Art of Science

F31/F32 Grant Applications

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Deciphering NIH Application/Grant Numbers

Application Type	Activity Code	Institute Code (IC)	Serial Number	Support Year	Other Suffixes
1	R01	CA	654321	01	A1

Application Types

1=New — Request for support of a project that has not yet been funded.

2=Renewal — Request for additional funding for a period subsequent to that provided by a current award.

3=Revision — Request for (or the award of) additional funds during a current project period to support new or additional activities that are not identified in the current award. This request reflects an expansion of the scope of the grant-approved activities. Competitive revisions require peer review.

An administrative supplement is a request for (or the award of) additional funds during a current project period to provide for an increase in costs due to unforeseen circumstances. All additional costs must be within the scope of the peer reviewed and approved project.

4=Extension — Request for additional years of support beyond the years previously awarded. (Used only for select programs.)

5=Non-competing Continuation — Request or award for a subsequent budget period within a previously approved project for which a recipient does not have to compete with other applications.

6=Change of Organization Status (Successor-In-Interest) — Process whereby the rights to and obligations under an NIH grant is acquired incidental to the transfer of all of the assets of the grantee or the transfer of that part of the assets involved in the performance of the grant. May result from legislative or other legal action, such as a merger or other corporate change.

7=Change of Grantee or Training Institution — Transfer of the legal and administrative responsibility for a grant-supported project or activity from one legal entity to another before the completion date of the approved project period (competitive segment).

8=Change of Institute or Center — Change of awarding NIH institute or center for the noncompeting continuation (Type 5).

9=Change of Institute or Center — Change of awarding NIH institute or center for the renewal (Type 2).

Activity Codes: http://grants.nih.gov/grants/funding/funding_program.htm

NIH Funding Institutes

Acronym	Full Name	Code
FIC	John E. Fogarty International Center	TW
NCATS	National Center for Advancing Translational Sciences (NCATS)	TR
NCCIH	National Center for Complementary and Integrative Health	AT
NCI	National Cancer Institute	CA
NEI	National Eye Institute	EY
NHGRI	National Human Genome Research Institute	HG
NHLBI	National Heart, Lung, and Blood Institute	HL
NIA	National Institute on Aging	AG
NIAAA	National Institute on Alcohol Abuse and Alcoholism	AA
NIAID	National Institute of Allergy and Infectious Diseases	AI
NIAMS	National Institute of Arthritis and Musculoskeletal and Skin Diseases	AR
NIBIB	National Institute of Biomedical Imaging and Bioengineering	EB
NICHD	Eunice Kennedy Shriver National Institute of Child Health and Human Development	HD
NIDA	National Institute on Drug Abuse	DA
NIDCD	National Institute on Deafness and Other Communication Disorders	DC
NIDCR	National Institute of Dental and Craniofacial Research	DE
NIDDK	National Institute of Diabetes and Digestive and Kidney Diseases	DK
NIEHS	National Institute of Environmental Health Sciences	ES
NIGMS	National Institute of General Medical Sciences	GM
NIMH	National Institute of Mental Health	MH
NIMHD	National Institute on Minority Health and Health Disparities	MD
NINDS	National Institute of Neurological Disorders and Stroke	NS
NINR	National Institute of Nursing Research	NR
NLM	National Library of Medicine	LM

Serial Number: Six-digit number assigned within an Institute/Center.

Support Year: Two-digit number indicating segment or budget period of a project.

Other Suffixes: 'A' and related number identifies the amendment number (e.g. A1 = resubmission); 'S' and related number identifies the revision record and follows the grant year or the amendment designation to which additional funds have been awarded.

