Peer Review of NIH Research Grant Applications

Anthony M. Coelho, Jr., Ph.D.
Review Policy Officer
Office of the Director NIH
Office of Extramural Research

Experience:

• Review Policy Officer 5 years
• Chief - Clinical Studies and Training 7 years
  Section NIHBI and
  Scientific Review Administrator
• Peer Reviewer 12 years
• Funded Investigator 18 years
  (NIH, DOE, EPA and Private Sector Funding)
Important Things to Know:

1. The handout material is a reference resource
2. The handout contains more information than I will discuss
3. Information that is important is repeated to remind you that it is important

Important Things to Know:

- NIH Peer Review Process based on Laws
- NIH Peer Review Practices based on Culture and Behavior of Study Section Culture
- My objective is to help you understand both
The NIH View: The Research Partnership

The Applicant View:

$ NIH $
NIH 2005 Budget
28+ Billion

~26 Billion for Research

Rule #1

DO NOT write the application for Yourself unless you are going to fund it yourself.

You MUST convince the entire review committee and the funding agency.
Rule #2

STUDY SECTIONS
DO NOT FUND!

INSTITUTES FUND!
Rule #3
You must satisfy the needs of reviewers and the needs of the funding agency

Applying for Funding

NIH
Offices at NIH

The wrong way to request funds

Send $$
Response to the wrong form of request

Correct Way to request Funds
Great Expectations

NOBEL Prize
Dr. Me
Peer Review

Response to Unsuccessful Peer Review
NIH GRANTS$ Formula for Grant Success

Elements of Grant Success

- Good Ideas
- Good Timing
- Good Presentations
- Good Reviewers
- Good Luck
- Good Grantsmanship
Good
Grantsmanship

*Knowing + Understanding
  • What to do
  • How to do it
  • When to do it
  • What to do when things don’t go as planned
*Being willing to do what is needed
  • Passion and Commitment
*Doing it- doing what is needed
  • Commitment
* Understanding Peer Review

The “other” method of applying for grant funds
Understanding NIH Peer Review
Simple Model of the NIH Review Process for a Research Grant

ReVIEW PROCESS FOR NIH RESEARCH GRANTS

Principal Investigator Initiates Research Idea

Conducts Research

Allocates Funds $$

School or Other Research Center (Applicant)

Submits application

National Institutes of Health

Center for Scientific Review

Assign to IC and SRG

Scientific Review Group

Review for Scientific Merit

Institute

Evaluate for Relevance

Advisory Council or Board

Recommends Action

Institute Director

Takes final action for NIH Director

Research Grant Application (PI)

Principal Investigator

Allocates Funds $$

Referral Review Program

Not Funded

Revise & Resubmit

Grant Award $
Dual Review System for Grant Applications

First Level of Review

Scientific Review Group (SRG)
- Provides Initial Scientific Merit Review of Grant Applications
- Rates Applications and Recommends for Level of Support and Duration of Award

Second Level of Review

Advisory Council
- Assesses Quality of SRG Review of Grant Applications
- Makes Recommendation to Institute Staff on Funding
- Evaluates Program Priorities and Relevance
- Advises on Policy

STUDY SECTIONS JUDGE

Scientific and Technical Merit
Institute staff use the evaluations as part of the process of considering the relevance of applications to the Institute’s mission, research priorities and portfolio of existing research

STUDY SECTIONS DO NOT FUND!

INSTITUTES FUND!
Grant Application
Receipt and Assignment

Applications Submitted to NIH

- Approximately 65,000+ grant applications are submitted to NIH each year,
- 25-30% are funded
- Competing grant applications are received for three review cycles per year
### Timeline

<table>
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<tr>
<th>Submission</th>
<th>Review</th>
<th>Post-Review Phase</th>
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<td>Oct 1/Nov 1**’03</td>
<td>Feb Mar ’04</td>
<td>May/Jun ’04</td>
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<td>Jun Jul ’04</td>
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<td>Sep/Oct ’04</td>
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<td>Jun 1/Jul 1* ’04</td>
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<td>Nov- Feb’05</td>
<td>Apr 1 ’05</td>
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- **Standard Receipt Date** (new/ *revised and continuation)
- **Initial Peer Review**
- **Council Meeting; Funding Approved for Nonexpedited and Special Action Awards**
- **Anticipated Award**

