


 U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
**National Institutes of Health**



# Grant Writing for Success

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





 U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
**National Institutes of Health**



## Objective: Help You Secure Funding for Research






What is available?  
How to get some?


 U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
**National Institutes of Health**






## Anthony M. Coelho, Jr., Ph.D.

NIH Review Policy Officer	7 years
Scientific Review Administrator and Chief - Clinical Studies and Training Review Section - NHLBI	7 years
Peer Reviewer	12 years
NIH Funded Investigator	18 years
DOE Funded Investigator	8 years
Other Agency and Private Funding	


 U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
**National Institutes of Health**



### My Research Experience:




- Role of Diet, Exercise and Stress on Blood Pressure Regulation, Atherosclerosis and Cardiovascular Disease.
- Effects of Exposure to Electric and Magnetic Fields on the Central Nervous System


 U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
**National Institutes of Health**



### Collaborators and Co-Investigators

- 2 Biological Anthropologists
- 2 Biostatisticians (and support staff)
- 2 Experimental Psychologists
- 3 Cardiovascular Physiologists (and labs)
- 3 Pathologists (and labs)
- 3 Lipid Biochemists (and labs)
- 1 Nutritionists
- 1 Exercise Physiologist (and lab)
- 2 Electrical Engineers (and support staff)
- 3 Veterinarians (and support staff)

**Lots of technicians, Post-docs, Consultants**


 U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES  
**National Institutes of Health**



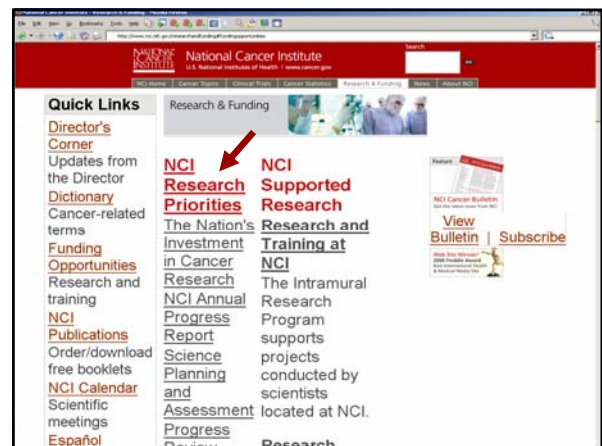
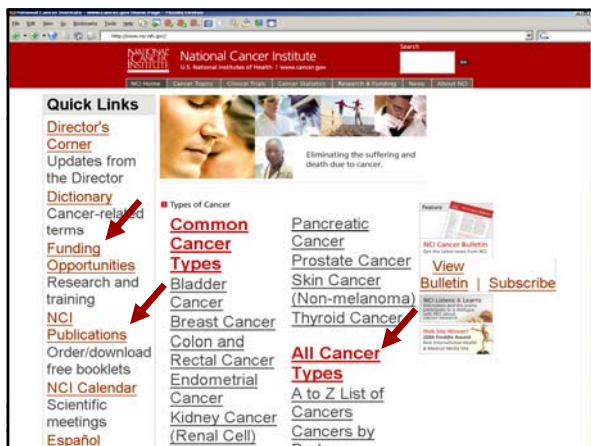
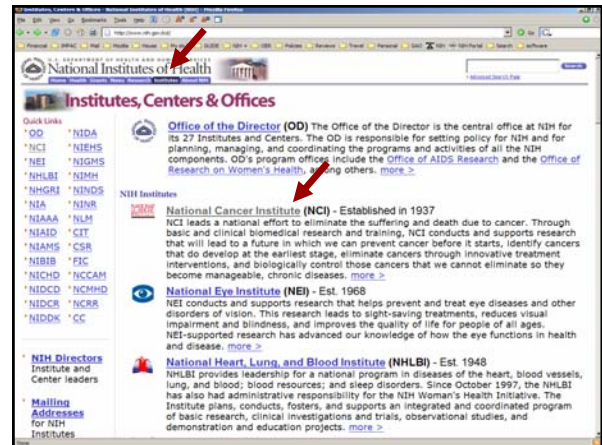
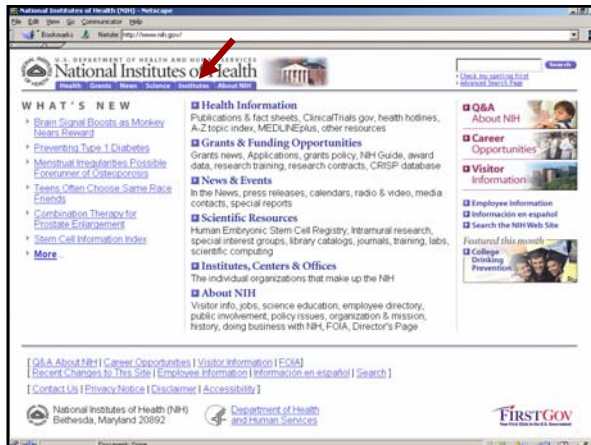
## Good Grantsmanship

