



# The secret life of the study section

15 June 2016



### **Objectives**

- 1. What is a study section and how are they arranged?
- 2. How does your grant get assigned to a specific study section? What then?
- 3. How are members selected for a study section?
- 4. What is the duty of the reviewer?
- 5. What does the review entail?
- 6. How are scores assigned?

# What is a study section and how are they arranged?

- Study Sections are arranged by NIH (or federal/state/private organizations) for the purpose of evaluating grant applications for funding support via peer review.
- NIH application reviewing takes place in Scientific Review Groups (SRGs = Study Sections) that are managed by NIH Institutes and Centers and are arranged based on scientific topics.
- The Center for Scientific Review (CSR) is one of the NIH components that coordinates and manages reviews via study sections. There are also other SRGs for special reviews managed by individual Institutes and Centers – such as RFAs, etc.
- Study Sections are composed of members of the scientific community active scientists reviewing proposals from scientists – which is organized and managed by the Scientific Review Officer (SRO).
- The members of a Study Section provide a written and oral review of a grant application based on established criteria. The review is "translated" to a numerical score for the purpose of ranking from exceptional to poor by the funding agency (NIAID, etc). The Study Section doesn't decide on funding.



OER: Peer Review and Policy Issues
Special Emphasis Panels

NIH Scientific Review Group (SRG) Roster Index

The initial step of the peer review process takes place in Scientific Review Groups (SRGs) that are managed by the Institutes and Centers that are components of the NIH. The Center for Scientific Review (CSR) is one of the NIH components that manage the scientific review groups that evaluate investigator-initiated applications. The CSR homepage provides a complete listing of Rosters for the Scientific Review Groups (SRGs) managed by CSR. The Awarding Institutes and Centers also manage many Scientific Review Groups that evaluate applications submitted in response to special solicitations such as Request for Applications (RFA's), and for unique programs. The listing below provides access to both membership rosters and meeting dates. Where available the subsequent links provide:

The full name and complete description of each study section The name of the Scientific Review Officer (SRO) for each study section Scientific Review Group meeting schedules,

Special Emphasis Panels (SEPs) are listed by Institute or Center (IC). Within each IC there is an alphabetic listing of specific SEPs. The listing of the specific SEPs contains the roster for each SEP as well as contact information for the designated Scientific Review Officer.

Important Notice Of NIH Policy To All Applicants: All rosters are provided for information purposes only. Applicant investigators must not communicate directly with any review group member about an application either before or after the review. Failure to observe this policy strictly will create serious breaches of confidentiality and conflicts-of-interest in the peer review process. All questions must be directed to the Scientific Review Officer in charge of the review group. The roster below is a working document and should not be considered as complete until the meeting date. A final and complete roster will be provided with the summary statement.

### AWARDING INSTITUTE AND CENTER STANDING COMMITTEE ROSTER INDEX



Roster Information	Committee Name		
CSR	Center For Scientific Review CSR STANDING COMMITTEES		
AA 1	NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM  Biomedical Research Review Subcommittee		
AA 2	NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM Epidemiology, Prevention and Behavior Research Review Subcommittee		
AA 3	NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM Clinical, Treatment and Health Services Research Review Subcommittee		
AA 4	NATIONAL INSTITUTE ON ALCOHOL ABUSE AND ALCOHOLISM Neuroscience Review Subcommittee		
AFMI	OFFICE OF THE DIRECTOR, NATIONAL INSTITUTES OF HEALTH Anatomical and Functional Mapping of the Innervation of Marjor Internal Organs		
AIDS	NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES Acquired Immunodeficiency Syndrome Research Review Committee		
AITC	NATIONAL INSTITUTE OF ALLERGY AND INFECTIOUS DISEASES Allergy, Immunology, and Transplantation Research Committee		
AMS	NATIONAL INSTITUTE OF ARTHRITIS AND MUSCULOSKELETAL AND SKIN DISEASES Arthritis and Musculoskeletal and Skin Diseases Special Grants Review Committee		
AMSC	NATIONAL INSTITUTE OF ARTHRITIS AND MUSCULOSKELETAL AND SKIN DISEASES Arthritis and Musculoskeletal and Skin Diseases Clinical Trials Review Committee		

https://public.era.nih.gov/pubroster/jsp/index.jsp#top

### What is a study section (SRG) and how are they arranged?



### What is a study section (SRG) and how are they arranged?

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#### AIDS Molecular and Cellular Biology Study Section [AMCB]

The AIDS Molecular and Cellular Biology [AMCB] Study Section reviews applications concerned with the molecular biology, cellular biology, structural biology, virology and genetics of HIV and related lentiviruses involving biochemical, pathophysiological and structural approaches. Emphasis is on molecular structure-function approaches to elucidating virus and host mechanisms of interaction and regulation.