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**Funds Released for Payline Grants Chosen for Expedited Second-Level Review**

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### Receipt Dates * **

**Depend on the Type of Application**

- Jan, May, Sept 10: Institutional Training Grant
- Jan, May, Sept 25: Academic Research Enhancement Award
- Mar, Jul, Nov 1: Revised, Competing Continuations, and Supplements
- April, Aug, Dec 1: Small Business Technology Transfer
- April, Aug, Dec 5: Individual NRSA
- April, Aug, Dec 1: Small Business Innovation Research
- May, Sept, Jan 1: AIDS

* RFA and RFP dates defined in the solicitations

** ALWAYS check with Institutes to verify dates**
What Happens To Your Application When It Arrives at NIH
Center for Scientific Review (CSR)  
Focal Point for Receipt and Referral

• Central receipt point for PHS applications

• Referral to Institutes (Funding Components) and to Study Sections (Review Components)

• CSR study sections reviews of most investigator initiated research and research training applications for scientific merit

Assignment to CSR Study Sections

Applications assigned to study sections known as Scientific Review Groups (SRG) based on:

1. specific referral guidelines for each SRG and
2. information contained in your application

(Go to the Website http://era.nih.gov/roster/index.cfm to learn about study sections – their scientific mission and their scientific membership)
WHO/WAT DETERMINES WHICH GROUP REVIEWS THE APPLICATION?

- Mechanism
  Type of application
  CSR or Institute Review
- Referral and Review Staff
- Past Review History (if any) of application
- Principal Investigator
  Letter attached to application; self-referral

Peer Review of NIH Support Mechanisms

Who Reviews What?

<table>
<thead>
<tr>
<th>CSR</th>
<th>Institutes</th>
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<tbody>
<tr>
<td>Research Project Grant (R01)</td>
<td>Program Project Grant (P01)</td>
</tr>
<tr>
<td>Postdoctoral Fellowship (F32)</td>
<td>Center Grant (P30, P50, P60)</td>
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<tr>
<td>Senior Fellowship (F32)</td>
<td>Institutional Fellowship (T32)</td>
</tr>
<tr>
<td>Fogarty International Center Fellowship (F05, F06)</td>
<td>Academic Career Award (K07)</td>
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<tr>
<td>Short-Term Training (T35)</td>
<td>Mentored Clinical Scientist Development Award (K08)</td>
</tr>
<tr>
<td>Small Business Grants (R41, R42, R43, R44)</td>
<td>Conference Grant (R13)*</td>
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<tr>
<td>Academic Research Enhancement Award (R15)</td>
<td>Marc Fellowships (F34, F36, T34)</td>
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<tr>
<td>Biomedical Research Support Shared Instrumentation Grant (S10)</td>
<td>Minority Biomedical Support Grant (S06)</td>
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<tr>
<td>R&amp;D - Contracts</td>
<td>Resource Grant (P40, P41, R24, R26, R28)</td>
</tr>
<tr>
<td>RFA - Request for Applications</td>
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</tbody>
</table>
WHO/WHAT DETERMINES WHICH GROUP REVIEWS THE APPLICATION?

YOU DO!

- The words that are in your application
- Your title
- Your abstract
- Your specific aims
- Your methods

Sample Application Number

<table>
<thead>
<tr>
<th>Individual Research Grant</th>
<th>Serial Number</th>
<th>Amended</th>
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<tbody>
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<td>1 R01 CA 123456 01 A1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

New Application  National Cancer Institute  Grant Support Year
Assignment Notification Letter

Dear Dr. Sample:

Your grant application entitled “CEREBRAL VESSEL INNERVATION IN HYPERTENSION” has been received by the National Institutes of Health and assigned to a Scientific Review Group (SRG) for scientific merit evaluation and to an Institute/Center for funding consideration. Specific information about your assignment is given below. The initial peer review should be completed by March, 2001, and a funding decision made shortly after the appropriate National Advisory Group meets in May, 2001. Questions about the assignment should be directed to the Scientific Review Administrator (SRA) or the Division of Receipt and Referral, Center for Scientific Review at (301) 435-0715. Other questions prior to review should be directed to the Scientific Review Administrator and questions after the review to the program staff in the Institute/Center.