### Principles for Success:

- Understand the Agency Mission
- Understand Peer Review
- Secure collaborators for areas in which you lack experience and training
- There are no competitors in science, there are only potential collaborators.
- Grant writing is a learned skill
- Grantsmanship is a full time job
- You are in control of your life

# Understanding the Agency Mission

- ## Understanding the Agency Mission:
- NIH mission is based and defined in law
  - Appropriations bills define expectations
  - NIH must report to Congress that it has complied with the legislative expectations
  - NIH reports to congress on success
  - NIH funding dependent on success and compliance with the legislative mandate
  - NIH success based on the success of the scientists it supports
  - NIH wants you to be a successful scientist



Funding Opportunities

**Funding Announcements**  
By Research or Disease Category  
By Type of Research and Type of Cancer  
By NCI Divisions  
More...

**Grant Application & Review**  
Everything You Wanted to Know...  
NIH Forms and Applications  
PHS 398 Grant Application  
Preparing Grant Applications  
Receipt Dates & Application Submission  
NIH Grant Review Process  
More...

**Research & Funding Policies**  
NCI Grant Policies  
NIH Grants Policy & Guidance  
Human Research Protection  
Informed Consent  
Animal Welfare

By Announcement Type  
Program Announcements (PAs)  
Requests for Applications (RFAs)  
Small Grant Initiatives - R03, R21  
Requests for Proposals (RFPs) - Contracts  
Small Business (SBR/STTR) Announcements under

Weekly NIH Funding Opportunities and Notices  
NIH Guide for Grants and Contracts  
February 11, 2005  
Table of Contents (TOC)

All NIH Funding Opportunities and Notices

Notices

- Registration Deadlines for 2005 Regional Seminars in Program Funding and Grants Administration (NOT-05-033)  
National Institutes of Health
- Center for HIV/AIDS Vaccine Immunology (CHAVI) Addendum to RFA-AI-04-051 (NOT-AI-05-024)  
National Institute of Allergy and Infectious Diseases
- Limited Completion of Revised Applications for the Senator Paul D. Wellstone Muscular Dystrophy Cooperative Research Centers (NOT-AR-05-006)  
National Institute of Arthritis and Musculoskeletal and Skin Diseases  
National Institute of Child Health and Human Development  
National Institute of Neurological Disorders and Stroke
- Early Therapeutics Development With Phase II Emphasis (NOT-CA-05-014)  
National Cancer Institute

Program Announcements

- Research on Sleep and Sleep Disorders (PA-05-048)  
National Heart, Lung, and Blood Institute  
National Center for Complementary and Alternative Medicine  
National Cancer Institute  
National Center on Sleep Disorders Research  
National Institute on Aging  
National Institute on Alcohol Abuse and Alcoholism  
National Institute of Arthritis and Musculoskeletal and Skin Diseases  
National Institute of Child Health and Human Development  
National Institute on Drug Abuse  
National Institute of Mental Health  
National Institute of Neurological Disorders and Stroke  
National Institute of Nursing Research  
Office of Research on Women's Health  
Application Receipt Date(s): Multiple dates, see announcements.
- Protein Biomarkers of Infection-Associated Cancers (PA-05-048)  
National Cancer Institute  
National Institute of Dental and Craniofacial Research  
Application Receipt Date(s): Multiple dates, see announcement.
- Animal Models of NIDDK-Relevant Diseases (PA-05-049)  
National Institute of Diabetes and Digestive and Kidney Diseases  
National Institute of Allergy and Infectious Diseases  
Application Receipt Date(s): Multiple dates, see announcement.

Part I Overview Information

Department of Health and Human Services

Participating Organizations  
National Institutes of Health (NIH) (<http://www.nih.gov/>)

Components of Participating Organizations  
National Heart, Lung, and Blood Institute (NHLBI) (<http://www.nhlbi.nih.gov/>)  
National Center on Sleep Disorders Research (NCSDR) (<http://www.nhlbi.nih.gov/about/ncadr/index.htm>)  
National Institute on Aging (NIA) (<http://www.nia.nih.gov/>)  
National Institute on Alcohol Abuse and Alcoholism (NIAAA) (<http://www.niaaa.nih.gov/>)  
National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) (<http://www.niams.nih.gov/>)  
National Cancer Institute (NCI) (<http://www.nci.nih.gov/>)  
National Institute of Child Health and Human Development (NICHD) (<http://www.nichd.nih.gov/>)  
National Center for Complementary and Alternative Medicine (NCCAM) (<http://www.nccam.nih.gov/>)  
National Institute on Drug Abuse (NIDA) (<http://www.nida.nih.gov/>)  
National Institute of Mental Health (NIMH) (<http://www.nimh.nih.gov/>)  
National Institute of Neurological Disorders and Stroke (NINDS) (<http://www.ninds.nih.gov/>)  
National Institute of Nursing Research (NINR) (<http://nir.nih.gov/>)  
Office of Research on Women's Health (ORWH) (<http://www4.od.nih.gov/orwh/>)