1 RO1 AR 28420-01 (A1)   **1 F32 CA 27236-03**   **1 PO1 ES 39576-05**

- R series Research Project Grants – single project grant awards
- Traditional – R01's
- Exploratory / Developmental Grants – R21's
- Small Grants – R03's
- Conference Grants – R13's
- AREA – R15's
- Small Business – R43's/ R44's
- Training Grants – R25's

- Kirchstein NRSA's
- Institutional Training Grants – R25's
- Institutional Training Grants – T32, T34, T35's (prebaccalaureate, predoctoral, and postdoctoral)
- Individual Fellowships
  - Predoctoral (F30, F31)
  - Postdoctoral (F32)
  - Senior (F33)
- Career Awards (K)

P series Grants – multiple projects – support research and core faculty

- Often must obtain approval of the Institute to submit either because they are only funded through solicitations or requesting over $500,000
  - P01's – Program Project
  - P30's, P50's – Center Grant

- Research Grants (R series)
- Career Development Awards (K series)
- Research Training and Fellowships (T & F series)
- Program Project/Center Grants (P series)

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International Research Fellowships

F05

To provide collaborative research opportunities for qualified foreign scientists who hold a doctoral degree or its equivalent in the biomedical or behavioral sciences.

Details | 📢 No Funding Opportunity Announcement Currently Available

Ruth L. Kirschstein Individual Predoctoral NRSA for MD/PhD and other Dual Degree Fellowships

F30

Individual fellowships for predoctoral training which leads to the combined MD/PhD and other dual Clinical/Research degrees.

Details | 📢 *View Current Funding Opportunities*

Ruth L. Kirschstein Predoctoral Individual National Research Service Award

F31

To provide predoctoral individuals with supervised research training in specified health and health-related areas leading toward the research doctoral degree (e.g., PhD).

Details | 📢 *View Current Funding Opportunities*

Ruth L. Kirschstein Postdoctoral Individual National Research Service Award

F32

To provide postdoctoral research training to individuals to broaden their scientific background and extend their potential for research in specified health-related areas.

Details | 📢 *View Current Funding Opportunities*

Ruth L. Kirschstein National Research Service Awards for Senior Fellows

F33

To provide opportunities for experienced scientists to make major changes in the direction of research careers, or to acquire new research capabilities to engage in health-related research.

Details | 📢 *View Current Funding Opportunities*

Individual Predoctoral to Postdoctoral Fellow Transition Award

F99/K00

To support Pre- to Post-doctoral transition of highly motivated graduate students. The F99 activity code is intended to only be used in conjunction with a K00 Award.

Details | 📢 *View Current Funding Opportunities*

Individual Fellowships

Ruth L. Kirschstein Predoctoral Individual National Research Service Award

Program Purpose

The purpose of this Kirschstein-NRSA program is to enable promising predoctoral students with potential to develop into a productive, independent research scientists, to obtain mentored research training while conducting dissertation research. The F31 is also used to enhance workforce diversity though a separate program.

Ruth L. Kirschstein National Research Service Award (NRSA) Stipends, Tuition/Fees and Other Budgetary Levels Effective for Fiscal Year 2018

PD/PI — Eligibility

U.S. citizen or permanent resident, enrolled in a research doctoral degree program.

INSTITUTION — Eligibility

U.S. domestic institutions, Foreign Institutions.

- **Stipend for the Student**

- **Tuition for the Institution**

  (60% of tuition up to $16K/yr.)

- **Fees and expenses**

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FORMS VERSION D SERIES
UPDATED MARCH 24, 2017

FELLOWSHIP INSTRUCTIONS FOR NIH AND OTHER PHS AGENCIES

SF424 (R&R) APPLICATION PACKAGES

Guidance developed and maintained by NIH for preparing and submitting applications via Grants.gov to NIH and other PHS agencies using the SF424 (R&R)

SF 424 (R&R) Form

Section II. Award Information

Funding Instrument

Grant: A support mechanism providing money, property, or both to an eligible entity to carry out an approved project or activity.

Application Types Allowed

New
Resubmission

Renewal: Individual fellowship awards are generally not renewable. In rare cases in which fellowship awardees require further fellowship support, they should consult with NIH staff to obtain advice regarding submission of a renewal application.

The OER Glossary and the SF424 (R&R) Application Guide provide details on these application types.

Clinical Trial?

Not Allowed: Only accepting applications that do not propose independent clinical trials.

Note: Applicants may propose to gain experience in a clinical trial led by a sponsor/co-sponsor as part of their research training.

Need help determining whether you are doing a clinical trial?

