



National Institute of Environmental Health Sciences
Your Environment. Your Health.

NIH Fellowships, Career Development Awards, and Grantsmanship

Superfund Research Program
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National Institutes of Health

Department of Health & Human Services





Outline

- What are Fellowships?
 - Components of Fellowship Applications
 - Review Criteria
- What is the K99/R00?
 - Components of the K99/R00
 - Review Criteria for the K99/R00
- Other Award Options
- Application Reviews, Study Sections, and Reviewer Comments
- Submitting and Application
- Resources
- Questions



What are Fellowships?

F = Fellowships

Purpose: Support full time research training

Includes stipend, tuition and fees, training

Awards are for individuals

Citizenship requirement

No direct support for research



Current NIH NRSA Fellowship Opportunities

F30: Individual Predoctoral MD/PhD Fellowships

-up to 6 years of support towards the combined MD/PhD degree

F31: Individual Predoctoral Fellowships

-up to 5 years of support towards the PhD degree

F31: Individual Predoctoral Fellowships to Promote Diversity in Health-Related Research

-up to 5 years of support towards the PhD degree for qualifying candidates

F32: NRSA Individual Postdoctoral Fellowship

-up to 3 years of support following the completion of a doctoral degree

“...Years of support....” – What does that mean?

F31: Individual Predoctoral Fellowships provided up to 5 years of support towards the PhD degree

- “...years of support” means the total number of years an individual can be supported by any combination of NRSA support as a predoctoral person is 5 years
- includes time spent on a T32 institutional training program

Example: a predoctoral student currently supported on a T32 applies for an F31

2 years of support on the T32

3 year limit of support through the F31

= 5 years total

Note – Predoc years do not count towards the Postdoc years

The Fellowship Mentor(s)

- It's expected that the mentor(s) will:
 - Be an expert in the field
 - Match the research interests of the applicant fellow
 - Have funding
 - Have a track record of mentoring
 - Collaborator(s) and/or consultant(s)
 - Are they appropriate
 - Do they add strength to the training plan/environment



Components of the Fellowships



Application Components and Page Limits

Section of Application	Page Limits * (if different from FOA, FOA supersedes)
Introduction to Resubmission or Revision Application (when applicable)	1
Specific Aims	1
Research Strategy	6
Respective Contributions	1
Selection of Sponsor and Institution	1
Responsible Conduct of Research	1
Applications for Concurrent Support (when applicable)	1
Goals for Fellowship Training and Career	1
Activities Planned Under This Award	1
Doctoral Dissertation and Other Research Experience	2
Sponsor(s) and Co-Sponsor(s)	6
Biographical Sketch	5

Also: Three letters of reference

Letters of Reference

- 3 letters of reference are required
- letters are due by the application due date
 - April 8, Aug 8, Dec 8
- It is important to note that neither the mentor/sponsor nor any co-sponsor of this application can be counted as a confidential reference.
 - The sponsor/co-sponsor's recommendation is included as part of the application

Responsible Conduct of Research (RCR)

- All fellowship applicants must include a plan to obtain instruction in the responsible conduct of research.
- Five points
 1. Format
 2. Subject Matter
 3. Faculty Participation
 4. Duration
 5. Frequency of Instruction

New – “Additional Educational Information”

- provides the reviewers with information about the graduate or dual-degree program in which the applicant is enrolled
 - the structure of the program
 - required milestones and their usual timing (e.g., number of courses, any teaching and clinical requirements, and qualifying exams)
 - the average time to degree over the past 10 years
- Describe the frequency and method by which the program formally monitors and evaluates progress.
- information is typically provided by the director of the graduate program or the department chair.



It may not seem like much, but....

Introduction
(if needed)

Specific
Aims

Research
Strategy

Sponsor(s)
and Co-
Sponsor(s)

Selection of
Sponsor and
Institution

Training in
RCR

Doctoral
Dissertation
and Other
Research
Experiences

70+ pages!