#### Rosters

**AMCB Membership Roster** 

**AMCB Meeting Roster** 

#### Topics

- » Role of host gene products in virus infection and replication, including HIV host restriction factor interactions.
- » Mechanisms of viral evolution and fitness, and mechanisms of host resistance with an emphasis on virus-host cell responses.
- » Structure-function studies of virus and host gene products and their mechanisms of interaction.
- » Molecular biology and mechanisms of the establishment of viral latency.
- » Molecular and biochemical mechanisms of virus entry, genome integration, proviral transcription, and viral particle assembly and release.
- » Molecular and cellular studies relevant to cell-cell transmission of HIV and related lentiviruses.
- » Viral pathogenesis studies in animal models with an emphasis on non-primate models.

### **Policy Changes**

- » Change in the Application Process for Individual Mentored Career Development Awards
- » Restructured and Streamlined Application Guides and Supplemental Instructions - for Due Dates On or After May 25, 2016
- » Addressing Rigor and Reproducibility
- » Do's and Don'ts for the New NIH Biosketch
- » More ...

#### **FAQs**

- » For Applicants
- » For Reviewers

Each Study Section is organized by The Scientific Review Officer (SRO), whom has a working knowledge of the subject matter of the Study Section.

**Closely Related** 

AIDS Immunology and Pathogenesis (AIP) AIDS Discovery and Development of Therapeutics (ADDT) NeuroAIDS and other End Organ Diseases (NAED)

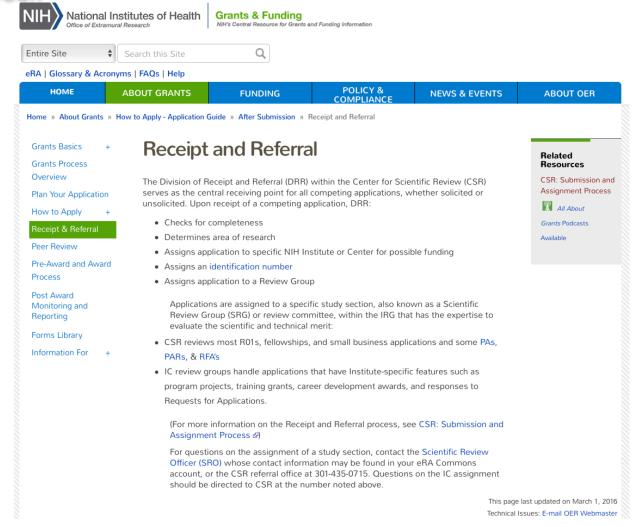
# Grant types

Grant Type	Status	Description
R01 (non-new Pls)	Fiscal Year	Research Projects for established investigators
R01 (new Pls)	Fiscal Year	Research Projects for new and early-stage investigators
F30	Fiscal Year	NRSA Individual Predoctoral M.D./Ph.D. or Other Dual-Doctora Degree Fellowships
F31	Fiscal Year	NRSA Individual Predoctoral Fellowships
F32	Fiscal Year	NRSA Individual Postdoctoral Fellowships
K (except K99)	Fiscal Year	Career Development Awards
R03	Fiscal Year	Small Grants
R15	Fiscal Year	Academic Research Enhancement Awards (AREA)
R21	Fiscal Year	Exploratory/Developmental Grants
R41, R42	Fiscal Year	STTR Phase I and II—Small Business Technology Transfer
R43, R44	Fiscal Year	SBIR Phase I and II—Small Business Innovation Research
T32	Fiscal Year	Institutional NRSA Training Awards

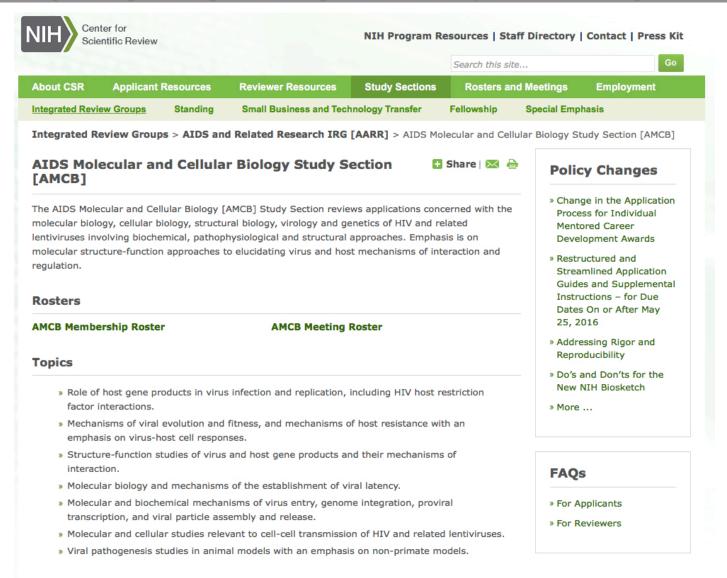
https://grants.nih.gov/grants/receipt\_referral.htm