Title: Research on Sleep and Sleep Disorders

Announcement Type  
This is a reissue of PA-05-014, which was previously released December 23, 1994

Program Announcement (PA) Number: PA-05-048

Title: Research on Sleep and Sleep Disorders

Announcement Type  
This is a reissue of PA-05-014, which was previously released December 23, 1994

Program Announcement (PA) Number: PA-05-048

Catalog of Federal Domestic Assistance Number(s)  
93.866, 93.273, 93.864, 93.864, 93.279, 93.233, 93.242, 93.853, 93.361, 93.213, 93.865

Key Dates  
Release Date: February 9, 2005  
Letters of Intent Receipt Date(s): Not Applicable  
Application Receipt Date(s): <http://grants.nih.gov/grants/funding/submissionschedule.htm>  
Peer Review Date(s): <http://grants.nih.gov/grants/funding/submissionschedule.htm>  
Council Review Date(s): <http://grants.nih.gov/grants/funding/submissionschedule.htm>  
Earliest Anticipated Start Date: <http://grants.nih.gov/grants/funding/submissionschedule.htm>  
Expiration Date: June 1, 2008

Due Dates for E.O. 12372  
Not Applicable

Additional Overview Content

Executive Summary

- As summarized in the 2003 National Sleep Disorders Research Plan ([http://www.nhlbi.nih.gov/health/prof/sleep/res\\_plan/index.htm](http://www.nhlbi.nih.gov/health/prof/sleep/res_plan/index.htm)), multiple scientific areas in sleep and sleep disorders need additional research. In addition, therapy for a number of sleep disorders remains suboptimal.

1. Research Objectives

The three broad categories of sleep-related problems include:

- Sleep Restriction:** Many children, adolescents, and adults regularly fail to get sufficient sleep to function effectively during waking hours as a result of imposed or self-imposed lifestyles and work schedules.
- Primary Sleep Disorders:** More than 70 types of sleep disorders chronically affect people of all ages and their prevalence increases with aging. More than 50% of patients remain undiagnosed and therefore untreated.
- Secondary Sleep Disorders:** People having a chronic disease, or an alcohol or substance abuse disorder, often experience poor sleep quality and excessive daytime sleepiness. Alterations in circadian rhythmicity and the greater incidence of co-morbid conditions, as well as lifestyle changes, make the aging population at greater risk for sleep disorders.

An estimated 70 million people in the United States suffer from sleep problems, and more than 50% of them have a chronic sleep disorder. About 30 million American adults have frequent or chronic insomnia. Approximately 18 million have sleep apnea (sleep disordered breathing), but fewer than 50% are presently being diagnosed. An estimated 250,000 people have narcolepsy, and 10 to 20% of adults are affected by restless legs syndrome. According to the National Highway Traffic and Safety Administration (NHTSA), 100,000 accidents and 1,500 traffic fatalities per year are related to drowsy driving. More than 50% of Americans over age 65 have sleep difficulties, and prevalence of sleep problems will therefore increase as the over-65 population increases. Each year, sleep disorders, sleep deprivation, and excessive daytime sleepiness add approximately \$16 billion annually to the cost of health care in the U.S., and result in \$50 billion annually in lost productivity. In addition to conventional therapies to treat sleep disorders, many individuals use complementary and alternative therapies (CAM). According to the 2002 National Health Interview Survey, approximately 1.6 million adults use CAM specifically for sleep disorders. Sleep problems and disorders have major societal impacts, but have not received sufficient attention in basic and clinical

Section VII. Agency Contacts

We encourage your inquiries concerning this funding opportunity and welcome the opportunity to answer questions from potential applicants. Inquiries may fall into three areas: scientific/research, peer review, and financial or grants management issues.

**1. Scientific/Research Contacts:**

Carl E. Hunt, M.D.  
National Center on Sleep Disorders Research  
National Heart, Lung, and Blood Institute  
6705 Rockledge Drive, 6022  
Bethesda, MD 20892-7993  
Telephone: (301) 435-0199  
Email: [huntc@nhlbi.nih.gov](mailto:huntc@nhlbi.nih.gov)

Michael Tivary, Ph.D.  
Division of Lung Diseases  
National Heart, Lung, and Blood Institute  
6701 Rockledge Drive, 10116  
Bethesda, MD 20892  
Telephone: (301) 435-0202  
Email: [tivarym@nhlbi.nih.gov](mailto:tivarym@nhlbi.nih.gov)

Andrew A. Monjan, Ph.D., M.P.H.  
Neuroscience and Neuropsychology of Aging Program  
National Institute on Aging  
7201 Wisconsin Avenue, Suite 350  
Bethesda, MD 20892-0205  
Telephone: (301) 496-9350  
Email: [monjane@nia.nih.gov](mailto:monjane@nia.nih.gov)