Applicant
Bio

Mentor
Bio

Goals for
Fellowship
Training and
Career

Respective
Contributions

Activities
Planned
Under this
Award

Forms

Letters of
Support

**Don't forget those
References**

Bibliography
&
References
Cited

Additional
Educational
Information

Vertebrate
Animals

Protection
of Human
Subjects

Inclusion of
Women and
Minorities

Planned
Enrollment

Inclusion of
Children

Select Agent
Research

Moral of the story: START EARLY!



Review Criteria for Fellowship

Review Criteria for Fellowships

Core Criteria

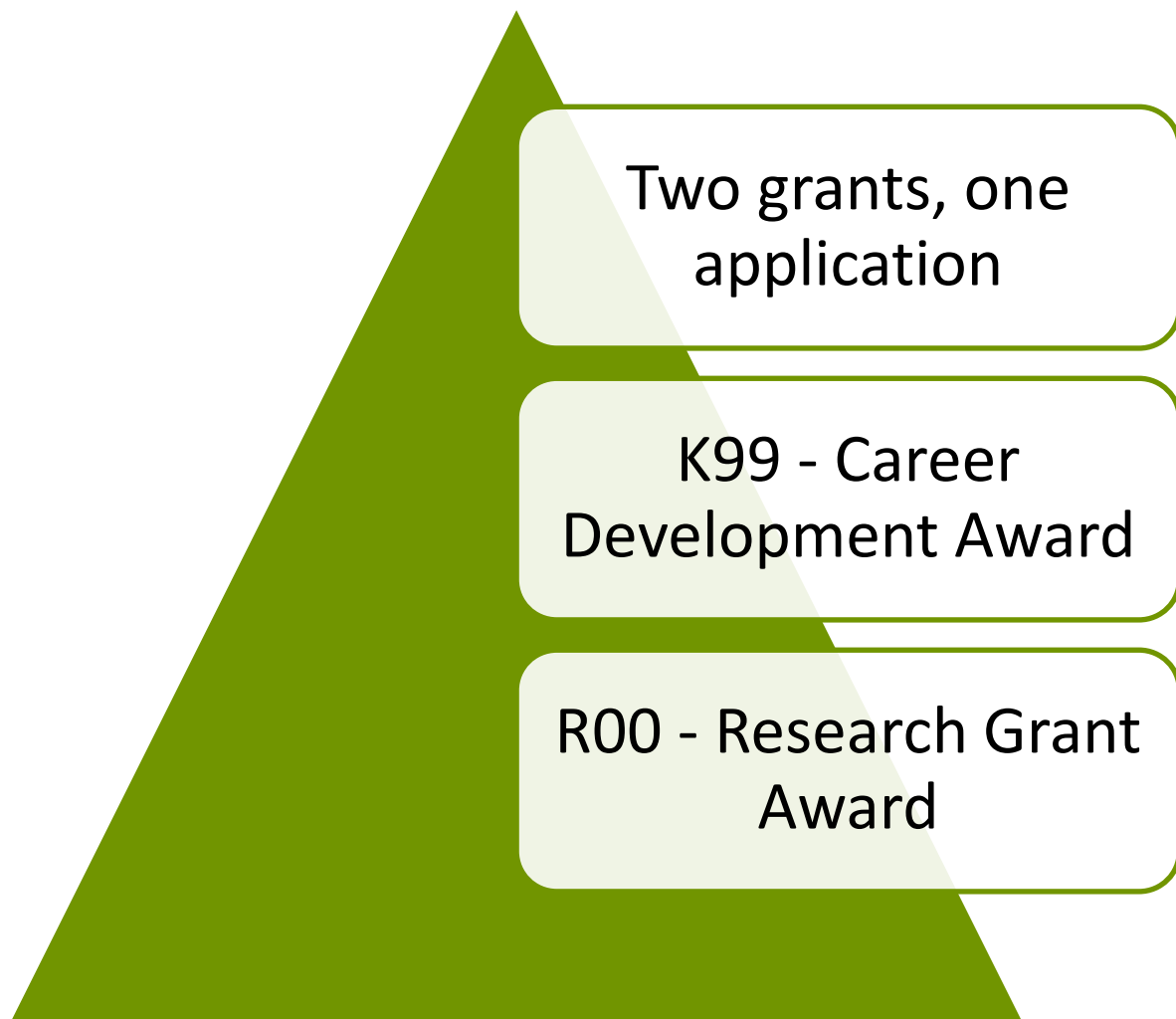
- Fellowship Applicant
 - Sponsors, Collaborators, and Consultants
 - Research Training Plan
 - Training Potential
 - Institutional Environment & Commitment to Training
- Each assigned Reviewer will provide a score (1-9) for each core criteria
 - You'll also get an overall impact score (10-90) reflecting the Reviewer impressions of the entire application