### How does your grant get assigned to a specific study section?

Grant goes to the Division of Receipt and Referral at CSR which assigns it to a study section based on what is asked and application content – *this is a pre-review process!!* 



# How does your grant get assigned to a specific study section?



#### **Closely Related**

AIDS Immunology and Pathogenesis (AIP)
AIDS Discovery and Development of Therapeutics (ADDT)
NeuroAIDS and other End Organ Diseases (NAED)

### Your grant is now assigned to Study Section, what then?

SRO are assignment grants based on the scientific focus of there study section.

Center for Scientific Review

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**Reviewer Resources** 

**Study Sections** 

**Roster and Meetings** 

**Employment** 

### Kenneth Roebuck, Ph.D.

Division of AIDS, Behavioral and Population Sciences

Scientific Review Officer AIDS and Related Research (AARR) AIDS Molecular and Cellular Biology (AMCB)

NIH/CSR Center for Scientific Review, Room 3196 6701 Rockledge Dr. Bethesda, MD 20892

Email: roebuckk@csr.nih.gov Phone Number: 301-996-2804 The Scientific Review Officer (SRO) works in partnership with the scientific community to ensure that the scientific review group (study section) identifies the most meritorious science for funding by the Institutes and Centers.

### Your grant is now assigned to Study Section, what then?



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#### AMCB (03/02/2016 - 03/02/2016)

#### Center For Scientific Review MEETING ROSTER

#### CHAIRPERSON

HENDERSON, ANDREW J, PHD ASSOCIATE PROFESSOR DEPARTMENT OF MEDICINE SCHOOL OF MEDICINE BOSTON UNIVERSITY BOSTON, MA 02118

#### **MEMBERS**

AYYAVOO, VELPANDI, PHD
PROFESSOR
DEPARTMENT OF INFECTIOUS DISEASES
AND MICROBIOLOGY
UNIVERSITY OF PITTSBURGH
PITTSBURGH. PA 15261

CHOW, SAMSON A, PHD
PROFESSOR
DEPARTMENT OF MOLECULAR AND MEDICAL
PHARMACOLOGY
SCHOOL OF MEDICINE
UNIVERSITY OF CALIFORNIA, LOS ANGELES
LOS ANGELES, CA 90095

GARCIA-MARTINEZ, J VICTOR, PHD (Temporary)
PROFESSOR
DIVISION OF INFECTIOUS DISEASE
DEPARTMENT OF MEDICINE
SCHOOL OF MEDICINE
UNIVERSITY OF NORTH CAROLINA AT CHAPEL HILL
CHAPEL HILL, NC 27599

HATZIIOANNOU, THEODORA, PHD (Temporary) ASSOCIATE PROFESSOR AARON DIAMOND AIDS RESEARCH CENTER NEW YORK, NY 10016

HURLEY, JAMES H, PHD PROFESSOR DEPARTMENT OF MOLECULAR AND CELL BIOLOGY UNIVERSITY OF CALIFORNIA, BERKELEY BERKELEY, CA 94720 Application assignments are based on reviewer expertise and the subject of the applications.

### Your grant is now assigned to Study Section, what then?

 Reviewers assigned to a particular application include the primary, secondary, or tertiary reviewers, other contributing reviewers (e.g. mail reviewer), and discussants.

**Primary Reviewer**: "main reviewer", responsible for the discussion of the application in study section.

Secondary Reviewer: Must have extensive knowledge of the application.

**Discussant / Tertiary Reviewer**: Reads and provides some comments.

- The reviewer receives from 6 9 applications, including R01s, R21, F32s, etc. Reviewers assigned: 3 primary, 2-3 secondary, rest tertiary
- Grants come to the reviewer up to two months before review date.

### The meeting

- Configuration of the group: SRO, Chair, reviewers, call in reviewers, and NIH staff
- Conflict of interest: Must not be in the room or discuss the application, score, etc.
- The process of triage: Bottom 50%, usually not reviewed at the study section. Application can be rescued or if vastly different scores, then reviewed at the study section.
- Presentation of critique and score.
- Usually 1 or 2 day meeting.

