Understanding Funding Opportunities at the NIH

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212 794 5444
Where do you send your NIH grant application?

National Institutes of Health

Office of the Director

National Institute on Aging
National Institute on Alcohol Abuse and Alcoholism
National Institute of Allergy and Infectious Diseases
National Institute of Arthritis and Musculoskeletal and Skin Diseases
National Cancer Institute
National Institute of Child Health and Human Development

National Institute on Deafness and Other Communication Disorders
National Institute of Dental and Craniofacial Research
National Institute of Diabetes and Digestive and Kidney Diseases
National Institute on Drug Abuse
National Institute of Environmental Health Sciences
National Eye Institute

National Institute of General Medical Sciences
National Heart, Lung, and Blood Institute
National Human Genome Research Institute
National Institute of Mental Health
National Institute of Neurological Disorders and Stroke
National Institute of Nursing Research

National Institute of Biomedical Imaging and Bioengineering
National Center for Complementary and Alternative Medicine
Fogarty International Center
National Center for Research Resources
National Library of Medicine
National Center on Minority Health and Health Disparities

Clinical Center
Center for Information Technology
Center for Scientific Review
The NIH Grant Application Process

1. School or Other Research Center submits application to National Institutes of Health (NIH).
2. NIH sends application to Center for Scientific Review (CSR).
3. CSR assigns the application to a Study Section and Institute & Center (IC).
4. Study Section evaluates the application for scientific merit.
5. IC evaluates the application for program relevance.
6. Advisory Councils and Boards recommend action.
7. Institute Director takes final action for NIH Director.
8. Investigator submits necessary revisions.
AREA: Academic Research Enhancement Award

AREA grants: support for small research projects:
- support meritorious research
- strengthen the research environment of the institution (Baccalaureate)
- expose students to hands-on research (not a training grant)

AREA grants are meant for institutions unlikely to otherwise participate in NIH programs.

Request up to $300,000 plus F&A for entire project up to 3 years.

12 pages of research strategy in new forms.
AREA: Academic Research Enhancement Award

- pilot research projects
- development, testing and refinement of research techniques
- secondary analysis of available data sets
- similar discrete research projects that demonstrate research capability

Additional administrative supplements available to improve diversity in the workforce and recruitment of high-school/undergraduate students.

More information on AREA grants:
http://grants.nih.gov/grants/funding/area.htm

Contacts at NIH regarding AREA grants:
• Small grant program – limited time and resources

• Pilot, feasibility studies; secondary analysis; development of methodology; new research technology.

• $100,000 over 2 years max. 6 pages on PHS398 for research strategy

• All investigators should consult their Institute/Center regarding suitability at the concept stage of the application

http://grants.nih.gov/grants/funding/r03.htm
R03 Participating Institutes and Centers. NIH Institutes and Centers that DO Accept Investigator-Initiated R03 Applications in Response to the Parent R03 Announcement - (PA-10-064): NHGRI, NIA, NIAAA, NIAID, NIBIB, NICHD, NIDA, NIEHS, NIMH, NINDS, NINR

R03 Non-Participating Institutes and Centers. NIH Institutes and Centers that DO NOT Accept R03 applications in response to the Parent R03 Announcement but ONLY accept R03 applications in response to their specific funding opportunity announcements: FIC, NCCAM, NCI, NCRR, NEI, NHLBI, NIAMS, NIDCD, NIDCR, NIDDK, NIGMS and NLM.

NIH Institutes and Centers that DO NOT use the R03 mechanism: NCMHD.

http://grants.nih.gov/grants/funding/r03.htm
R21

- Exploratory/developmental grant to provide support for early and conceptual stages of a project.

- may involve considerable risk but lead to breakthrough or development of novel technique, agents, methodologies, models or applications that have a major impact.

- 2 years @ $275000 max over the whole period

- uses PHS398 forms and may not exceed 6 pages of research strategy; Co-PI OK.