What is the K99/R00?



K99/R00: NIH Pathway to Independence Award



K99/R00: NIH Pathway to Independence Award

Goal:

- Facilitate the transition from postdoctoral position to independent faculty
- Establish independent research support
- To increase and maintain a strong cohort of new and talented, NIH-supported, independent investigators

General Information

- NIH makes 250 K99/R00 awards per year
- Most NIH Institutes offer K99/R00s
- Three standard receipt dates per year:

New	Feb 12	June 12	Oct 12
Resubmission	Mar 12	July 12	Nov 12

- Current Program Announcement: PA-16-077

– <http://grants.nih.gov/grants/guide/pa-files/PA-16-077.html>

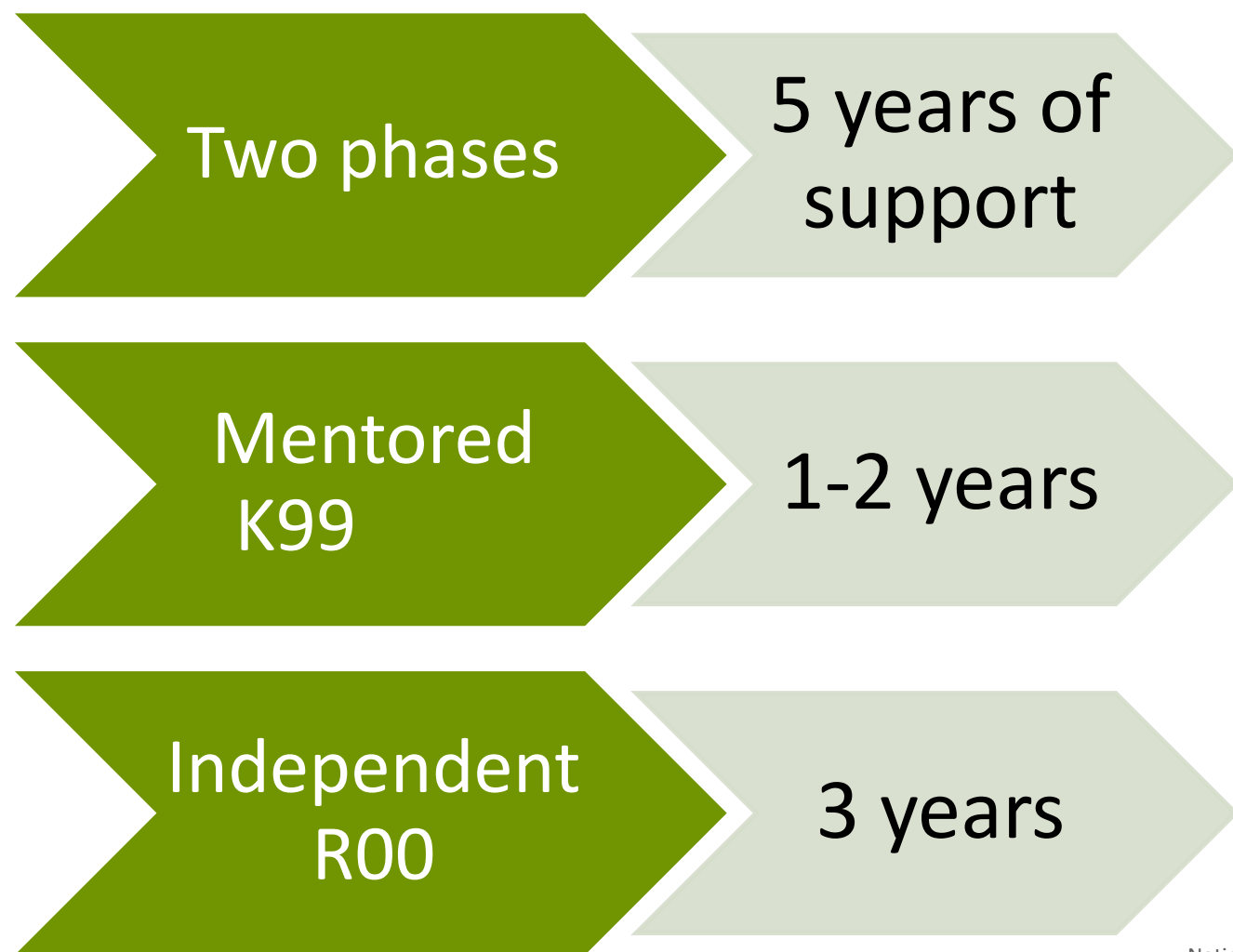
K99/R00 Award Eligibility

- Must be in a postdoctoral or mentored position
- **No more than 4 years** postdoc experience
- Cannot be a PI on an NIH research grant or career development award or have non-NIH research support over \$100K per year
- Both **U.S. citizens** and **non-U.S. Citizens** eligible
- Intramural, extramural, or for-profit Institutions

K99/R00 Award Eligibility: Nuances

- The K99/R00 award is intended for individuals who require at least 12 months of mentored research training and career development (K99 phase) before transitioning to the R00 award phase of the program.
- If an applicant achieves independence (any faculty or non-mentored research position) before a K99 award is made, neither the K99, nor the R00 award, will be made.
- Consequently, an individual who cannot provide a compelling rationale for at least one year of additional mentored research training at the time of award is not a strong candidate for this award.

The Pathway to Independence



K99: Mentored Phase (1-2 years)

Minimum 75% full-time professional effort to K award is required

Additional training, complete postdoctoral projects, publish results

\$90K: Salary + fringe benefits

\$20K: research support

12 month minimum mentored phase required

R00 Award (3 years)