# What is the duty of the reviewer?

The members of the Study Section provide a review of a grant application based on established criteria and their scientific expertise. The review is "translated" to a numerical score for the purpose of ranking from exceptional to poor.

# Reviewing the application

- Read THEN review: TWO PASSES = DETAILS
- Read AND review: ONE PASS = CLARITY
- Usually takes 1-2 days for a review for each application.
- Can ask for help for technical points. Can't discuss review/ application with study section members before the meeting.
- Assign score, move to next application.
- Read through all reviews after finishing all application and rescore if needed.
- After study section, can revise review.

### The review - scoring

### **Scoring System and Procedure**

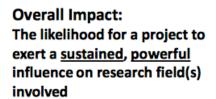
#### **REVIEWER TRAINING SUMMARY PAGE**

- The NIH grant application scoring system is being implemented to improve rating reliability, encourage use of the full scoring range, and provide quantitative feedback on all applications, both discussed and not discussed.
- The NIH grant application scoring system uses a 9-point rating for the impact/priority score with 1 = Exceptional and 9 = Poor.
- Ratings are in whole numbers only (no decimal ratings).
- Assigned reviewers also provide ratings for each review criterion [e.g. Significance, Investigator(s), Innovation, Approach, Environment] using the same 9-point scale.
  - These criterion ratings are provided in the summary statement for applications, both discussed and not discussed.
  - Criterion ratings should be considered in determining the overall impact/priority score, but reviewers should determine the relative importance of each criterion for the science or work being proposed.
- Reviewers should use the full range of the rating scale and spread their scores to better discriminate among applications.
- Discussed applications will receive impact/priority scores from all eligible reviewers (e.g., without conflicts of interest). Individual reviewer scores will be averaged and the result multiplied by 10 to determine the final impact/priority score (range of 10 to 90).
- Scores will be percentiled to the appropriate base (e.g. study section base if the number of applications >25; CSR all base, or IC all base if < 25) and reported in whole number percentiles. Until a new base has been established from three rounds of reviews, percentiles will be based only on the current round of applications (reviews for October 2009 Council) or the prior and current rounds (reviews for January 2010 Council).</li>

### **Additional Scoring Guidance for Research Applications**

The <u>NIH scoring system</u> was designed to encourage reliable scoring of applications. Reviewers or study sections who assign high ratings to all applications diminish their ability to communicate the scientific impact of an individual application. Therefore, reviewers who carefully consider the rating guidance below can improve the reliability of their scores as well as their ability to communicate the scientific impact of the applications reviewed.

The chart below was developed to encourage reviewers to consider strengths as well as weaknesses when evaluating applications for research grants and cooperative agreements.



# Overall | High | Medium | Low | Score | 1 2 3 | 4 5 6 | 7 8 9

### Evaluating Overall Impact:

Consider the 5 criteria: significance, investigator, innovation, approach, environment (weighted based on reviewer's judgment) and other score influences, e.g. human subjects, animal welfare, inclusion plans, and biohazards

e.g. Applications are addressing a problem of high importance/interest in the field. May have some or no weaknesses. e.g. Applications may be addressing a problem of high importance in the field, but weaknesses in the criteria bring down the overall impact to medium.

e.g. Applications may be addressing a problem of moderate importance in the field, with some or no weaknesses e.g. Applications may be addressing a problem of moderate/high importance in the field, but weaknesses in the criteria bring down the overall impact to low.

e.g. Applications may be addressing a problem of low or no importance in the field, with some or no weaknesses.

5 is a good medium-impact application, and the entire scale (1-9) should always be considered.



Application #:

Principal Investigator(s):

### RPG/R01/R03/R15/R21 Review

If you cannot access the hyperlinks below,

visit http://grants.nih.gov/grants/peer/critiques/rpg.htm.

consideration of the following five scored review criteria, and additional review criteria. An application does not need to be strong in all categories to be judged likely to have major scientific impact.
Overall Impact
Strengths
Weaknesses
•
SCORED REVIEW CRITERIA
Reviewers will consider each of the five review criteria below in the determination of scientific and technical merit, and give a separate score for each.
1. <u>Significance</u>
Strengths
•
Weaknesses
•
2. Investigator(s)
Strengths
•
Weaknesses
•
3. <u>Innovation</u>
Strengths
•
Weaknesses
•

**OVERALL IMPACT**Reviewers will provide an overall impact score to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved, in