- one resubmission and no renewals.
  - reviewers will focus on conceptual framework; innovation; potential to advance field

- preliminary data not required (yeah, right!)
R21 Participating Institutes and Centers
NIH Institutes and Centers that Do Accept Investigator-Initiated R21 Applications in Response to the Parent R21 Announcement - **PA-10-069: NCCAM, NEI, NHGRI, NHLBI, NIA, NIAAA, NIAID, NIAMS, NIBIB, NICHD, NIDA, NIDCD, NIDCR, NIDDK, NIEHS, NIMH, NINDS, NINR and NLM.**

R21 Non-Participating Institutes and Centers. NIH Institutes and Centers that DO NOT ACCEPT R21 applications in response to the Parent R21 Announcement but ONLY accept R21 applications in response to their specific funding opportunity announcements:

**FIC, NCI, NCMHD, NCRR and NIGMS.**
WARNING: R21 is not a good starter grant
It’s not a mini-R01

• Recently, several NIH Institutes have introduced specific policies *discouraging* New Investigators from applying for the R21’s as a starter grant.

• Rationale: New Investigators are High risk.

Data shows:

High risk PI + High risk Idea = ↓ likelihood of success
• original and oldest research project grant mechanism

• 1-5 years with modular budget to $250,000 per year but can be more

• uses PHS398 forms and may not exceed 12 pages of research strategy; Co-PI OK.

• one resubmission plus competitive renewals.
• preliminary data required
The New Research Strategy
(the old Research Plan)

Specific aims 1 page
Research Strategy 12 pages for R01
  - Significance, Innovation and Approach

How to write a 12 page grant

-Significance needs to describe what will be the result of the research assuming everything works – what is the NIH buying?
-Half a page??

-Innovation must described what’s new?

-Approach – put background into the intro to each aim; needs to include preliminary data
### A. Personal Statement

I have been studying the role of molecular chaperones in protein quality control (QC) for the past 21 years, since I was a postdoc in the lab of Dr. Michael Douglas. Since running my own lab I have focused on how different molecular chaperones function together to promote folding and activation of proteins important to several different pathophysiological states, including nuclear receptors and more recently, protein kinases. The work has progressed from analysis of protein folding to the mechanisms by which the QC apparatus recognizes misfolded proteins for destruction. This work was financed by NIH grants, has been reported in the literature and presented at various national and international conferences by myself or members of my lab.

Our recently published work demonstrates that some molecular chaperones act to protect newly made proteins from degradation while others promote degradation. In addition, we have also characterized ubiquitin ligases that target misfolded protein kinases for degradation when their folding pathways were blocked with a chemotherapeutic chaperone inhibitor. These combined findings have allowed us to propose a new model for the QC of proteins synthesized on cytosolic ribosomes. The model includes novel testable hypotheses that form the basis of the current application. I have both the experience and tools to undertake the proposed research and collaborators to help with additional expertise where necessary.

My scientific interests have focused on protein kinases because of their importance to therapeutics, and we have a strong interest in QC pathways in cancer cells. My overall philosophy has been to investigate mechanism and target identification in both yeast and cancer cell systems. These complementary approaches are bound together in this application with our studies of the Ubx1 ubiquitin ligase.

### B. Positions and Honors

- **Associate University Dean for Research for the City University of New York.** 2008-present
- **Professor, Department of Biology, The City College of New York, CUNY.** 2008-present
- **Associate Professor, Dept. Pharmacology Biol. Chemistry, Mount Sinai School of Med.** 1999-2008

### Professional Activities and Honors

- **Science and Engineering Research Council Studentship (UK)** 1986-1987
- **Welch Postdoctoral Fellowship** 1988-1989
- **NATO Collaborative Research Award** 1995-1999
- **Alexandrine and Alexander Sinheimer Scholar Award** 1995-1998
- **Hirschl Career Scientist Award** 1998-2002
- **Excellence in Teaching Award, Mt Sinai Sch. Med.** 1999
- **Reviews Editor, Cell Stress and Chaperones** 2004-present

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**Personal statement. Briefly describe why your experience and qualifications make you particularly well-suited for your role (e.g., PD/PI, mentor) in the project that is the subject of the application.**
NIH encourages applicants to limit the list of selected peer-reviewed publications or manuscripts in press to no more than 15. Do not include manuscripts submitted or in preparation. The individual may choose to include selected publications based on recent, importance to the field, and/or relevance to the proposed research.