**Identify NIH Staff who can help you**

Eliot D. Witt, Ph.D.  
Division of Neuroscience and Behavior  
National Institute on Alcohol Abuse and Alcoholism  
5635 Fishers Lane, Room 2063  
Bethesda, MD 20892-5004  
Telephone: (301) 443-6545  
Email: [witt@mail.nih.gov](mailto:witt@mail.nih.gov)

Deborah N. Ader, Ph.D.  
Program Director, Behavioral and Prevention Research Program  
National Institute of Arthritis and Musculoskeletal and Skin Diseases  
6701 Democracy Blvd., Suite 800  
Bethesda, MD 20892  
Telephone: (301) 594-5032  
Email: [aderd@mail.nih.gov](mailto:aderd@mail.nih.gov)

Ann O'Mara, Ph.D., R.N.  
Program Director, Symptom Management/End of Life  
Community Clinical Oncology Program (CCOP)  
National Cancer Institute  
6130 Executive Blvd., EPN 2010  
Bethesda, MD 20892  
Telephone: (301) 496-5541  
Email: [oc45a@nih.gov](mailto:oc45a@nih.gov)

Lynne M. Haverkos, M.D., M.P.H.  
Center for Research for Mothers and Children  
National Institute of Child Health and Human Development  
6100 Executive Blvd. Room 4B05  
Bethesda, MD 20892-7510  
Telephone: (301) 435-6881  
Email: [haverkos@mail.nih.gov](mailto:haverkos@mail.nih.gov)

**Identify NIH Staff who can help you**

National Cancer Institute  
NIH | National Institutes of Health | [www.fda.gov](http://www.fda.gov)

**NCI Research Priorities**

**Quick Links**

- Director's Corner
- Dictionary
- Funding Opportunities
- NCI Publications
- NCI Calendar
- Español

**NCI Highlights**

- New NCI-FDA Joint Fellowship Training Program
- The Nation's Investment in Cancer Research FY 2006
- caBIG: Connecting the Cancer Community

**Plans and Priorities for NCI Cancer Research**

- The Nation's Investment in Cancer Research for Fiscal Year 2006
- The Nation's Investment in Cancer Research (Previous Plans and Budgets)
- NCI Annual Progress Report on Cancer Research 2003
- FY 2005 Congressional Justification
- FY 2004 Congressional Justification
- Office of Science Planning and Assessment
- FY 2003 NCI FactBook (PDF)
- NCI Participation in the NIH Roadmap for Medical Research

**Assessing and Planning Cancer-Specific Research**

- Progress Review Groups
- Brain Tumor Progress Review Group
- Breast Cancer Progress Review Group
- Colorectal Cancer Progress Review Group

**Identify Mission Priorities**

<http://deainfo.nci.nih.gov/concepts/recentcleared.htm>

Division of Extramural Activities

Concepts Cleared at the NCI Board of Scientific Advisors Meeting

**Quick Links**

- CONCEPTS MAIN PAGE
- November 2004
- July 2004
- June 2004
- March 2004
- New & Released Concepts
- NCI Guide: Published RFA
- NCI Guide: Published PIA
- Antiviral PAIRFAs

**June 27-28, 2005**

- Small Animal Imaging Resource Program (SAIRPs) (U24 cooperative agreement) (RFA, pending publication)
- Clinical Proteomic Technology Assessment Consortia (U24 cooperative agreement) (RFA, pending publication)
- Advanced Proteomic Platforms, Analytical Methods, and Computational Sciences (R01, R21/R33 grants) (RFA, pending publication)
- Clinical Proteomic Reagents Resource (contracts) (RFP, pending publication)

**March 7-8, 2005**

- Breast Cancer Family Registries (Letter RFA with restricted competition, pending publication)

**November 8-9, 2004**

- AIDS Malignancy Clinical Trial Consortium (UD1)(NOT-CA-05-009, published)

**July 12, 2004**







- Cancer Nanotechnology Platform Development (R01)(RFA-CA-05-026, published)
- Multidisciplinary Career Development (F32, F33)(RFA-CA-05-025, published)
- Centers of Cancer Nanotechnology Excellence (U54)(RFA-CA-05-024, published)

**Grant writing is a learned skill**

- Writing grant applications, standard operating protocols and manuals of procedures that get approved are learned skills
- Writing manuscripts that get published in peer reviewed journals is a learned skill

**Grantsmanship is a full time job.**

**Elements of Grant Success**

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



## Good Idea

### SIGNIFICANT?

- Does it address an important problem?
- How will scientific knowledge be advanced?

### INNOVATIVE?

- Builds upon or expands knowledge base
- Capable of making a difference

### UNDERSTANDABLE?



## Are These Good Ideas?

- Develop a vaccine to prevent HIV infection
- Develop a method to prevent HIV from replicating or mutating
- Produce a drug that will raise HDL and lower LDL without any toxic side effects
- Produce a drug that will lower blood pressure without any side effects
- Study the human genome



## Are These Ideas Understandable?

What if you thought of these ideas in

1952? 1962? 1972? Are they still Good Ideas?