# The review

4. Approach
Strengths
•
Weaknesses
•
5. Environment
Strengths
Weaknesses
•
ADDITIONAL REVIEW CRITERIA
As applicable for the project proposed, reviewers will consider the following additional items in
the determination of scientific and technical merit, but will not give separate scores for these
items.
<ul> <li>Responses for Protections for Human Subjects, Vertebrate Animals, and Biohazards are required for all applications.</li> </ul>
<ul> <li>A response for Inclusion of Women, Minorities and Children is required for applications proposing Human Subjects Research.</li> </ul>
Protections for Human Subjects
Click Here to Select
Comments (Required Unless Not Applicable):
•
Data and Safety Monitoring Plan (Applicable for Clinical Trials Only):
Click Here to Select
Comments (Required Unless Not Applicable):
0
Inclusion of Women, Minorities and Children Applicable Only for Human Subjects Research
Click Here to Select Gender Code
Click Here to Select Minority Code
Click Here to Select Children Code
Comments (Required Unless Not Applicable):

Vertebrate Animals

# Overall impact

#### RPG/R01/R03/R15/R21 Review

If you cannot access the hyperlinks below,

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Application #:

Overall Impact

Weaknesses

Principal Investigator(s):

#### OVERALL IMPACT

Reviewers will provide an overall impact score to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved, in consideration of the following five scored review criteria, and additional review criteria. An application does not need to be strong in all categories to be judged likely to have major scientific impact.

out on gains
•
Weaknesses
•
SCORED REVIEW CRITERIA
Reviewers will consider each of the five review criteria below in the determination of scientific and technical merit, and give a separate score for each.
1. <u>Significance</u>
Strengths
•
Weaknesses
•
2. <u>Investigator(s)</u>
Strengths
•
Weaknesses
•
3. <u>Innovation</u>
Strengths
•

### Overall Impact - scored last!!

Reviewers will provide an overall impact/ priority score and critique to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved, in consideration of the following five core review criteria, and additional review criteria (as applicable for the project proposed) Note that an application does not need to be strong in all categories to be judged likely to have major scientific impact and thus deserve a high impact/priority score For example, an investigator may propose to carry out important work that by its nature is not innovative but is essential to move a field forward

# 1. Significance

Application #:

Principal Investigator(s):

### RPG/R01/R03/R15/R21 Review

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visit <a href="http://grants.nih.gov/grants/peer/critiques/rpg.htm">http://grants.nih.gov/grants/peer/critiques/rpg.htm</a>.

Reviewers will provide an overall impact score to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved, in consideration of the following five scored review criteria, and additional review criteria. An application does not need to be strong in all categories to be judged likely to have major scientific impact.
Overall Impact
Strengths
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Weaknesses
•
SCORED REVIEW CRITERIA
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1. Significance
Strengths
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Weaknesses
•
2. Investigator(s)
Strengths
•
Weaknesses
•
3. <u>Innovation</u>
Strengths
•
Weaknesses
•

**OVERALL IMPACT** 

### 1. Significance

### 1. Significance

Significance is evaluated and scored independently of the evaluation and scoring of Investigator(s), Innovation, Approach and Environment.

The evaluation of significance assumes that the "aims of the project are achieved" and/or will be "successfully completed."

- Moreover, reviewers should evaluate the significance of the project within the context of a (research) field(s). For example, HIV-1 is a significant field of study but not all studies (projects) of HIV-1 are significant.
- -Research field(s) may vary widely, so it would be helpful if reviewers identify in their reviews the research field(s) within which the project addresses an important problem or critical barrier to progress.
- -The research field may be focused on a specific basic research area of HIV-1, restriction, drug resistance, or a specific disease (*neurological problems*), or may be more broadly defined to cut across many health issues.

# 2. Investigator(s)

Application #:

Principal Investigator(s):

### RPG/R01/R03/R15/R21 Review

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visit http://grants.nih.gov/grants/peer/critiques/rpg.htm.

Reviewers will provide an overall impact score to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved, in consideration of the following five scored review criteria, and additional review criteria. An
application does not need to be strong in all categories to be judged likely to have major scientific impact.
Overall Impact
Strengths
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Weaknesses
•
SCORED REVIEW CRITERIA
Reviewers will consider each of the five review criteria below in the determination of scientific and technical merit, and give a separate score for each.
1. Significance
Strengths
•
Weaknesses
•
2. Investigator(s)
Strengths •
Weaknesses
•
3. Innovation
Strengths
•
Weaknesses
•

**OVERALL IMPACT** 

# 2. Investigator(s)

### 2. Investigator(s).

**R01, R03, R21, R34.** 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?

# 3. Innovation

Principal Investigator(s):