Nih now wants a PubMed central reference number if publication was financed by prior NIH support.
Research Support. List both selected ongoing and completed research projects for the past three years (Federal or non-Federally-supported). Begin with the projects that are most relevant to the research proposed in the application. Briefly indicate the overall goals of the projects and responsibilities of the key person identified on the Biographical Sketch. Do not include number of person months or direct costs.

Do not confuse "Research Support" with "Other Support." Though they sound similar, these parts of the application are distinctly different. As part of the biosketch section of the application, "Research Support" highlights your accomplishments, and those of your colleagues, as scientists.
This information is used to assess the capability of the organizational resources available to perform the effort proposed.

• Identify the facilities to be used (laboratory, clinical, animal, computer, office, other). If appropriate, indicate their capacities, pertinent capabilities, relative proximity and extent of availability to the project. Describe only those resources that are directly applicable to the proposed work. Provide any information describing the Other Resources available to the project (e.g., machine shop, electronic shop) and the extent to which they would be available to the project.

This part is easy....
• Describe how the **scientific environment** in which the research will be done contributes to the probability of success (e.g., *institutional support, physical resources, and intellectual rapport*). In describing the scientific environment in which the work will be done, discuss ways in which the proposed studies will benefit from **unique features of the scientific environment** or subject populations or will employ useful collaborative arrangements.

• For **Early Stage Investigators**, describe institutional investment in the success of the investigator, e.g., resources for classes, travel, training; collegial support such as career enrichment programs, assistance and guidance in the supervision of trainees involved with the ESIs project, and availability of organized peer groups; logistical support such as administrative management and oversight and best practices training; and financial support such as protected time for research with salary support.
Resources Page

**institutional support:**
- space and arrangement of labs.
- how many other funded labs

**physical resources:**
- what core facilities are available to you at your college and at CUNY as a whole?
  - include RCMI resources

**intellectual rapport:**
- how many scientists working in your field are in your department?
- how do you interact (seminars/lab mtgs)
- how about across CUNY?
• SCORE instructions:
Institutions with well developed environments for the conduct of research and/or research training and significant support from NIH RO1 or equivalent are generally not suitable applicants for the SCORE program.

• RO1 instructions:
Will the scientific environment in which the work will be done contribute to the probability of success? Are the institutional support, equipment and other physical resources available to the investigators adequate for the project proposed? Will the project benefit from unique features of the scientific environment, subject populations, or collaborative arrangements?

The SCORE and RO1 instructions seem mutually exclusive...?
NIH grants: Review Criteria

• Overall impact
• Core review criteria
  - Significance – *assumes all aims achieved*
  - Investigator – *that means you!*
  - Innovation – *so what’s new?*
  - Approach – *finally, the science itself*
  - Environment – *that means your dept., college and CUNY*

These apply to RO1, R21, RO3, SC1, SC2 and SC3
### Formatted Reviewer Critiques

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<td>Principal Investigator(s):</td>
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<td>Reviewer Role (Reviewer 1, 2, etc., no names)</td>
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### OVERALL IMPACT/PRIORITY

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<td>Strengths</td>
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<td>Weaknesses</td>
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### SCORED REVIEW CRITERIA

#### 1. Significance

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#### 2. Investigator(s)

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#### 3. Innovation

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#### 4. Approach

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### ADDITIONAL REVIEW CRITERIA

The following items are not scored, but should be considered when determining the overall impact/priority score.

