melanoma, research is encouraged on the process which destroys cutaneous melanocytes in the other clinical forms in which vitiligo can manifest itself, i.e., "idiopathic" vitiligo and vitiligo associated with auto-immune diseases, thymomas, lymphomas, and other syndromes. A functional definition of vitiligo in those conditions where there are no apparent associated underlying disorders needs to be developed. Studies should also be directed toward establishing optimal treatment for vitiligo utilizing currently available modalities as well as consideration of alternate therapeutic intervention as a means of arresting the vitiliginous process and stimulating repigmentation. Areas of particular interest include examination of those patients with vitiligo in whom there have been demonstrated immunoglobulin abnormalities. Demonstration of a useful animal model is also needed.

SIGNIFICANCE TO NIAMDD PROGRAM GOALS

Patients with vitiligo carry a very heavy psychological burden. These individuals and their families are especially concerned about spread of the disease and whether their children will develop vitiligo. Low self-esteem and depression are common problems for the patient with pigmentary disorders. Few hypotheses can explain all the varied clinical manifestations of vitiligo and no acceptable definition for this disease is possible until more is known about the mechanisms of depigmentation. In addition to the obvious psycho-social need, the disease is worthy of study because of the information it may provide concerning the biology of pigment cells, the auto-immune diseases, immunopathologic mechanisms, and for clues concerning therapy of metastatic melanomas.

APPLICATION REQUIREMENTS

- Eligibility. Nonprofit organizations and institutions, State and local governments and their agencies, eligible Federal institutions, and individuals according to NIH grants and policies.
- The Application. Applicants should propose an individual project. Applicants may elaborate on the purposes, objectives, rationale, and significance stated in this announcement and must complete portions of the application pertaining to procedural details, the investigator's related experience, facilities available, budgets, and biographical information for key professional personnel. The application should also state the duration of time for which the support is requested. It is anticipated that the initial period will not exceed three years but may be renewable.
- 3. <u>Submission</u>. Use the standard research grant application form PHS 398. In <u>both</u> the covering letter <u>and</u> at the top of the space provided for an abstract on page 2 of the application, clearly identify the application as being in response to this announcement by using its title and date of publication.
- 4. Receipt Date. Applications will be accepted on the established receipt dates for new applications: July 1, November 1, and March 1.

REVIEW

Upon receipt, applications will be reviewed for responsiveness to this announcement by the Division of Research Grants (DRG) in consultation with the NIAMDD staff. Applications judged responsive will be reviewed initially for scientific merit by DRG study sections and secondly by the NIAMDD Advisory Council. Applications judged not responsive will compete in the regular research grant program and will be assigned for administration to an appropriate Institute.

FUNDING

Although this program is included and provided for in the financial plans for fiscal year 1978, award of grants is contingent upon ultimate allocation of appropriated funds for this purpose.

NOTE: For further information, potential applicants may contact:

Laurence H. Miller, M.D.
Dermatology Program Director
Extramural Programs
National Institute of Arthritis,
Metabolism, and Digestive Diseases
National Institutes of Health
Bethesda, Maryland 20014

Telephone: (301) 496-7241

RESEARCH GRANT APPLICATIONS SOUGHT BY THE

NATIONAL EYE INSTITUTE ON STUDIES OF THE

HUMAN VISUAL SYSTEM IN HEALTH AND DISEASE

USING MODERN TECHNIQUES OF PSYCHOPHYSICS

AND PHYSIOLOGICAL OPTICS



Under authority of Section 451 of the Public Health Service Act as amended (42 U.S.C., Ch 6A, Subch. III) the National Eye Institute may support a wide variety of laboratory and clinical investigations that bear on disorders of visual information transmission, perceptual synthesis, and oculomotor control. Among these are psychophysical and physiological optical approaches to visual function in normal persons and those suffering from disorders of vision. Phychophylicists and physiological opticists now have new techniques that characterize visual functions with great precision. Vision testing in the clinic, on the other hand, is still dominated by traditional procedures such as Snellen charts and visual field determinations. Modern techniques need to be brought to bear on such diagnostic problems as localization of anomalies in glaucoma, senile macular degeneration, amblyopia, degenerations of the optic pathway, cerebral lesions, strabismus and disorders of oculomotor control.