Application #:

### RPG/R01/R03/R15/R21 Review

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Strengths •
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Weaknesses
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SCORED REVIEW CRITERIA
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and technical merit, and give a separate score for each.
1. Significance
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Neaknesses
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2. Investigator(s)
Strengths
•
Neaknesses
•
3. Innovation
Strengths
•
- Weaknesses
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### 3. Innovation

### 3. 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?

# 4. Approach

4. Approach
Strengths
•
Weaknesses
•
5. Environment
Strengths
Markenson
Weaknesses
ADDITIONAL REVIEW CRITERIA
As applicable for the project proposed, reviewers will consider the following additional items in the determination of scientific and technical merit, but will not give separate scores for these items.
<ul> <li>Responses for Protections for Human Subjects, Vertebrate Animals, and Biohazards are required for all applications.</li> </ul>
<ul> <li>A response for Inclusion of Women, Minorities and Children is required for applications proposing Human Subjects Research.</li> </ul>
Protections for Human Subjects
Click Here to Select
Comments (Required Unless Not Applicable):
•
Data and Safety Monitoring Plan (Applicable for Clinical Trials Only):
Click Here to Select
Comments (Required Unless Not Applicable):
0
Inclusion of Women, Minorities and Children Applicable Only for Human Subjects Research

Vertebrate Animals

Click Here to Select Gender Code Click Here to Select Minority Code Click Here to Select Children Code

Comments (Required Unless Not Applicable):

# 4. Approach

### 4. 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 human subjects and/or NIH-defined clinical research, are the plans to address: 1) the protection of human subjects from research risks, and 2) the inclusion (or exclusion) of individuals on the basis of sex/gender, race, and ethnicity, as well as the inclusion (exclusion) of children, justified in terms of the scientific goals and research strategy proposed?

# 5. Environment

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Weaknesses	
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5. Environment	
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ADDITIONAL REVIEW CRITERIA	
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Protections for Human Subjects	
Click Here to Select	
Comments (Required Unless Not Applicable):	
•	
Data and Safety Monitoring Plan (Applicable for Clinical Trials Only):	
Click Here to Select	
Comments (Required Unless Not Applicable):	
0	

Vertebrate Animals

Click Here to Select Gender Code Click Here to Select Minority Code Click Here to Select Children Code

Comments (Required Unless Not Applicable):

### 5. Environment

### 5. 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?



Application #:

Principal Investigator(s):

### RPG/R01/R03/R15/R21 Review

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the project to exert a sustained, powerful influence on the research field(s) involved, in consideration of the following five scored review criteria, and additional review criteria. An application does not need to be strong in all categories to be judged likely to have major scientific impact.
Overall Impact
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•
Weaknesses
•
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Weaknesses
•
2. Investigator(s)
Strengths
•
Weaknesses
•
3. <u>Innovation</u>
Strengths
•
Weaknesses
•

**OVERALL IMPACT**Reviewers will provide an overall impact score to reflect their assessment of the likelihood for

# Overall Impact

### **Overall Impact**

Overall Impact is not a sixth review criterion.

Overall Impact is not necessarily the arithmetic mean of the scores for the scored review Criteria.

Overall Impact takes into consideration, but is distinct from, the scored review criteria.

Overall Impact is the synthesis/integration of the five core review criteria that are scored individual and the additional review criteria which are not scored individually.

To evaluate, the reviewer(s) make an assessment of the *likelihood for the project to* exert a *sustained, powerful influence on the research field(s) involved, in consideration* of the scored review criteria, and additional review criteria (as applicable for the project proposed).

- Likelihood (i.e., probability) is primarily derived from the investigator(s), approach and environment criteria.
- Sustained powerful influence is primarily derived from the significance and innovation criteria.
- Research field(s) may vary widely, so it would be helpful if reviewers identify in their reviews the research field(s) they believe will be influenced by each project.

# Budget Support and Period of Support

Click Here to Select

Comments (Required if Unacceptable):

•

### **Budget and Period of Support**

Click Here to Select

Recommended budget modifications or possible overlap identified:

•

### ADDITIONAL COMMENTS TO APPLICANT

Reviewers may provide guidance to the applicant or recommend against resubmission without fundamental revision.

Additional Comments to Applicant (Optional)

•

#### RPG/R01/R03/R15/R21 Review

If you cannot access the hyperlinks below,

visit <a href="http://grants.nih.gov/grants/peer/critiques/rpg.htm">http://grants.nih.gov/grants/peer/critiques/rpg.htm</a>.