Assignment Notification Letter (continued)

Principal Investigator: Sample Pamela

Assignment Number: 2 R01 HL12345 - 12A1
Dual Assignment: NS

Scientific Review Group:
Epidemiology and Disease Control Subcommittee 2 SS (EDC2)

A roster of the membership of this Scientific Review Group located on the following website:

http://era.nih.gov/roster/index.cfm
Assignment Notification Letter (continued)

Scientific Review Administrator:
DR. DAVID MONSEES, SRA
CTR FOR SCIENTIFIC REV
6701 ROCKLEDGE DR RM 3199 MSC7802
BETHESDA MD 20892
(301) 435-0684

Assigned Institute/Center:
NATL HEART, LUNG, & BLOOD INST
DIV/EXTRAMURAL AFFAIRS RK2 7100
NATIONAL INSTITUTES OF HEALTH
BETHESDA, MD 20892
(301) 480-5295

Assignment Notification Letter (continued)

IMPORTANT NOTICE: Please review the information on human and animal subjects research located at:


as these requirements will affect the priority score on your application.
TYPES OF REVIEW COMMITTEES:

Chartered Study Sections
• when the subject matter of the application matches the referral guidelines for the standing study section

Special Emphasis Panels (SEPs)
• when the subject matter does not fit into any study section, or
• when assignment of an application to the most appropriate study section would create a conflict of interest, or
• Special Mechanisms (RFA, Fellowships, SBIRs, AREAS, etc.)
**Study Sections at NIH**

- Study Sections are managed by a Scientific Review Administrator (SRA) who is a professional (at Ph.D. or MD level) whose scientific background is close to the expertise of the study section.

- Each standing study section has 12 - 24 members who are primarily from academia.

- 60 - 100 applications are reviewed at each study section meeting.

- Several hundred study section meetings.

- Special Emphasis Panels vary in size and number of applications that they review per meeting.

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**SCIENTIFIC REVIEW GROUP**

**Scientific Review Administrator**

- Recruits and selects reviewers
- Insures that the review that is competent, thorough and fair (unbiased)
- Proper review criteria used to evaluate application

**Reviewers**

- Some charter members; some temporary members
- Scientists with appropriate expertise
- High professional profiles
- Dependable, reasonable, open minded

**Grants Technical Assistant**

- Mails material to reviewers
- Handles paperwork
- Organizes meeting room
- Enters scores and codes
- Assists with summary statements
Center for Scientific Review
Example of Varied Expertise on a Sample Study Section

Surgery, Anesthesiology and Trauma Study Section
Selected Areas of Competence of Members
Biochemistry
Burn Physiology and Electrolyte Metabolism
Cardiovascular and Pulmonary Physiology
Clinical Anesthesiology
Drug Metabolism (Anesthetics)
General Surgery
Immunology and Transplantation
Nutrition
Pharmacology (Analgesics, Narcotics and Antagonists)
Pulmonary Embolism
Shock and Trauma
Toxicology of Anesthetic Drugs
Vascular Surgery

WHO Assigns Reviewers to My Application?

- Scientific Review Administrator
  Assignment to Specific Reviewers
  - Based on application content
  - Based upon expertise of reviewers
  - Based upon knowledge of the field
  - May consult with Institute staff
  - May consult with chairperson
  - Suggestions from PI on type of expertise needed to evaluate (NEVER names)
- Considers review history
Criteria For Selection of Peer Reviewers

- Demonstrated Scientific Expertise
- Doctoral Degree or Equivalent
- Mature Judgment
- Work Effectively in a Group Context
- Breadth of Perspective
- Impartiality
- Interest in Serving
- Adequate Representation of Women and Minority Scientists

Certification of No Conflict of Interest

This will certify that in the review of applications and proposals by (study section) on (date), I did not participate in the evaluation of any grant or fellowship applications from (1) any organization, institution or university system in which a financial interest exists to myself, spouse, parent, child, or collaborating investigators; (2) any organization in which I serve as officer, director, trustee, employee or collaborating investigator; or (3) any organization which I am negotiating or have any arrangements concerning prospective employment or other such associations.