The purpose of this announcement is to encourage the submission of worthy research grant applications in this area. The following are examples of such newer approaches to clinical testing using psychophysical tests or optical instrumentation:

- 1. Measurements of the Westheimer effect. These measurements demonstrate the influence of the size of a surrounding stimulus field on the ability to detect a test flash. Westheimer functions, complemented by the Werblin "windmill" method of stimulus presentation, open the possibility of pinpointing lesions, in a manner outside the scope of traditional tests of acuity, to localize pathology in choroid/pigment epithelium, receptor layer, inner and outer plexiform layer or optic nerve. (Enoch, J., Johnson, D. and Fitzgerald, C. <u>Documenta</u> Ophthalmologica 41: 347, 1976).
- 2. Visual spatial and temporal modulation transfer functions. Contrast sensitivity measured with grating targets, or with flickering stimuli, provides information about the transfer characteristics of the visual system, and may address questions of pathology in neural pathways that transmit transiently during visual stimulation as against those that convey information in a sustained manner (Bodis-Wollner, I. Science, 178: 769, 1972). Contrast grating sensitivity and/or flicker sensitivity may also be useful as tests of disorders in retinal receptive fields.

- 3. Measurement of visual function via the electroretinogram and visually evoked cortical responses. Such testing of photopic versus scotopic vision, retinal versus cortical functions, and the diagnosis of defects in acuity, adaptation, and color vision provide objective clinical testing with noninvasive techniques in cases of amblyopia or other sensory disorders in children (Armington, J. The Electroretinogram: Academic Press, 1974; Regan, D. Evoked Potentials in Psychology, Sensory Physiology and Clinical Medicine: Chapman and Hall, 1972; Fishman, G. A. The Electroretinogram and Electrooculogram in Retinal and Choroidal Disease: Amer. Acad. of Ophthal. and Otolaryngol., 1975).
- 4. Random dot tests of stereopsis (Julesz, B. <u>Bell System Tech J.</u>, 39: 1125, 1960). Such tests based on global, rather than local, visual cues may evaluate binocularity in strabismus more adequately than tests now in common clinical use for the assessment of fusion and depth perception.
- 5. Tests on infant vision. These tests, based on preferential looking or operant conditioning techniques (Teller, D.Y., Morse, R., Borton, R. and Regal, D. <u>Vision Research</u> 14: 1433, 1974), may assist in the acquisition of normative data on infant populations. Valid diagnosis of abnormality depends on the availability of such normative data.
- 6. Assessment of color defects. Tests for the assessment of color defects in functional disorders of the visual nervous system (Smith, V.C., Porkorny, J. and Ernest, T.J. Modern Prob. Ophthalmology 17: 248, 1976), may help determine the severity and course of disease or intoxication.
- 7. Studies of eye movements. Infra-red and other modern electrooptical eye movement recording technology can complement traditional
 nystagmography and electro-myography. The latter may require uncomfortable electrode implants or may be incapable of resolving very small
 eye movements for neuroophthalmological diagnosis. The newer eye-trackers,
 (Cornsweet, T.N. and Crane, H.D., <u>J. Optical Society of America</u> 63:
 921, 1973) have the potential for application to the detection and
 characterization of eye movement disorders in the ophthalmic clinic.
- 8. Study of the function of localized retinal areas in a freely moving eye. Application of eyetracking techniques to mapping of scotomata and retinal sensitivity in local areas has potential application to the diagnosis, evaluation and treatment of diabetic retinopathy, banch vein occlusion and other retinal disorders.

In addition to the aforementioned clinical opportunities identified, other research is also called for. Of the total cases of severe visual impairment in the United States, some 200,000 derive from sensory-motor disorders of vision [Support for Vision Research, DHEW Publication (NIH 76-1098)]. About 60,000 of the population have manifest strabismus. A much larger percentage have subclinical defects related to disparity of retinal images, e.g., loss of stereopsis or binocular fusion, or functional suppression. While some such perceptual defects may be consequences of strabismus, others may play a role in its etiology. Thus a need exists for additional

studies on perceptual tests that help detect suppression or inadequate fusion sufficiently early to allow measures that may prevent the onset of strabismus.