- **Protections for Human Subjects**
  - Select Acceptable, Unacceptable, or Not Applicable
  - Comments (Required Unless Not Applicable):

- **Data and Safety Monitoring Plan (Applicable for Clinical Trials Only):**
  - Select Acceptable, Unacceptable, or Not Applicable
  - Comments (Required Unless Not Applicable):

- **Inclusion of Women, Minorities and Children Applicable Only for Human Subjects Research**
  - Select Gender Code
  - Select Minority Code
  - Select Children Code
  - Comments (Required Unless Not Applicable):

- **Vertebrate Animals**
  - Select Acceptable, Unacceptable, or Not Applicable
  - Comments (Required Unless Not Applicable):

- **Biohazards**
  - Select Acceptable, Unacceptable, or Not Applicable
  - Comments (Required Unless Not Applicable):
Data from Jeremy Berg – NIGMS director
NIH grants: Review Criteria

Significance

Does the project address an important problem or a critical barrier to progress in the field? If the aims of the project are achieved, how will scientific knowledge, technical capability, and/or clinical practice be improved? How will successful completion of the aims change the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field?
Are the PD/PIs, collaborators, and other researchers well suited to the project? If Early Stage Investigators or New Investigators, or in the early stages of independent careers, do they have appropriate experience and training? If established, have they demonstrated an ongoing record of accomplishments that have advanced their field(s)? If the project is collaborative or multi-PD/PI, do the investigators have complementary and integrated expertise; are their leadership approach, governance and organizational structure appropriate for the project?

You can address this in your personal statement for the Biosketch
NIH grants: Review Criteria

Innovation

Does the application challenge and seek to shift current research or clinical practice paradigms by utilizing novel theoretical concepts, approaches or methodologies, instrumentation, or interventions? Are the concepts, approaches or methodologies, instrumentation, or interventions novel to one field of research or novel in a broad sense? Is a refinement, improvement, or new application of theoretical concepts, approaches or methodologies, instrumentation, or interventions proposed?
NIH grants: Review Criteria

Approach

Are the overall strategy, methodology, and analyses well-reasoned and appropriate to accomplish the specific aims of the project? Are potential problems, alternative strategies, and benchmarks for success presented? If the project is in the early stages of development, will the strategy establish feasibility and will particularly risky aspects be managed?

If the project involves clinical research, are the plans for 1) protection of human subjects from research risks, and 2) inclusion of minorities and members of both sexes/genders, as well as the inclusion of children, justified in terms of the scientific goals and research strategy proposed?
NIH grants: Review Criteria

Environment.

Will the scientific environment in which the work will be done contribute to the probability of success? Are the institutional support, equipment and other physical resources available to the investigators adequate for the project proposed? Will the project benefit from unique features of the scientific environment, subject populations, or collaborative arrangements?

Scientific environment: your colleagues – what is the culture in which you work?
- how interactive is your department; division
- what is the level of funding?
- physical environment

Unique features: CSI ???
Overall Evaluation/Impact*

• Based upon consideration of the 5 core review criteria (& any additional pertinent review criteria), reviewers provide an overall impact statement and score to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved.

• An application need not be strong in all categories to be judged likely to have a major scientific impact. (For example, a project may propose to carry out important work that by its nature is not innovative, but is essential to move a field forward, or improve clinical decisions or outcomes).

*It IS NOT the mean score of the the other 5 criteria
Data from Jeremy Berg – NIGMS director
Welcome to CUNY.edu. Your feedback is helpful.

Research Compliance
Research Integrity Officers
Conflict of Interest Officers

RCR Frequently Asked Questions

One mission of the Office of the Vice Chancellor for Research at CUNY is to ensure University compliance with federal, state, and local regulations with regard to all aspects pertaining to the responsible conduct of research.

Key to our mission of promoting research excellence is the creation and implementation of key University policies. These policies address a wide variety of research issues and regulatory requirements, spanning all areas of research at CUNY.

This website contains valuable information, resources, and educational opportunities for conducting research within the CUNY community. Please visit this site regularly and contact your college representative to learn about research compliance activities and educational programming.