- Develop a vaccine to prevent HIV infection
- Develop a method to prevent HIV from replicating or mutating
- Produce a drug that will raise HDL and lower LDL without any toxic side effects
- Produce a drug that will lower blood pressure without any side effects
- Study the human genome



## Good Timing

- Will the idea be understood by others?
- Does it build upon existing knowledge?
- Does it build upon similar ideas?
- Do you have preliminary data?
- How will the idea be received?



## Good Timing is NOT

“I plan on submitting a grant application in two weeks can you tell me who might be a good program person for me to speak with before I send my application in?”



## Good Presentation

Organize the Application

- What do you want to do?
- Why do you want to do it ?
- How are you going to do it?
- What is the expected outcome?
- Why is it a good thing?



## Good Presentation: Organize the Application

- Develop a logical outline (presentation sequence)
- **Use Section Heading** - help reviewers “find things”
- **Use both major and minor section headings**
- **Make it easy for reviewers - Don't make them work**
- Use a detailed table of contents
- Do everything to help reviewers:
  - Understand your idea,
  - Why it is important and
  - Why it is reasonable and feasible



## Good Presentation Address Review Criteria:

Significance  
Approach  
Innovation  
Investigator  
Environment



## Good Presentation: Address 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?



## Good Presentation: Address Review Criteria

### (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?



## Good Presentation: Address Review Criteria

### (3) Innovation:

- Is the project original and innovative? For example: 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?



## Good Presentation: Address Review Criteria

### (4) Investigator:

- 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)?



## Good Presentation: Address Review Criteria

### (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?



## Good Reviewers

### Reviewer → Good Reviewer

- Organize and make reviewers “Happy”
- Make it easy for them to understand things
- Make it easy for them to find things
- Make it easy for them to be your advocate
- Don’t make them “work hard”



## Good Reviewers

### Factors Involved in Reviewer Assignment

- Abstract
  - Specific Aims
  - Methods Section
  - Self Referral Letter - request specific study section
  - Research the background of the review committee
  - Letter to SRA recommending types of reviewers
- TYPES OF REVIEWERS NOT NAMES OF REVIEWERS



## Good Reviewers

Know who the potential reviewers are and do what you can to control the selection process.

- Self Referral Letter - request specific study section
- Research the background of the review committee
    - CRISP Database
    - Rosters of Committees
  - Letter to SRA recommending types of reviewers
- TYPES OF REVIEWERS NOT NAMES OF REVIEWERS



## Good Luck

The consequence of:

- Good Ideas
- Good Presentation
- Good Timing
- Good Reviewers
- Good Grantsmanship

## COMMUNICATE WITH NIH

- Program Staff
- Review Staff
- Grants Management Staff

Improve your luck by preventing problems before they happen

## COMMUNICATING WITH NIH

### Before Submitting, Call Institute Program Staff

- Assess scientific interest and match
- What do they want to fund?

### Submit Your Application With a Cover Letter

- Institute interest
- Study Section Interest - Charter

## COVER LETTER

- **Suggest Key Areas of Expertise Required**
- **Do Not Suggest Specific Reviewer Names**
- Suggest Institute(s) For Potential Funding
- Suggest Study Section(s) For Review

## COMMUNICATING WITH NIH

### CONTACTS WITH REVIEW STAFF

#### **Scientific Review Administrator** answers

- Questions about the review process
- Format and structure of application
- “Oops” missing material or late material

## COMMUNICATING WITH NIH

### AFTER REVIEW, CONTACT PROGRAM STAFF

#### **Institute Program Administrator**

- Questions about the discussion of your application (after you have summary statement)
- Scores and percentiles
- Questions about the fundability of application

## 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**)

## REVISION COVER LETTER

- For Revisions, Indicate Review History
- Request Same Or Different Study Section
- Provide Justification for your request
- **Don't be Argumentative ! Never!**
- **Don't be Abrasive ! Never!**

**Q** What if you know that you are “**Right**” and the reviewers are “**Wrong**”, is it appropriate to argue your position in your resubmission

**A NO!**

**Remember**

- An application for funding is not about the facts of your completed research.
- It is about ideas and potential research
- **Never be Argumentative !**
- **Never be Abrasive !**
- **Do not do longterm damage to yourself**

## **REVISING & RESUBMITTING**

- Write A Clear Introduction Section
- Address All Criticisms Thoroughly
- Respond Constructively
  
- Accept the Help of Reviewer Comments
- **Don't Be Argumentative !**
- **Don't be Abrasive !**

## **REVISING & RESUBMITTING**

- **Update Preliminary Results**
- Remember that Properly Revised applications can received fundable scores and subsequent \$\$
- Maintain communications with Scientific Review Administrator and Program Administrator

## **DO'S AND DON'TS**

- **Do** Pursue original science. This is an area that study sections are most concerned about.
- **Do** Provide a well focused research plan.
- **Do not** let your ideas wander from the main theme.

“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.”

“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 known to mankind.”

### DO'S AND DON'TS (2)

- Provide a critical approach to project.
- Discuss potential problem areas and alternative approaches.
- Never assume that the reviewers will know what you mean.
- Always be explicit about what you want the reviewers to know and what they need to know.