Another important research area addresses the etiology, diagnosis, treatment and prevention of amblyopia. Amblyopia may result from visual deprivation associated with anisometropia, congenital cataract and strabismus or with the surgical and bandaging procedures involved in treatment. The prevalence of amblyopia in the general population is estimated at 3%. Studies need to be undertaken to establish the critical period for the induction of amblyopia in the infant and child in order to make preventive/treatment efforts more effective. Research is also needed on methods for partially or completely reversing amblyopic defects.

Still other research opportunities present themselves in the field of optic nerve disease. A large number of persons are affected by degenerative or circulatory disorders of the optic nerve and central visual pathways. The incidence of optic nerve diseases in the United States population has been estimated at approximately 53,000 cases per year. Their diagnosis often requires reliable and valid tests of perceptual and motor visual function. Improved procedures are needed for mapping visual fields, for assaying spatial and temporal resolution and for measuring the speed of information transmission along the visual pathways.

The National Eye Institute and the National Advisory Eye Council through its program planning reports wish to encourage further research on these and all other promising psychophysical and optical tools that will translate technical advances into improved ophthalmic diagnosis and treatment. Research grant applications are invited from investigators in all relevant disciplines and all institutions concerned with ophthalmic and visual science.

APPLICATION REVIEW

Regular NIH review procedures will be followed for all responses to this announcement. Applicants must use the regular research grant application form PHS 398 which is available at institutional central application control offices. The completed application should be mailed to the Division of Research Grants, National Institutes of Health, Bethesda, Maryland 20014, where it will then be assigned according to the NIH referral guidelines for research grants. All applications will be reviewed by a Division of Research Grant Study Section and the National Advisory Eye Council. Applications recommended for approval by the National Advisory Eye Council will compete for available funds with all other approved applications assigned to the National Eye Institute.

The receipt dates for new grant applications are July 1, November 1, and March 1. The earliest possible award dates will be approximately nine months after receipt dates. Applications received too late for one cycle of review will be held for the next.

Inquiries on this announcement, previous program announcements, National Advisory Eye Council reports, or preliminary application drafts should be addressed to:

Program Director
Sensory-Motor Disorders of Vision and Rehabilitation Program
National Eye Institute
National Institutes of Health
Bethesda, Maryland 20014

Telephone: (301) 496-5301

RESEARCH GRANT APPLICATIONS SOUGHT FOR STUDIES

ON RESPIRATORY DISEASE AGENTS



NIAID

The Development and Applications Branch, Microbiology and Infectious Diseases Program, National Institute of Allergy and Infectious Diseases, is interested in expanding research activities concerned with viruses causing lower respiratory tract disease in infants and young children. Of particular interest are respiratory syncytial (RS) virus and parainfluenza viruses, types 1, 2 and 3.

Approximately 42,000 infants are hospitalized annually for croup, bronchiolitis, and pneumonia - diseases caused by these viruses. The incidence of milder disease resulting from infection with these agents is much greater; 17% of all respiratory illnesses in infants and young children are estimated to be caused by parainfluenza viruses and RS virus. Forty to 50% of severe croup, 40% of bronchiolitis, and 24% of pneumonia requiring hospitalization could be prevented if effective vaccines against these agents were available.

Inactivated vaccines against these agents have proven to be ineffective. Current NIAID efforts are directed at live attenuated viruses, but many unknowns accompany this search. For example:

- (a) How do reinfection rates compare with primary infection rates?
- (b) Does natural immunity follow primary infection?
- (c) What are the correlates of immunity?
- (d) Can the immune response be manipulated to enhance protection?
- (e) Does breast feeding offer protection to infants?

Epidemiological and clinical studies to date have not provided clear answers to the above questions, and effective control measures are lacking. Most importantly, there is a paucity of data on the biology of the etiologic agents themselves. Basic studies on the biochemistry, antigenic composition, genetics, replication, and other fundamental characteristics of RS and parainfluenza viruses are needed to provide the new information essential to further progress.

The purpose of this announcement is to encourage submission of research grant applications which focus on studies of RS virus and parainfluenza viruses such as briefly outlined above. Progress with the prevention of diseases caused by these viruses has been, and will continue to be, difficult but only through increased efforts can we hope to control these serious illnesses that have such a large impact on so many of our young.

Receipt dates for grant applications are July 1, November 1, and March 1. Review of applications and award of grants in this area will be through usual NIH procedures.