____________________     ____________________
____________________     ____________________
____________________     ____________________
____________________     ____________________
____________________     ____________________

SIGNATURES
Confidentiality

- Review materials and proceedings of review meetings represent privileged information to be used only by consultants and NIH staff.
- At the conclusion of each meeting, consultants will be asked to destroy or return all review-related material.
- Consultants should not discuss review proceedings with anyone except the SRA.
- Questions concerning review proceedings should be referred to the SRA.

WHAT HAPPENS IN A STUDY SECTION MEETING?

- Closed to the public (FACA rules apply)
- Orientation
  - Conflict of interest
  - Developments of interest to the study section
  - Changes in policy or procedure
  - Introduction of persons present
  - Role of persons present
- Streamlining or list provisionally approved
- Application by application discussion
  - Persons with conflicts of interest excused
  - Assigned reviewers give preliminary scores
  - Discussion of application’s scientific and technical merit
  - Assigned reviewers first, then other members
  - Range of scores set
- *Every member scores every application*
  - Assignment of gender, minority, and children codes, human subjects codes; recommended changes to budget
WHAT IS STREAMLINING?

Process by which reviewers judge which applications are in the lower half of those assigned for review. Applications in the lower half are evaluated by the reviewers prior to attending the meeting but they are not discussed at the Scientific Review Group meeting.

- Any member can object to the streamlining of an application
- Requires that all reviewers agree to streamline an application
- Streamlined applications receive written reviewer critiques

Why?
- Shortens meetings
- Reviewers more willing to serve on committee
- Allows more time for discussion of applications

“Review” of Applications

- Applications are not reviewed at the meeting.
- They are evaluated prior to the meeting.
- The meeting is a time for discussion and negotiation of a priority score and for making a recommendation that best reflects the scientific and technical merit of the application.
- Strong applications get brief discussion
- Weak application get brief discussion
- Marginal application get longer discussion to ensure fairness to the applicant
Review of Research Grants

REVIEW CRITERIA:

- Significance
- Approach
- Innovation
- Investigator
- Environment

Described in detail in the PHS 398 application instructions

Review Criteria

- **Significance:** Does the study address an important problem? How will scientific knowledge be advanced?
- **Approach:** Are design and methods well-developed and appropriate? Are problem areas addressed?
- **Innovation:** Are there novel concepts or approaches? Are the aims original and innovative?
- **Investigator:** Is the investigator appropriately trained?
- **Environment:** Does the scientific environment contribute to the probability of success? Are there unique features of the scientific environment?
Newly Revised Review Criteria

1. **Significance** Does this study address an important problem? If the aims of the application are achieved, how will scientific knowledge or clinical practice be advanced? What will be the effect of these studies on the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field?

2. **Approach** Are the conceptual or clinical framework, design, methods, and analyses adequately developed, well integrated, well reasoned, and appropriate to the aims of the project? Does the applicant acknowledge potential problem areas and consider alternative tactics?

3. **Innovation** Is the project original and innovative? Does the project challenge existing paradigms or clinical practice; address an innovative hypothesis or critical barrier to progress in the field? Does the project develop or employ novel concepts, approaches, methodologies, tools, or technologies for this area?

4. **Investigators** Are the investigators appropriately trained and well suited to carry out this work? Is the work proposed appropriate to the experience level of the principal investigator and other researchers? Does the investigative team bring complementary and integrated expertise to the project (if applicable)?

5. **Environment** Does the scientific environment in which the work will be done contribute to the probability of success? Do the proposed studies benefit from unique features of the scientific environment, or subject populations, or employ useful collaborative arrangements? Is there evidence of institutional support?