Tenure track or equivalent at a domestic NGO

75% protected time for research required

Institutional support is evaluated

Budget: \$249K total cost

Continuous in time with the K99



Components of the K99/R00



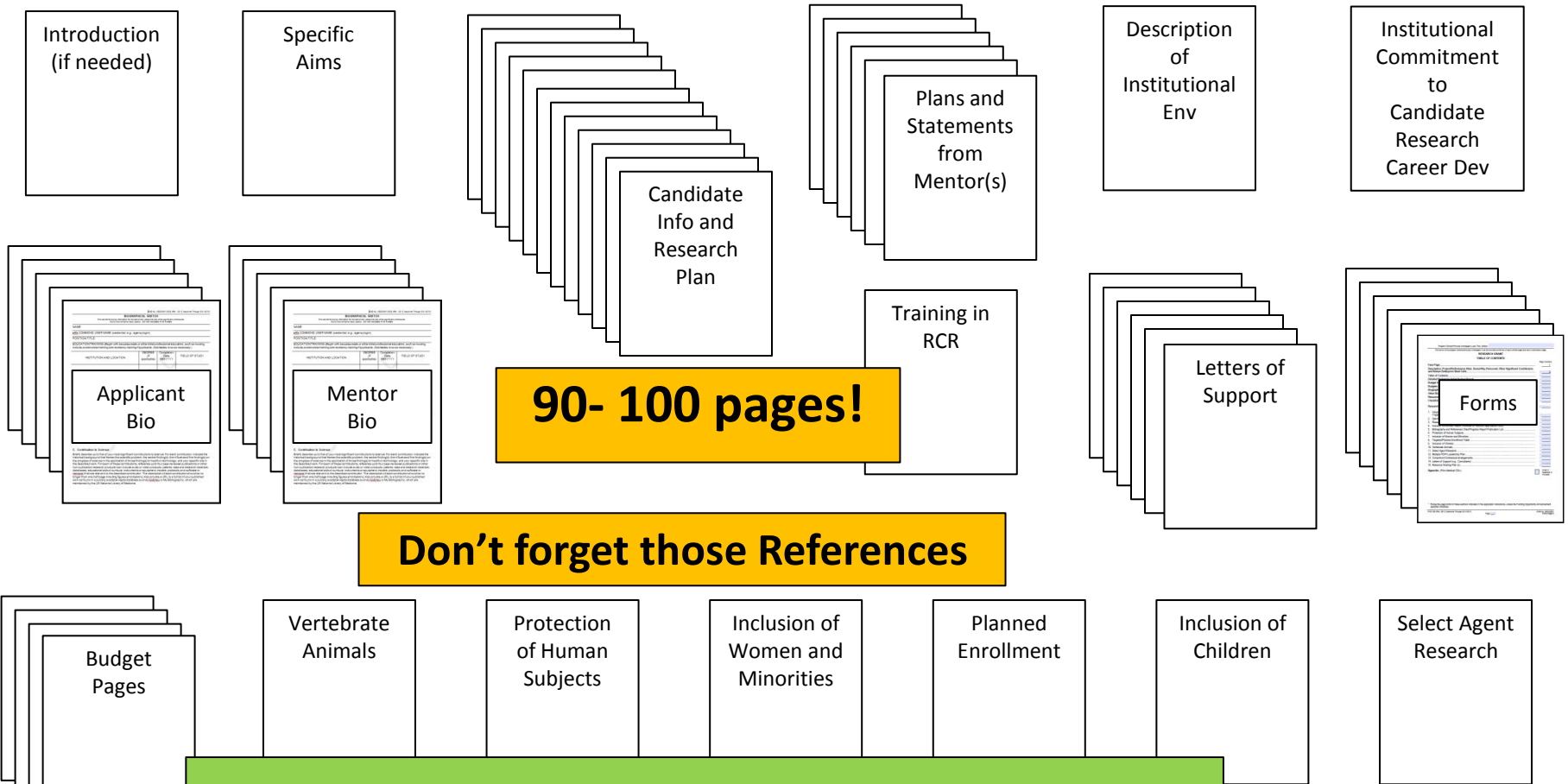
Application Components and Page Limits

Section of Application	Page Limits
Introduction to Resubmission Application (when applicable)	1
Specific Aims	1
Research Strategy and first three items of Candidate Information (Candidate's Background, Career Goals and Objectives, and Candidate's Plan for Career Development/Training Activities During Award Period)	12 (for all sections combined)
Training in the Responsible Conduct of Research	1
Plans and Statements of Mentor and Co-mentor(s)	6
Letters of Support from Collaborators, Contributors, and Consultants	6
Description of Institutional Environment	1
Institutional Commitment to Candidate's Research Career Development	1
Biographical Sketch	5

Also: Three letters of reference



It may not seem like much, but....