At the time of submission of an application, a copy of page one (face page) and page two (abstract of proposed research) should be sent to:

Dr. Franklin Tyeryar
Viral Respiratory Diseases Program Officer
Development and Applications Branch
Microbiology and Infectious Diseases Program
National Institute of Allergy
and Infectious Diseases
5333 Westbard Avenue
Bethesda, Maryland 20016

Inquiries regarding this program may be addressed to Dr. Franklin Tyeryar at (301) 496-7051.

SUPPORT OF RESEARCH CENTERS

AND PROGRAM PROJECTS

NATIONAL INSTITUTE OF GENERAL

MEDICAL SCIENCES



The National Institute of General Medical Sciences (NIGMS), in order to fulfill its mission in the basic biomedical sciences and certain clinical sciences, has the following four program areas:

Cellular and Molecular Basis of Disease (CMBD) Genetics (GEN) Pharmacology/Toxicology (P/T) Physiology and Biomedical Engineering (PBME)

Research is supported in each of these broad areas through individual grants (ROls), program project grants (POls), and research center grants (P50s). Whereas applications for individual grants and program project grants are investigator-initiated, research center grant applications are accepted only in the six fields listed in this announcement.

The purpose of NIGMS research center grants is to bring about collaboration between basic and clinical scientists, through the support of a group of closely interrelated research projects which are focused on solving a clearly identified biomedical research problem within one of the fields specified below. The premise is that this will encourage the development of new concepts, promote the application of basic research findings to clinical problems, and allow scientific progress that would not take place through, or would only be made more slowly by, individual efforts.

A research center grant is not intended to continue indefinitely but is awarded to achieve a specific goal. Therefore, a center grant may be renewed only until it has achieved its stated purpose and provided only that high levels of scientific merit and coherence are maintained. Support of scientifically meritorious components may, of course, be sought under other mechanisms, such as program project or individual project grants.

The purpose of NIGMS program project grants is to permit investigators with differing expertise to collaborate in research on specific scientific problems that might be approached in a multidisciplinary manner. The program project grant is intended for situations where investigators wish to pool their resources and talents in order to solve particular scientific problems more expeditiously. The Institute will consider applications for support of such investigator-initiated research when it falls within one of its four research program areas. Program project grants are generally smaller and less complex and the number of projects and responsible investigators involved will be fewer than in research center grants.

It is recognized that much scientific collaboration can be accomplished without a special support mechanism and, where this is the case, regular research project grants will be used.

Research Center Grant Applications

Special emphasis areas of the NIGMS in which <u>research center grant</u> applications will be accepted and the officials to contact are:

- a Anesthesiology Program Director, PBME (301) 496-7253
- b Trauma and Burns Program Director, PBME (301) 496-7253
- c Biomedical Engineering Program Director, PBME (301) 496-7253
- d Pharmacology/Toxicology Program Director, P/T (301) 496-7707
- e Genetics Program Director, GEN (301) 496-7087
- f Molecular Pathology Program Director, CMBD (301) 496-7021

Prospective applicants for NIGMS research center grants (both new and renewal) are required to submit a letter of intent to the appropriate NIGMS Program Director (see above) prior to submission of a formal application. Since it is recognized that the preparation of applications for large, multi-investigator grants requires substantial investment of time, effort, and resources by the center director, the associated investigators, and the grantee institution, consultation with NIGMS staff before submission of such applications will allow a determination as to whether the proposed research and mechanism fit the needs and mission of the NIGMS.

The letter of intent should include a concise description of the proposed research to be conducted under the center grant. The description should indicate: 1) how a research center grant would fulfill the above stated purpose of an NIGMS center grant; 2) the scientific focus or unifying theme; 3) the research goals with identification of the proposed individual projects; 4) the overall goal and how each individual project will contribute to it; 5) the names and curricula vitae of responsible investigators; 6) existing research resources and requested renovations; and 7) an estimate of the necessary level of support.

The letter of intent should be submitted at least three months in advance of the receipt date for applications to allow adequate time for consultation with and review by NIGMS program staff prior to preparation and submission of a formal application (see Application Receipt Dates).

NOTE: Applications (including competing renewals) received without a prior letter of intent showing evidence of responsiveness of the proposed research center grant application to this announcement will be returned to the applicant organization in care of the proposed center director.