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**Research Involving Human Subjects**

Important Considerations that must be addressed in the application because they impact on priority score - considered to be part of the Approach

- Are there any risks* to the human subjects?
- Are the protections adequate?
- Are there potential benefits to the subjects and to others?
- What is the importance of the knowledge to be gained?
- Are the plans for inclusion of minorities, both genders and children adequately addressed?
- Is the proposed study exempt from human subject review?

**No page limits**

*“Risks” include the possibility of physical, psychological, or social injury resulting from research.
Research Involving Human Subjects

Areas of exemption

- Education Research
  - normal educational practices
- Educational Tests, Survey or Interview Procedures, or Observation of Public Behavior
  - subjects not identified
  - subjects’ privacy rights protected
- Educational Tests, Survey or Interview Procedures, or Observation of Public Behavior Not Exempt in Previous Category if: subjects are public officials or public office candidates federal statute requires confidentiality without exception

- Collection or Study of Existing Data, Documents, Records, Pathological Specimens
  - information publicly available
  - subjects not identified
- Research and Demonstration Projects
  Regarding Certain Public Benefit or Service Programs
- Taste and Food Quality Evaluation and Consumer Acceptance Studies Using
  - foods without additives
  - U.S. Government approved food ingredient
**Inclusion of Women and Minorities in Clinical Research**

- **Women and Minorities** must be considered for inclusion in all clinical research supported by NIH

  or

- **Appropriate justification** must be provided to explain why they are not included in the proposed research

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**Research Involving Children**

Children must be considered for inclusion in all human subject research supported by NIH

  or

**Appropriate justification** must be provided to explain why they are not included in the proposed research
Research Involving Children

Children must be considered for inclusion in all human subject research supported by NIH

Effective for all new applications received after October 1, 1998

- Child is defined as an individual under age 21
- If children are included, Investigator must address
  - age range
  - expertise of investigative team
  - facilities
  - sufficient numbers

Research Involving Children

- If children are not included, must justify exclusion:
  - Topic irrelevant to children
  - Laws/regulations bar inclusion of children
  - Knowledge already available or being obtained
  - Separate study warranted
  - Unable to judge potential risk to children
  - Collecting data on pre-enrolled adults
  - Other special cases
Vertebrate Animals

Important Considerations

- Will the anticipated results be for the good of society?
- Will the work be planned and performed by qualified scientists?
- Will the animals be treated so as to avoid any unnecessary discomfort, pain, anxiety, or poor health?
- Species chosen?
- Animals in short supply?

Scientific Review Group or Study Section Actions

- Scored, Scientific Merit Rating
- Priority scores: 1 (best) to 5 (poorest) and percentiles
- Unscored (lower half)
- Deferral
Summary Statement

After the review meeting is finished, the results are documented by the SRA in a summary statement and forwarded to the PI and to the assigned NIH Institute. The assigned NIH Institute is responsible for making a funding decision.

The summary statement contains:

- Overall Resume and Summary of Review Discussion
- Essentially Unedited Critiques of Assigned Reviewer
- Priority Score and Percentile Ranking
- Budget Recommendations
- Administrative Notes

National Advisory Council or Board Review
Council Actions

- Assesses Quality of SRG Review
- Concurs with study section action or
- Modifies SRG (study section) action Can not change priority score
- Deferral for re-review of the same application – no changes allowed

- Makes Recommendation to Institute Staff on Funding, Evaluates Program Priorities and Relevance and Advises on Policy

NIH Policy does NOT allow Rebuttal of Peer Review outcome

There is an Appeal process however Differences of Scientific Opinion Can NOT be Appealed!

NIH policy permits appeal of review outcome if

1. Procedural error in review process
2. Factual errors (not differences of interpretations or understanding)
REVISE & RESUBMIT
Do Not Appeal Review Outcome

NIH Appeal Outcomes:
1. Council Denies Appeal (bad outcome)
2. Council Accepts Appeal: Original Application and Letter of Appeal is sent to the Same Study Section for a second examination and evaluation (bad outcome)
3. Council Accepts Appeal: Original Application be sent to a new Study Section but without the Letter of Appeal (bad outcome)

Timeline Consequences

<table>
<thead>
<tr>
<th>Event</th>
<th>Best Way</th>
<th>Revision</th>
<th>Appeal</th>
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<td>Submit</td>
<td>Feb 04</td>
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<tr>
<td>Review</td>
<td>June 04</td>
<td>June 04</td>
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<td>Dec 04</td>
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<td>Earliest Award</td>
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</table>
What Determines Which Awards Are Made?