Review Criteria for K99/R00

Review Criteria for K99/R00s

Core Criteria

- Candidate
- Career Development Plan
- Research Plan
- Mentors, Consultants, Collaborators
- Environment & Institutional Commitment to Candidate



Other Award Options

Additional “K Awards” supported by NIEHS

- **Early Faculty:**
 - K22: Transition to Independent Environmental Health Research (TIEHR) Career Development Award
- **Junior faculty development:**
 - K02: Independent Scientist Award
- **Clinically trained scientist:**
 - K08: Laboratory or epidemiology research
 - K23: Patient Oriented research
- **Mid-Career – Patient Oriented Research:**
 - K24: Midcareer Investigator Award in Patient-Oriented Research (K24)
- **Career Shift**
 - K25: Quantitative and Engineering

NIEHS Transition to Independent Environmental Health Research (TIEHR) Career Development Award (K22)

- For **newly independent** faculty, within 3 years of appointment
- Need to have independent research space and resources
- The award provides **up to three years** of support for :
 - Salary up to \$75,000 plus fringe benefits per year
 - Research development funds up to \$50,000 per year

Transition to Independent Environmental Health Research (TIEHR) Career Development Award (K22)

- Must have a **sponsor**, an **NIEHS grantee** who will:
 - assist in the establishment of an advisory committee with appropriate research expertise for the candidate
 - attend at least two meetings of the advisory committee, including one to provide feedback on an R01 draft of a grant submission
 - sponsor the candidate at meetings largely attended by other NIEHS grantees

NIEHS Outstanding New Environmental Scientist (ONES) Award (R01)

- designed to identify the best new biomedical investigators across the spectrum of science supported by the NIEHS
- PI must be an ESI
- PI must have a tenure track or equivalent faculty position
- NIEHS intends to commit \$3.0 million in FY 2016 to fund 5-6 awards

<http://grants.nih.gov/grants/guide/rfa-files/RFA-ES-15-020.html>



Application Reviews, Study Sections, and Reviewer Comments

Fellowship Study Sections

- Fellowships are reviewed in special “Fellowship study sections” are run by CSR
- There is no study section dedicated to environmental exposures
 - NIEHS fellowship applications get assigned to almost all of the CSR study sections
- Website:

<http://public.csr.nih.gov/StudySections/Fellowship/Pages/default.aspx>

Career Development Awards

- Reviewed by the assigned NIH institute



Fellowship Study Sections

Study Section	Title
AARR	AIDS and AIDS Related Applications
F01	Brain Disorders, Language, Communication and Related Neurosciences
F02A	Behavioral Neuroscience
F02B	Sensory and Motor Neurosciences, Cognition and Perception
F03A	Neurodevelopment, Synaptic Plasticity and Neurodegeneration
F03B	Biophysical, Physiological, Pharmacological and Bioengineering Neuroscience
F04A	Synthetic and Biological Chemistry
F04B	Biochemistry and Biophysical Chemistry
F04	Chemistry, Biochemistry, and Biophysics
F05	Cell Biology, Developmental Biology and Bioengineering
F06	Endocrinology, Metabolism, Nutrition and Reproductive Sciences
F07	Immunology
F08	Genes, Genomes and Genetics
F09A	Oncology
F09B	Oncological Sciences Overflow
F09B	Oncological Sciences
F09	Oncology F32
F09	Oncological Sciences
F10A	Physiology and Pathobiology of Cardiovascular and Respiratory Systems
F10B	Physiology and Pathobiology of Musculoskeletal, Oral and Skin Systems
F13	Infectious Diseases and Microbiology
F15	Surgical Sciences, Biomedical Imaging and Bioengineering
F16	Risk, Prevention and Health Behavior
OBT	Oncologic Sciences

Reviewer Guidance on Strengths and Weaknesses

Score	Descriptor	Additional Guidance on Strengths/Weaknesses
1	Exceptional	Exceptionally strong with essentially no weaknesses
2	Outstanding	Extremely strong with negligible weaknesses
3	Excellent	Very strong with only some minor weaknesses
4	Very Good	Strong, but with numerous minor weaknesses
5	Good	Strong, but with at least one moderate weaknesses
6	Satisfactory	Some strengths, but also some moderate weaknesses
7	Fair	Some strengths, but with at least one major weakness
8	Marginal	A few strengths and a few major weaknesses
9	Poor	Very few strengths and numerous major weaknesses