#### OVERALL IMPACT

Reviewers will provide an overall impact score to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved, in consideration of the following five scored review criteria, and additional review criteria. An application does not need to be strong in all categories to be judged likely to have major scientific impact.

#### **Overall Impact 2**

#### Strengths

- New methods and analyses for determining secondary RNA structure of purified and in situ (present in the intact virus) viral RNA.
- · New and improved software for RNA structure determination.
- If viral RNA secondary structure accurately predicts potential protein folding, viral function (i.e., biological significance), protein interaction domains, and/or recombination, the methodology will be highly useful and impact the field.

#### Weaknesses

- Must determine if RNA structural motifs identified by ZZZ provide biological insights.
- Must be able to target viral RNA in situ and determine ZZZ.

#### SCORED REVIEW CRITERIA

Reviewers will consider each of the five review criteria below in the determination of scientific and technical merit, and give a separate score for each.

#### 1. Significance 2

#### Strengths

- Predication of secondary RNA structure, with or without proteins bound, advances the field
- ZZZ analysis of immature and mature viral RNA to determine secondary structure would be an advancement for the field.
- Development of improved software for ZZZ analysis using pseudo-free energies, to determine base pairing, and increased throughput.
- If RNA secondary structure prediction is precise, interrogating NC–RNA/gag interrogation sites will be informative.
- Use of RNA secondary structure predication for assessment of protein interactions as well
  as direct contribution of RNA structure to viral function.

#### Weaknesses

 Potential that assessment and prediction of secondary RNA structure in the presence of bound proteins is not reflective of tertiary RNA structure and function. This is inherient in the nature of the technology, which reflects readouts of whether a nucleotide is

conformationally flexible, or not.

RNA structure may not accurately predict biological function.

#### 2. Investigator(s)

1

#### Strengths

- Dr. X and colleagues developed the ZZZ technology and is the major group driving advancements.
- Assembled a strong group of collaborators for providing virus (Dr. X), assessing viral functions predicted by the ZZZ analysis (Dr. X), and increased ZZZ RNA structure predictability (Dr. X).
- Has been productive over the funding period.

#### Weaknesses

Few.

#### 3. Innovation 1

#### Strengths

- Proposed studies are a continuation of reported studies with refinements, very innovative.
- Development of improved and higher throughput ZZZ data analysis for predicting secondary RNA structure.

#### Weaknesses

None apparent.

#### 4. Approach 2

#### Strengths

- Will extend studies to compare HIV and SIV RNA genomic structure to better understand viral phylogeny in regards to RNA structure and ultimately, viral function.
- Will continue studies started during the past funding period to interrogate isolated RNA, isolated, protein bound RNA, and in vivo (capsid) targeted RNA for differences in RNA secondary structures. These studies are necessary to validate predictions of RNA interactions with proteins and duplex formation and correlate with independent methods of RNA structure determination.
- Interrogate immature and mature virus, in situ, to link maturation with changes in RNA secondary structure.

#### Weaknesses

- Is useful to provide preliminary information that secondary RNA structural predictions
  made by ZZZZ analysis contributes / influences virus function. It is mentioned that
  synonymous mutations disrupt structure at the matrix-capsid regions; data showing viral
  fitness would strengthen this claim. There is a need to correlate secondary structure
  predictions with viral function.
- The strength of the ZZZZ application is the proposed inclusion of Dr. Xs' Dynalign and to optimize RNA prediction through pseudo-free energies. Additional information

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  fitness would strengthen this claim. There is a need to correlate secondary structure
  predictions with viral function.
- The strength of the ZZZZ application is the proposed inclusion of Dr. Xs' Dynalign and to optimize RNA prediction through pseudo-free energies. Additional information

demonstrating that the pseudo-free energies help to predict between different RNA structures (protein or not protein bound or duplex formation) would have been informative for this reviewer.

#### 5. Environment 1

#### Strengths

· Excellent environment at X.

#### Weaknesses

None apparent.

#### ADDITIONAL REVIEW CRITERIA

As applicable for the project proposed, reviewers will consider the following additional items in the determination of scientific and technical merit, but will not give separate scores for these items.

- Responses for Protections for Human Subjects, Vertebrate Animals, and Biohazards are required for all applications.
- A response for Inclusion of Women, Minorities and Children is required for applications proposing Human Subjects Research.