- Scientific merit +
- Program Considerations +
- Availability of funds

You do not want a reviewer to make this comment about your application:

“This application is characterized by ideas that are both original and scientifically important. Unfortunately the ideas that are scientifically important are not original and the ideas that are original are not scientifically important.”
You do not want a reviewer to make this comment about your application:

“In addition to proposing a research design that is a fishing expedition, the applicant also proposes to use every type of bait and piece of tackle ever known to mankind.”

The research that you propose in your application must be innovative and focused
NIH Information Sources

NIH GUIDE for Grants and Contracts
U.S. Department of Health and Human Services

- Announces NIH Scientific Initiatives
- Provides NIH Policy and Administrative Information
- Available on the NIH Web Site:
  http://www.nih.gov
Learn the mission of the study section!

AIDS and Related Research 1 [AARR-1] Study Section

[AARR-1 Roster]

The AIDS and Related Research 1 [AARR-1] Study Section reviews applications focused on the molecular, structural, and cellular biology of HIV and related lentiviruses/testing virus. These areas of research encompass studies on the biochemistry and genetics of HIV and viral infection, replication, and regulation. This Study Section also reviews applications related to viral aspects of pathogenesis, non-immune host responses and factors, and identification of viral host targets for gene-based and other therapeutics and diagnostics.

Specific areas covered by AARR-1:

- Molecular biology, cell biology, and virology of HIV and related lentiviruses
- Molecular basis of lentivirus pathogenicity
- Biochemistry of HIV and related lentiviruses
- Regulation of viral and cellular biochemical processes, including tissue-specific effects of HIV
- Role of host gene products in virus infection and replication
- Variation in host factors and impact on virus infection and replication
- Mechanism of action and structure-function studies of viral proteins, including regulatory, enzymatic, and structural gene products

Learn the membership of the study section!

CENTER FOR SCIENTIFIC REVIEW
SPECIAL EMPHASIS PANEL
ZSR1 AARR-1 (Ph)
2/29/2002 8:04:12
MEETING ROSTER

CHAIRPERSON

KLUNKER, STEVEN M., MD
PROFESSOR
DEPARTMENT OF MEDICINE
NORTHWESTERN UNIVERSITY,
MEDICAL SCHOOL
CHICAGO, IL 60611

MEMBERS

AKHIA, SUNIL K., MD
ASSOCIATE PROFESSOR
DEPARTMENT OF MEDICINE
UNIVERSITY OF TEXAS HEALTH SCIENCE CENTER AT SAN ANTONIO,
SAN ANTONIO, TX 78229

BARBARI, ROBERT A., PHD
PROFESSOR AND CHAIR
DEPARTMENT OF BIOCHEMISTRY AND BIOPHYSICS
UNIVERSITY OF ROCHESTER,
SCHOOL OF MEDICINE AND DENTISTRY
ROCHESTER, NY 14642

BEAN, PAUL D., PHD
ANTONIOURINOLOGY RESEARCH CENTER
NEW YORK, NY 10010

BUSHMAN, FREDERIC D., PHD
ASSOCIATE PROFESSOR
DEPARTMENT OF MEDICINE
CHICAGO, IL 60611
Learn about special funding opportunities!