Minor Weakness: An easily addressable weakness that does not substantially lessen impact

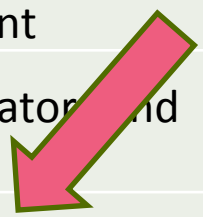
Moderate Weakness: A weakness that lessens impact

Major Weakness: A weakness that severely limits impact

Final Score

- The Final Score is based on the criterion scores

Criteria	Rev 1	Rev 2	Rev 3
Fellowship Applicant	2	3	3
Sponsors, Collaborators and Consultants	2	3	2
Research Training Plan	5	5	4
Training Potential	4	5	3
Inst'l Environment & Commitment to Training	3	3	2



Average	3 2	5	3 3	5	3 3	4
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Overall Average: 47 so a Priority Score of 46



Reviewer Comments

Comments from Reviews:

Research Plan Strengths

- The proposal is very logical and compelling.
- The research topic has important public health significance.
- The proposal is well written ... and shows great attention to detail.
- Proposed experiments are based on credible preliminary data demonstrating that X exposure affects Y via Z.
- Three complimentary SA are designed to assess X exposure on ...
- The proposed research makes use of state-of-the-art techniques and instrumentation available through the _____.
- The research plan is well-constructed and expands on the research study of the applicant's mentor without duplicating what is already being done by the R01.

Comments from Reviews:

Research Plan Weaknesses

- Preliminary data does not support the proposed experiments.
- Experiments do not test the hypothesis.
- Aims 2 and 3 are dependent on Aim 1.
- Specific Aim 2 [or the whole project] is overly ambitious.
- Aim 3 is not well justified and is overly vague.
- No consideration of statistical power.
- The background is lacking important citations in [this area].
- The Research Training Plan has many grammatical errors.
- There are two Figure 4s.