If notified that the proposed research center grant program would be appropriate to NIGMS, the applicant should submit the proposal on the regular research grant application form PHS 398. Each research center grant must have a director who assumes responsibility for and is knowledgeable of all the investigations proposed within the center. Since limited resources are available through the NIGMS research centers program, collaborative efforts with investigators who are not a part of the center grant are encouraged and expected.

Indeed, the number of responsible investigators to be supported under the center grant application must necessarily be limited in order to assure the appropriate close collaboration. This number cannot be specified but it would generally not exceed eight.

In order for NIGMS to maintain an appropriate balance between the size of its center grants program and that of its regular research grants program, the size of each center grant will be evaluated very carefully.

Although no specific limitation can be placed on any one research center grant award, NIGMS expects that the budget will not exceed a level of about \$500,000 (Direct Costs Only) a year.

Applications must meet the NIGMS standards for scientific merit both in regard to the overall center program and the individual projects. Awards for research center grants will be made for an initial period of five years. Renewal awards are contingent on evidence at the time of review of 1) continued need for a center grant in order to accomplish effective collaboration in the study of a clearly identified biomedical research problem, and 2) the highest scientific merit of each individual project as well as of the overall program.

The center proposal should be structured as a series of separate but related proposals. Each research center grant application must be submitted in the following format:

a. An overall proposal giving 1) the names of the center director and all associated investigators; 2) the complete consolidated budget for the entire center (summarizing sub-budgets for the component parts); 3) a description of the aims and objectives of the center; 4) the benefits to be achieved by funding as a center rather than as a series of individual projects; 5) a description of the core facility(ies), including major instruments, special program resources, and core projects (if any) together with an itemized budget for this core; 6) administrative arrangements for overall scientific leader—ship and management of the center, including any plans for consultation or an advisory committee; and 7) a separate, overall listing of percent of effort, and actual and pending research support from all sources for each participating investigator.

b. Each proposed scientific project within the center should be prepared as a discrete project grant application, including the customary face page and budget pages, biographical information, detailed description of the research to be conducted, and separate human experimentation certification and a memorandum of understanding and agreement (MUA) if applicable. Reference should be made as appropriate to the core program support and other aspects of the center showing its importance and relationship to the specific research proposal described.

The discrete project applications should be submitted in a packet together with the overall proposal described above.

Review of Research Center Grant Applications

In order to assure that center grant applications receive the best possible review by appropriate peers of all the participating investigators, the scientific merit of each component project will be assessed in a manner comparable to the assessment that an individual research project grant would receive. In addition, the scientific merit of the center grant application as a whole, as well as its coherence as a center, will be assessed.

The <u>initial review</u> will be conducted by the Office of Review Activities, NIGMS, and in all cases a project site visit will precede the committee's deliberations. Resulting recommendations will be sent to the National Advisory General Medical Sciences Council.

(a) Review by NIGMS Committee: The Executive Secretary will assemble a site visit team consisting of committee members and other scientists as warranted by the scope and content of the application. The team will gather information and assess the application as a whole in relation to the announced center grant guidelines (see above), scientific direction, and relation of the projects to each other and to the overall goals of the center. The team will summarize its findings and report them to the appropriate review committee. This committee will assess the scientific merit of each component project in a manner comparable to the assessment given to individually submitted research grant applications and assign a priority rating to When additional scientific expertise is needed, noncommittee members, including site visitors and immediate past members of Division of Research Grant (DRG) study sections, will be requested to participate in the committee's deliberations and recommendations. In addition, the overall application will be assessed as to its fulfillment of the purposes of NIGMS research center grants and its relevance to the particular program goals. The scientific merit of the entire research effort proposed by the research center team of investigators, the coherence of the projects to the central theme, and the relationship of all the investigators to each other and to the proposed center director will also be assessed. An overall priority score will be assigned.

(b) Review by Advisory Council: Final review by the National Advisory General Medical Sciences Council will take into account the scientific merit review of both the individual projects and the overall center grant applications. In addition, the Council will judge the appropriateness of the center to the overall program of NIGMS.

Application Receipt Dates

The receipt dates for new grant applications are July 1, November 1, and March 1. The earliest possible award dates will be approximately nine months after receipt dates. Applications received too late for one cycle of review will be held for the next.