NIH Research Training Opportunities
Extramural Training Mechanisms

On This Page
- Fellowship/Center Award
- Academic Development Award
- Graduate Assistant Fellowship
- Special Populations
- Training Assessment Resources
- Resources

On OER Site
- OD5010
- Webinars
- NIH Data
- Grant Topics
- Research Training
- Related Topics

The training mechanisms below are listed by your level of professional development. Please choose the most appropriate option:

- **Training Awards By Career Level**
  - High School
  - Internship/Pre-Career Opportunities
  - Research Training Support for Graduate and Medical Students
  - Postdoctoral Award Opportunities
  - For Faculty Scientists in Training

- **NIH Training and Career Development Awards**
  - K-Funds - NIH Career Development Awards Information, including Career Award Wizard
  - T32 Research Service Award
  - Training Grants and Fellowships
  - International Career Opportunities
  - Fogarty International Center
  - Human Famine Science Program
  - Short-Term Courses in Research Ethics (TTB)

- **Policies Related to Graduate Research Assistants**:
  - Policy on Graduate Student Compensation (12/13/2019) - NIH Notice指示 that the minimum amount awarded by the NIH for the support of a graduate student supported by a research grant or a cooperative agreement is tied to the zero level National Service Award (NRSA) postdoctoral stipend in effect at the time the grant award is issued. See Notice for more information.

- **Programs for Special Populations**

Learn about special funding opportunities!

K Kiosk - Information about NIH Career Development Awards

Career Award Wizard - Helps you select the right career award

Additional K Award Information:

<table>
<thead>
<tr>
<th>Program</th>
<th>Description</th>
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<tbody>
<tr>
<td>K01</td>
<td>Mentored Research Scientist Development Award&lt;br&gt;Career development in a new area of medicine; 3-5 yrs; Salary determined by the sponsoring institute.</td>
</tr>
<tr>
<td>K02</td>
<td>Developmental Scientific Award&lt;br&gt;Develop the career of the funded scientist; 5 yrs; 75% effort.</td>
</tr>
<tr>
<td>K03</td>
<td>Senior Scientist Award&lt;br&gt;For outstanding scientists with a sustained level of high productivity; 5 yrs; 70% effort; Funding determined by the sponsoring institute.</td>
</tr>
<tr>
<td>K07</td>
<td>Academic Career Award&lt;br&gt;Developmental Leadership in academic instruction, research, administration; 2-5 yrs; 25-75% effort; requires institutional sponsorship.</td>
</tr>
<tr>
<td>K08</td>
<td>Developmental Career Scientist Development Award&lt;br&gt;Development of the independent clinical research scientist; 3-5 yrs; 75% effort.</td>
</tr>
</tbody>
</table>
Program Announcements are very important for you

- Invites grant applications in a given research area
- May describe new or expanded interest in a particular extramural program
- May be a reminder of a continuing interest in a particular extramural program
- Generally has no funds set aside
- Applications reviewed in CSR along with unsolicited grant applications

Requests for Applications (RFA) are very important for you

- Announcement describing an institute initiative in a well-defined scientific area
- Invitation to submit research grant applications for a one-time competition on a specific topic
- **Set-aside of funds for a certain number of awards**
- Applications generally reviewed within the issuing institute
Selected Sites of Interest

• National Institutes of Health
  http://www.nih.gov

• Office of Extramural Research
  http://www.nih.gov/grants/oer.htm

• Grants Policy

• NIH Study Section Rosters
  http://era.nih.gov/roster/index.cfm

• Office of Extramural Research: Grants Page
  http://grants1.nih.gov/grants/index.cfm

• Center for Scientific Review
  http://www.csr.nih.gov

• Referral and Review
  http://www.csr.nih.gov/refrev.htm

• Overview of Peer Review Process in CSR
  http://www.csr.nih.gov/review/peerrev.htm

• NIH Peer Review Notes
  http://www.csr.nih.gov/prnotes/prnotes.htm
Office of Extramural Research

- Handles requests for grant applications, program guidelines, general information on grant applications and review policy

Office of Extramural Research
National Institutes of Health
6701 Rockledge Drive, Suite 6095
Bethesda, Maryland 20892-7910

PHONE: 301-435-0714
FAX: 301-480-0525
e-mail: grantsinfo@nih.gov

NIH GRANTS$

Formula for Grant Success
Good Grantsmanship

*Knowing + Understanding
  - What to do
  - How to do it
  - When to do it
  - What to do when things don’t go as planned

*Being willing to do what is needed
*Doing it- doing what is needed

Understanding Peer Review

Thank You

http://ora.stanford.edu/ora/ratd/nih_04.asp