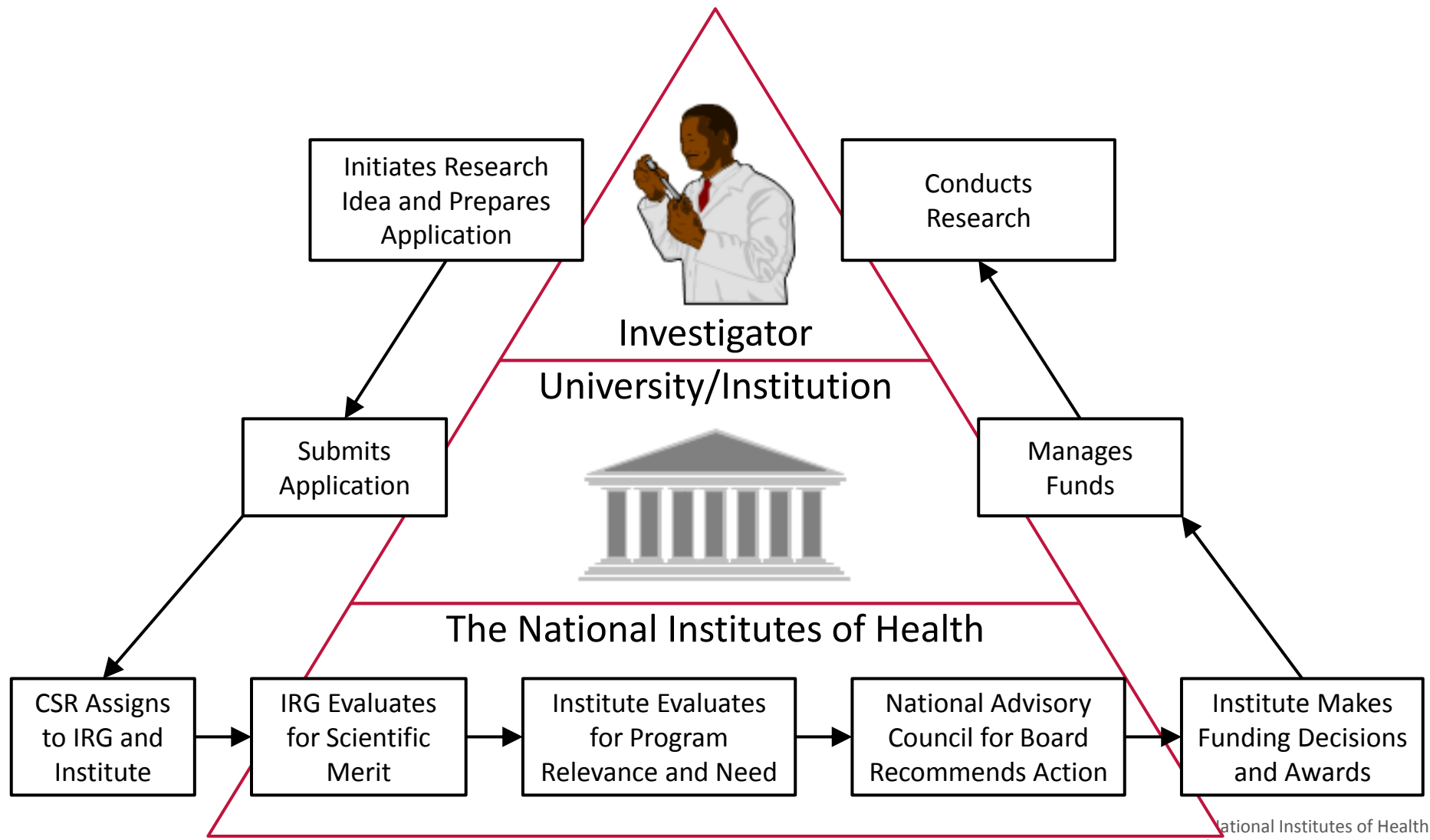
Submitting an Application

Submitting an Application

- Submit to the NIH Center for Scientific Review (CSR)
- **Receipt:** Check for completeness, enter information into database, assign number
- **Referral** (assignments):
 - To a funding agency/institute
 - To a review group (“study section”)
- **Note:** You can request a certain institute for funding or a study section for review. Requests won’t always be honored.



NIH Grant Process





Resources



Internet Resources

- NIH Research Training and Career Development Programs
<https://researchtraining.nih.gov/>
 - Frequently Asked Questions:
<https://researchtraining.nih.gov/resources/faq>
- Resources for New Investigators:
http://grants.nih.gov/grants/new_investigators/index.htm#indaward
- Center for Scientific Review Resources:
<http://public.csr.nih.gov/ApplicantResources/Pages/default.aspx>
 - Center for Scientific Review Fellowship Study Sections:
<http://public.csr.nih.gov/StudySections/Fellowship/Pages/default.aspx>
- Sample Fellowship Applications
 - NIAID: <http://www.niaid.nih.gov/researchfunding/grant/pages/appsamples.aspx>
 - NIGMS: <http://www.nigms.nih.gov/Training/IndivPredoc/Pages/Predocutorial-F31-Sample-Applications.aspx>
- Pathways to Independence Program Announcement (K99/R00):
<http://grants.nih.gov/grants/guide/pa-files/PA-16-077.html>
- K99/R00 Frequently Asked Questions: http://grants.nih.gov/grants/new_investigators/QsandAs.htm
- NIEHS Transition to Independent Environmental Health Research (TIEHR) Career Development Award (K22):
<http://grants.nih.gov/grants/guide/pa-files/PA-12-188.html>

Resources

Contact information

NIEHS Career Development Program (K awards)

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NIEHS Fellowship Program (F awards)

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Questions