### DO'S AND DON'TS (3)

- Read the application instructions carefully.
- Read the application instructions carefully.
- Read the application instructions carefully.

### DO'S AND DON'TS (4)

- Read the application instructions carefully.
- They may seem overwhelming but the effort is worth it and could spell the difference between success and failure.
- Supply sufficient detail.
- Stay within the page limitations.
- If you don't understand something in the instructions ask for help .
- Call the SRA call the PA.

### DO'S AND DON'TS (5)



- Do Secure collaborators for areas of research in which you lack experience and training.

### Point of View



- There are no competitors in science,
- There are only potential collaborators.

### DO'S AND DON'TS (6)

- Secure collaborations for areas of research in which you lack experience and training.
- “Independent Researcher” does not mean that you working in isolation.
- “Independent Researcher” does mean that you set the direction of the research
- Don't give the impression of being intellectually “Isolated”.

### **DO'S AND DON'TS (7)**

- Prepare a reviewer friendly application.
- It should be well organized and clear.
- Tables and figures should be easily viewed.
- Do not hand-draw structures.
- Do not photoreduce your application to an unreasonable size.
- Remember that Reviewers work late at night.

### **DO'S AND DON'TS (8)**

- Do not be overly ambitious.
- Project a realistic amount of work.
- Provide a thorough literature search.
- Be sure you have found key references.
- Know your Reviewers - do literature searches of committee members.
- Minimize typographical errors.

### **DO'S AND DON'TS (9)**

- If you are a new investigator, ask for 5 years.
- The sentiment at NIH is to award sufficient time and funds for new investigators to establish their programs.
- **Make sure that you have collaborators who can compensate for your deficiencies and who add credibility to your innovative ideas.**
- Don't appear intellectually isolated.

### **DO'S AND DON'TS (10)**

- If your application is a renewal or supplement request, be aware that study section members will not have the benefit of your previous application but rather only the previous summary statement.
- Be sure to explain your progress carefully in the current application.
- Publish, Publish, Publish - be productive.

### **BEFORE YOU SUBMIT AN APPLICATION**

- Show your application to a colleague
  - Show your application to a colleague who knows little to nothing about your area of research and ask them if they understand
    - What you are proposing to do?
    - How you are proposing to do it?
    - Why you are proposing to do it?
- If they do not understand Revise until they do**
- Get feedback on clarity
  - Get feedback on scientific merit

### **AFTER YOU RECEIVE SNAP-OUT MAILER**

- Contact the SRA who is listed on the mailer if there are potential problems of IRG assignment.
- Avoid additional material in support of your application,
  - Speak to the SRA first.
  - Keep the material brief - 1 to 3 page letter.
  - Send it at least one month before the review committee meeting.
  - Better yet Do NOT submit additional material

### AFTER REVIEW IS OVER

- The Program Administrator at the Institute to which your proposal was assigned is the new contact point. **Wait for the Summary Statement**
- Address any concerns on review to them.
- Appeal letters are appropriate only if review was flawed (legal and procedural).
- **More constructive use of your energy is amending and resubmitting the application and incorporating reviewer comments.**
- **Do not take the review comments personally.**

### IF YOU RESUBMIT

- Answer previous critiques completely
- Supply an introduction section which explains the changes you have made
- **Leave your irritations with the review out of your resubmission**
- **Don't argue or be hostile**
- You will not be help yourself if you force the study section into a defensive posture
- **Accept Reviewers comments and suggestions as helpful and incorporate them in your revision**

### IF YOU RESUBMIT

- Remember that the study section will have the previous summary statement, but not the previous application.
- Do not refer to the previous application for details.
- Remember that reviewers are generally trying to help you become a better research scientist

## *Resources*

#### Funding Opportunities

#### **Sites with important information:**

- <http://grants.nih.gov/grants/index.cfm>
- <http://grants.nih.gov/grants/welcome.htm#introduction>
- <http://deainfo.nci.nih.gov/funding.htm>
- <http://deainfo.nci.nih.gov/extra/extdocs/grantrevprocess.htm>
- <http://www.niaid.nih.gov/ncn/grants/default.htm>
- <http://www.niaid.nih.gov/ncn/grants/charts/default.htm>
- <http://www.niaid.nih.gov/ncn/glossary/default.htm>

The screenshot shows a web browser window displaying the NIH website. The page title is "Glossary of Confusing NIH Terms, NIAID Council News, National Institute of Allergy and Infectious Diseases - Netscape". The URL in the address bar is "http://www.niaid.nih.gov/ncn/gloss.htm". The page content includes the NIAID Council News logo, the title "Glossary of Confusing NIH Terms", a link to "Also see our Acronym List", and a section for "Index tabs" with a row of letters: A | B | C | D | E | F | G | H | I | J | K | L | M | N | O | P | R | S | T | U. Below this, it says "Last revised 03/02/00" and "Activity code" with a description: "A three digit code identifying the type of award mechanism (e.g., R01 is a research project grant). Major series are: F - fellowship, K - research career, N - research contracts, P - research programs and centers, R - research projects, S - research-related programs, T - training, U - cooperative".