#### **Protections for Human Subjects**

Not Applicable (No Human Subjects)

Comments (Required Unless Not Applicable):

•

Data and Safety Monitoring Plan (Applicable for Clinical Trials Only):

Click Here to Select

Comments (Required Unless Not Applicable):

0

Inclusion of Women, Minorities and Children Applicable Only for Human Subjects Research

Click Here to Select Gender Code

Click Here to Select Minority Code

Click Here to Select Children Code

Comments (Required Unless Not Applicable):

•

#### Vertebrate Animals

Not Applicable (No Vertebrate Animals)

Comments (Required Unless Not Applicable):

•

# Scoring

### **Applications:**

First submission: Will be scored or triaged.

Resubmission: Since reviewed before. The reviewer must address the critique in one – two pages.

### **Applicants:**

Experienced researcher.

First time submission, i.e., usually a person new to the field or a newly appointed faculty member, etc. Will be judged according to the background, independence, position, and reality of the application. Funding levels are usually different, can be up to 5 - 10% "lower".

# Scores and funding

### NIAID Paylines for FY 2016

These paylines are for applications reviewed for the September 2015, January 2016, and June 2016 Council meetings.

Grant Type	Payline	Status	Description
R01 (non-new Pls)	13 percentile	Fiscal Year	Research Projects for established investigators
R01 (new Pls)	17 percentile	Fiscal Year	Research Projects for new and early-stage investigators
F30	14 overall impact/priority score	Fiscal Year	NRSA Individual Predoctoral M.D./Ph.D. or Other Dual-Doctoral Degree Fellowships
F31	21 overall impact/priority score	Fiscal Year	NRSA Individual Predoctoral Fellowships
F32	20 overall impact/priority score	Fiscal Year	NRSA Individual Postdoctoral Fellowships
K (except K99)	20 overall impact/priority score	Fiscal Year	Career Development Awards
R03	30 overall impact/priority score	Fiscal Year	Small Grants
R15	22 overall impact/priority score	Fiscal Year	Academic Research Enhancement Awards (AREA)
R21	30 overall impact/priority score	Fiscal Year	Exploratory/Developmental Grants
R41, R42	30 overall impact/priority score	Fiscal Year	STTR Phase I and II—Small Business Technology Transfer
R43, R44	32 overall impact/priority score	Fiscal Year	SBIR Phase I and II—Small Business Innovation Research
T32	22 overall impact/priority score	Fiscal Year	Institutional NRSA Training Awards

https://grants.nih.gov/grants/receipt\_referral.htm



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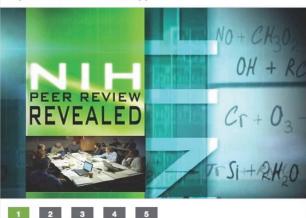
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- » Change in the Application Process for Individual Mentored Career Development Awards
- » Restructured and Streamlined Application Guides and Supplemental Instructions – for Due Dates On or After May 25, 2016
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meeting.

CSR's primary role is to handle the receipt and review of ~ 70% of the grant applications that NIH receives. NIH separates the review process from funding decisions. Thus, CSR handles review of applications but does not fund applications. It is the Office of Extramural Research at the NIH that provides the leadership, oversight, and guidance related to grants policy. When applications are received, CSR assigns them to a Study Section for review and assigns a funding institute (such as National Institute of Mental Health) that may be interested in funding the application if positively reviewed. A Scientific Review Officer (SRO) at CSR handles the review of the application within a Study Section (Scientific Review Group, SRG) and the SRO is the best contact for applicants after submission and prior to the review meeting. The Program Officer (PO) at the funding institute is the most appropriate contact for an applicant for advice before submission and after the review



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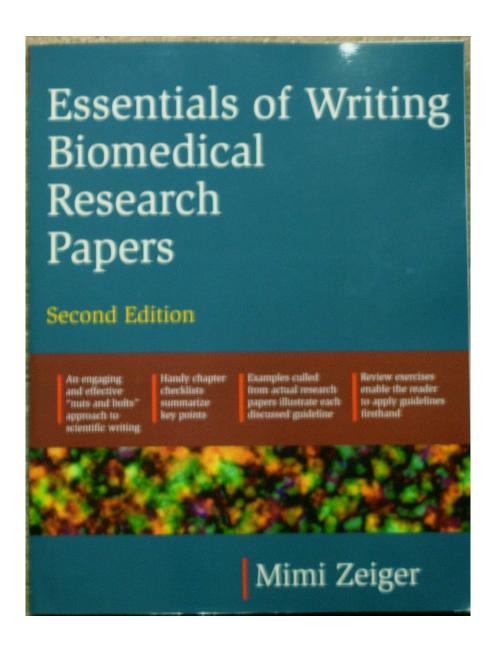
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#### **FAQs**

- » For Applicants
- » For Reviewers

# Help in writing your application



Questions??