Funds Available and Anticipated Number of Awards

The number of awards is contingent upon NIH appropriations and the submission of a sufficient number of meritorious applications.

Award Budget

Award budgets are composed of stipends, tuition and fees, and institutional allowance, as described below.

Award Project Period

Individuals may receive up to 5 years of aggregate Kirschstein-NRSA support at the predoctoral level (up to 6 years for dual degree training, e.g., MD/PhD), and up to 3 years of aggregate Kirschstein-NRSA support at the postdoctoral level, including any combination of support from institutional training grants (e.g., T32) and an individual fellowship award. This F31 award program only supports dissertation research training.

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Other Award Budget Information

Stipends

Kirschstein-NRSA awards provide stipends as a subsistence allowance to help defray living expenses during the research and clinical training experiences. See https://researchtraining.nih.gov/resources/policy-notices

Tuition and Fees

NIH will contribute to the combined cost of tuition and fees at the rate in place at the time of award. See https://researchtraining.nih.gov/resources/policy-notices

Institutional Allowance

The application should request a Kirschstein-NRSA institutional allowance to help defray the cost of fellowship expenses such as health insurance, research supplies, equipment, books, and travel to scientific meetings. See https://researchtraining.nih.gov/resources/policy-notices

Indirect Costs

NIH does not separately reimburse indirect costs (also known as Facilities & Administrative [F&A] Costs) for fellowships. Costs for administering fellowships are part of Institutional Allowance. See https://researchtraining.nih.gov/resources/policy-notices

Research Training Section

1. Specific Aims
2. Research Strategy (S, I, A)
3. Respective Contributions (trainee/sponsor interactions)
4. Selection of Sponsor and Institution
5. Training in the Responsible Conduct of Research
6. Sponsor statement (environment, training plan, qualifications, etc.)
7. Letters of support
8. Institutional environment

Other stuff

9. Human subjects, animals, data safety, minorities, resource sharing, citizenship

Budget

10. Tuition, stipends, expenses

****
No Payback provision for F31's
****

F32 — Ruth L. Kirschstein Postdoctoral Individual National Research Service Award

Program Purpose

The purpose of the Kirschstein-NRSA postdoctoral fellowship is to enhance the research training of promising postdoctoral candidates who have the potential to become productive, independent investigators in scientific health-related research fields relevant to the missions of the participating NIH Institutes and Centers.

PD/PI — Eligibility

U.S. citizen or permanent resident, with research or clinical doctoral degree.

INSTITUTION — Eligibility

U.S. domestic institutions, Foreign Institutions.

Section II. Award Information

Funding Instrument	Grant: A support mechanism providing money, property, or both to an eligible entity to carry out an approved project or activity.
Application Types Allowed	New Resubmission Renewal: Individual fellowship awards are generally not renewable. In rare cases in which fellowship awardees require further fellowship support, they should consult with NIH staff to obtain advice regarding submission of a Renewal application. The OER Glossary and the SF424 (R&R) Application Guide provide details on these application types.
Funds Available and Anticipated Number of Awards	The number of awards is contingent upon NIH appropriations and the submission of a sufficient number of meritorious applications.
Award Budget	Award budgets are composed of stipends, tuition and fees, and institutional allowance, as described below.
Award Project Period	Individuals may receive up to 5 years of aggregate Kirschstein-NRSA support at the predoctoral level (up to 6 years for dual degree training, e.g., MD/PhD), and up to 3 years of aggregate Kirschstein-NRSA support at the postdoctoral level, including any combination of support from institutional training grants (e.g., T32) and an individual fellowship award..