[http://www3.cancer.gov/admin/gab/02gpb/nci\\_grants\\_bk.pdf](http://www3.cancer.gov/admin/gab/02gpb/nci_grants_bk.pdf)

THE NATIONAL CANCER INSTITUTE PRESENTS

# Everything you wanted to know about the NCI Grants Process...

<http://deainfo.nci.nih.gov/consumer.htm>

Division of Extramural Activities

CONSUMER GUIDES FOR PEER REVIEW

**Complete Guide Book to Peer Review**

The NCI Consumers' Guide to Peer Review has been prepared to serve first as an introduction and orientation to the National Cancer Institute (NCI) and its Research Programs and second to define your role as a consumer in the Peer Review of applications that support extramural clinical-population-based research conducted by Cancer Centers, Cooperative Groups, Program Projects, and projects submitted in response to Requests for Applications (RFAs) and Program Announcements (PAs).

**Cancer Dictionary for Peer Review**

The NCI Consumers' Cancer Dictionary for Peer Review is designed to provide concise definitions of technical terms frequently used in applications for NCI-sponsored investigator-initiated research. The terms include those commonly associated with the molecular biology of cancer, immunology, and clinical oncology. These definitions, in association with the review process, will increase your familiarity and understanding of the biology and clinical aspects of cancer. We hope this will facilitate and make your participation in the Peer Review process more meaningful.

<http://deainfo.nci.nih.gov/consumer.htm>

Division of Extramural Activities

National Cancer Institute

The NCI Consumers' Guide to Peer Review

**How to Write a Grant Application**

[http://grants2.nih.gov/grants/grant\\_tips.htm](http://grants2.nih.gov/grants/grant_tips.htm)

<http://www.niaid.nih.gov/ncn/grants/>

<http://www.nlm.nih.gov/scr/edn/grants-resources.htm>

<http://www.nigms.nih.gov/funding/tips.html>

[http://www.nigms.nih.gov/funding/moregrant\\_tips.html](http://www.nigms.nih.gov/funding/moregrant_tips.html)

<http://deainfo.nci.nih.gov/EXTRA/EXTDOCS/gntapp.htm>

<http://12.46.245.173/cfda/cfda.html>

<http://cpmcnet.columbia.edu/research/writing.htm>

<http://www.niaid.nih.gov/ncn/grants/>

Funding Main | Newsletter | Opportunities | Budget | Grants, Contracts | Special Areas | Training, Career | Small Business

These "All About Grants" tutorials help biomedical investigators, especially new ones, plan, write, and apply for the basic NIH research project grant, the R01. Our advice comes from the experience of NIAID staff, including former NIH grantees, and should be considered as opinion only. Differing opinions may exist.

We do not repeat instructions in the PHS 398 grant application kit. Before preparing an application for an NIH grant, read all instructions, and follow the directions.

Tutorial Web pages	MS Word	Adobe PDF	Translations
<a href="#">Grant Application Basics</a>	MS Word	Adobe PDF	Español, Français
<a href="#">How to Plan a Grant Application</a>	MS Word	Adobe PDF	Español, Français
<a href="#">How to Write a Grant Application</a>	MS Word	Adobe PDF	Español, Français
<a href="#">How to Manage Your Grant Award</a>	MS Word	Adobe PDF	
<a href="#">How to Write a Human Subjects Application</a>	MS Word	Adobe PDF	
<a href="#">How to Write an Application Involving Research Animals</a>	MS Word	Adobe PDF	
<a href="#">Advice on Research Training and Career Awards</a>	MS Word	Adobe PDF	
<a href="#">Advice for Small Business Grants (SBR, STTR)</a>		Adobe PDF	

Find more information on the [main Grants Funding page](#), including:

- Annotated R01 Grant Application
- Quick Facts on Research Grant Applications

<http://deainfo.nci.nih.gov/extra/extdocs/gntapp.htm>

Extramural Funding Opportunities

Quick Guide for Grant Applications

**Quick Links**

RELATED LINKS: Page 1

NCI RESOURCES

- Grant Funding Resources
- Grant Review Process
- Resources by Category

NIH RESOURCES

- Guide for Grants & Contracts
- Office of Extramural Research

OTHER LINKS

- CancerTrials Update!