More information regarding the federal regulations for responsible conduct of research can be found on the U.S. Department of Health and Human Services Office of Research Integrity (ORI) website.

RESEARCH MISCONDUCT POLICY
The official CUNY Policy regarding the disposition of allegations of misconduct in research and similar educational activities (approved June 2006) can be downloaded HERE.

RCR TRAINING
As stated in the Federal Register (Vol. 76 No. 186), a new RCR training requirement became effective as a result of NSF’s implementation of Section 7029 of the America Creating Opportunities to Meaningfully Promote Excellence in Technology, Education, and Science. This section of the Act requires that each institution that applies for financial assistance from the Foundation for science and engineering research or education describe in its grant proposal a plan to provide appropriate training and oversight of the responsible and ethical conduct of research to undergraduate students, graduate students, and postdoctoral researchers in the proposed research project.

The NSF’s educational requirement for RCR can be downloaded HERE.

CITI RCR TRAINING
The CITI modules from ORI are included in the CUNY education. Enter the CITI site HERE. Please see our RCR Frequently Asked Questions.

POSTDOC RCR TRAINING WORKSHOP
A workshop on RCR Training Workshops for Postdoctoral Researchers is available on our Postdoctoral Development Program.

RESEARCH INTEGRITY OFFICERS
As outlined in the official CUNY Policy on Research Misconduct, the President of each College within the University has designated a Research Integrity Officer to receive allegations of Research Misconduct involving faculty, staff, and post-doctoral associates at the College.

The Research Integrity Officer (RIO) may be an administrator or tenured faculty member at the College with experience in research and has received appropriate training from the Office of the Vice Chancellor for Research. It is carried out under the direction of the College's Research Compliance Officer (RCO) and is responsible for investigating all allegations of research misconduct.

If you have any questions or concerns, please contact the Research Integrity Officer (RIO) at your College.

QUICK LINKS
- Office of the Vice Chancellor for Research
- CUNY Research Foundation
- OVCR ARRA Funding Resources
- Flagship Institutes/Centers
- Technology Commercialization
- Human Subjects Research
- CUNY Research Partners
- CUNY Software Site Licenses
Welcome

CITI Login and Registration Page

The CITI course is a protected site. If you are a new learner or participating organization, you must register to create your own username and password and gain access to the site.

- New Users  Register Here
- Already Registered?  Login Below

Username:  
Password:  
Submit

Forgot login information
Contact the CITI Helpdesk

Notice: The CITI Course site is best viewed with Microsoft Internet Explorer ver. 6.0 or later or Firefox ver. 2.0 or later, and with the characters set to UTF-8.
Avrom Caplan (Member ID: 1340333)

CITI Collaborative Institutional Training initiative

Main Menu
- This is the email address we have for you: avromcaplan@mail.cuny.edu. If this is not correct, click here to edit your email address and other account information including your security question and answer.
- You are affiliated with 1 participating institution(s) on the CITI website. You will have at least one grade book per institution to track your progress in meeting the institution's coursework requirements (see below).

Affiliate with another institution | Change login information | Click here to Apply for CME/CEU Credits

City University of New York (CUNY)

You have enrolled for the following courses:

<table>
<thead>
<tr>
<th>My Courses</th>
<th>Status</th>
<th>Completion Reports</th>
<th>CME/CEU Credits</th>
<th>Voluntary Satisfaction Survey</th>
</tr>
</thead>
<tbody>
<tr>
<td>Graduate and Post Doctoral Responsible Conduct of Research, Basic Course</td>
<td>Incomplete - Re-enter</td>
<td>Not Earned</td>
<td>N/A</td>
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Add a course or update your learner groups for City University of New York (CUNY)

City University of New York (CUNY) Learner Utilities
- Add a course or update your learner groups for City University of New York (CUNY)
- Update my profile information for City University of New York (CUNY)
- See a list of all modules that you have completed (goes back to approximately May 2005)
- Click here to see your previously completed coursework for City University of New York (CUNY)
- Remove my affiliation from City University of New York (CUNY)