**TABLE OF CONTENTS**

- Introduction
- Planning Your Application
- Abstract
- Research Plan (overview)
  - A. Specific Aims
  - B. Background and Significance
  - C. Preliminary Results/Progress Report
  - D. Research Design and Methods

<http://cpmcnet.columbia.edu/research/writing.htm>

**Faculty & Research:  
Writing a Grant Proposal  
Writing Tips and Application Forms**

[| Tips for Scientific/Technical Writing](#) | [Grant Application Forms](#) |  
[Columbia University Medical Center's Manual of Policies and Procedures](#) |  
[Courses, Seminars, and Slide Presentations on Preparation of Applications](#) |  
[Comprehensive Research Funding Information](#) |

**Tips for Scientific/Technical Writing**

- [Elements of Style by William Strunk, Jr. \(Bartleby\)](#)
- **NIH Publications**
  - [Answers to Frequently Asked Questions about NIH Grants](#)
  - [Center for Scientific Review](#)
    - [Overview: What Happens to Your Grant Application - A Primer for New Applicants](#)
    - [Video on Peer Review at NIH](#)
    - [Review of New Investigator R01's](#)
    - [Advice to Investigators Submitting Clinical Research Applications](#)
    - [Guidelines for Reviewers](#)
    - [NIH Instructions to Reviewers for Evaluating Research Involving Human Subjects in Grant and Cooperative Agreement Applications](#)
  - [How to Apply for NIH Funding \(NICHD\)](#)
  - [Tips for NIH Grant Applicants \(NIGMS\)](#)

**National Institutes of Health**

[http://www.wm.edu/grants/PROP/Ellens\\_how\\_to.html](http://www.wm.edu/grants/PROP/Ellens_how_to.html)

**Writing Successful NIH grants**

**Hints for Writing Successful NIH grants**

Prof. Ellen Barrett  
 Department of Physiology and Biophysics  
 University of Miami School of Medicine  
 October, 1995

A successful grant application will convince reviewers that:


- your proposed research addresses important questions in basic and/or applied science
- your proposed experimental plan will answer many of those questions in an efficient and convincing way
- you know and understand the contemporary research literature in your field
- you have sufficient mastery of all the relevant techniques needed to execute your experimental plan - that you are in fact the best person in the world to do this project
- you have access to all the equipment and reagents needed to execute your experimental plan, and have budgeted appropriately
- you will analyze your data in a thoughtful and honest manner
- you will publish your results in a timely manner
- you will accomplish your experimental plan in the time requested and for the amount requested.

Allow at least 3 months to write the grant after you have collected all (or most of) your preliminary data. It takes longer than you think to assemble all the needed information and organize it clearly, secure appropriate letters of collaboration and consultation, etc. **READ THE PUBLISHED NIH INSTRUCTIONS AND FOLLOW THEM TO THE LETTER.** There is a law or a scientific rationale for every piece of requested information, and the funding of a grant can hang on what appear to be small details.



**National Institutes of Health**

**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

**National Institutes of Health**

**Rule #2**

STUDY SECTIONS  
DO NOT FUND!


**INSTITUTES FUND!**



**National Institutes of Health**

**Rule #3**

You must satisfy the needs of reviewers and the needs of the funding agency



## Rule #4

**Reviewers are never wrong,  
Reviewers are never right;  
they simply provide an  
assessment of material that you  
provided  
in your application**



## Rule #5

**Comments in the summary  
statements are never about  
you as a person.**

**The comments are about the material  
that you provided in your application  
and the way in which you provided the  
information**



## Rule #6

**The comments in the summary  
statements only list some of  
the weaknesses not all of the  
weaknesses.**

**When you revise your  
application use the time as an  
opportunity to improve the  
entire application.**



## Rule #7

**Always contact NIH staff before  
you submit an application and  
preferably when you are in the  
planning stages.**

**Make sure that you give yourself and  
the NIH staffer enough time to work  
with together.**



**Q. Do I really have to contact NIH  
before I submit an application?**

**A. Only if you want to get funded!**

- Always contact program staff during application development
- Must contact & IC staff prior to a submission if you want them to agree to accept the application for any investigator-initiated competitive applications with  $\geq$ \$500,000 direct cost for any single year
- Request must be at least six weeks before deadline

## Rule #8




**DO NOT write the  
application for the  
“Specialist”**

**You MUST convince the  
entire review committee**

National Institutes of Health


## Rule #9



**Secure Collaborators** for areas of research in which you lack experience and training and who can complement you. Let them help you prepare the best possible application

National Institutes of Health

## Rule #10



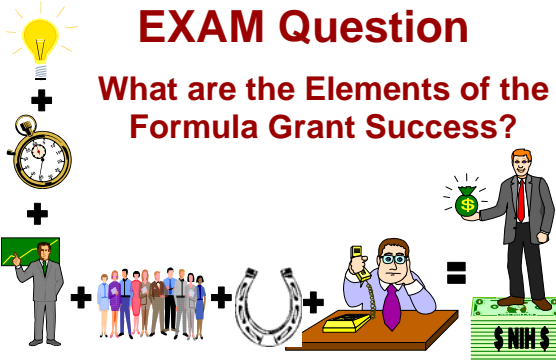
**Secure a mentor or mentors** who can help you succeed

Who is a good Mentor?

National Institutes of Health


## EXAM Question

What are the Elements of the Formula Grant Success?



National Institutes of Health

## 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

National Institutes of Health

## NIH GRANT\$

Formula for Grant Success



NATIONAL INSTITUTES OF HEALTH U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

National Institutes of Health

# Thank You