Other Award Budget Information

Stipends	Kirschstein-NRSA awards provide stipends as a subsistence allowance to help defray living expenses during the research and clinical training experiences. See https://researchtraining.nih.gov/resources/policy-notices
Tuition and Fees	For postdoctoral fellows, costs associated with tuition and fees are allowable only if they are required for specific courses in support of the research training, or a formal degree-granting program. See https://researchtraining.nih.gov/resources/policy-notices
Institutional Allowance	The application should request a Kirschstein-NRSA institutional allowance to help defray the cost of fellowship expenses such as health insurance, research supplies, equipment, books, and travel to scientific meetings. See https://researchtraining.nih.gov/resources/policy-notices
Indirect Costs	NIH does not separately reimburse indirect costs (also known as Facilities & Administrative [F&A] Costs) for fellowships. Costs for administering fellowships are part of Institutional Allowance. See https://researchtraining.nih.gov/resources/policy-notices

Review Criteria

1. Introduction Page (resubmission)
2. Applicant's Background and Goals for Fellowship Training

Research Training Section

3. Specific Aims
4. Research Strategy (S, I, A)
5. Respective Contributions (trainee/sponsor interactions)
6. Selection of Sponsor and Institution
7. Progress Report (only for renewals)
8. Training in the Responsible Conduct of Research
9. Sponsor statement (environment, training plan, qualifications, etc.)
10. Letters of support
11. Institutional environment

Other stuff

12. Human subjects, clinical trial, animals, data safety, minorities, resource sharing, citizenship

Budget

13. Tuition, stipends, expenses

WARNING

There is a payback provision for F32 awards

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NRSA Payback

Postdoctoral Recipients. For individuals receiving postdoctoral support under individual fellowships or institutional research training grants, a payback obligation is incurred for the first 12 months of Kirschstein-NRSA support. However, the 13th and subsequent months of postdoctoral NRSA supported research training serves to pay back this obligation month by month. A Payback Agreement (PHS 6031) is required but only for the initial 12-month postdoctoral support period.

- Do recipients of Kirschstein-NRSA awards incur any obligation?

Yes, authorizing legislation requires recipients to pay back to the Federal government their initial 12 months of NRSA postdoctoral support by engaging in health-related biomedical, behavioral and/or clinical research, research training, health-related teaching, or any combination of these activities.

If you receive NRSA training and are unable or unwilling to complete the required payback service, you must reimburse the U.S. Government for the investment made in your career by repaying the stipends received (plus interest, in some cases).

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What makes for an excellent grant?
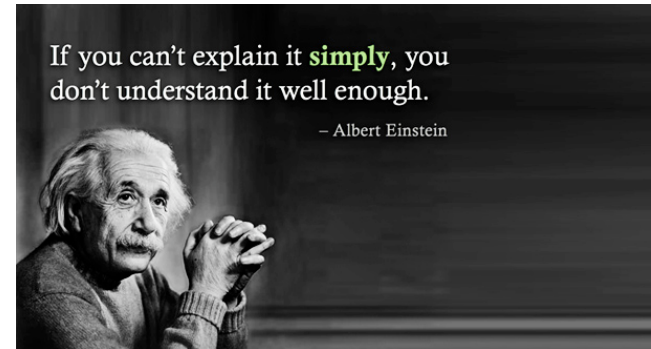
A compelling question

Clarity of thought and expression

A strong, testable hypothesis

Appropriate scope

Logical aims to answer the question

Rigorous experiments to answer the question

If you can't explain it **simply**, you don't understand it well enough.
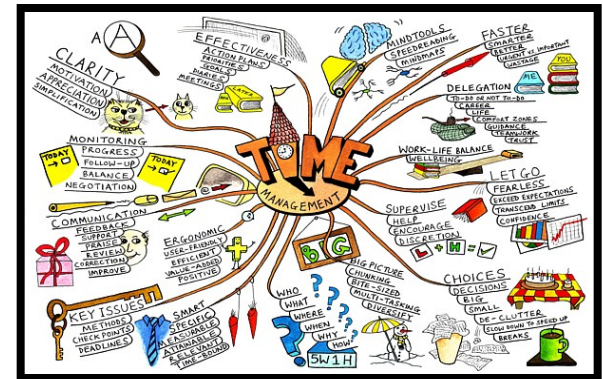– Albert Einstein

There is a simple secret to writing successful grants that all the best grant writers follow, but the vast majority of applicants do not.

How to get that first NIH fellowship grant

The secret that will get you funded:

Time Management

How to get that first NIH fellowship grant

The secret that will get you funded:

Time Management

Plan on 4-6 months to prepare an application

Set aside time to work only on the grant

Start early, be disciplined

"Wisely and slow; they stumble that run fast."
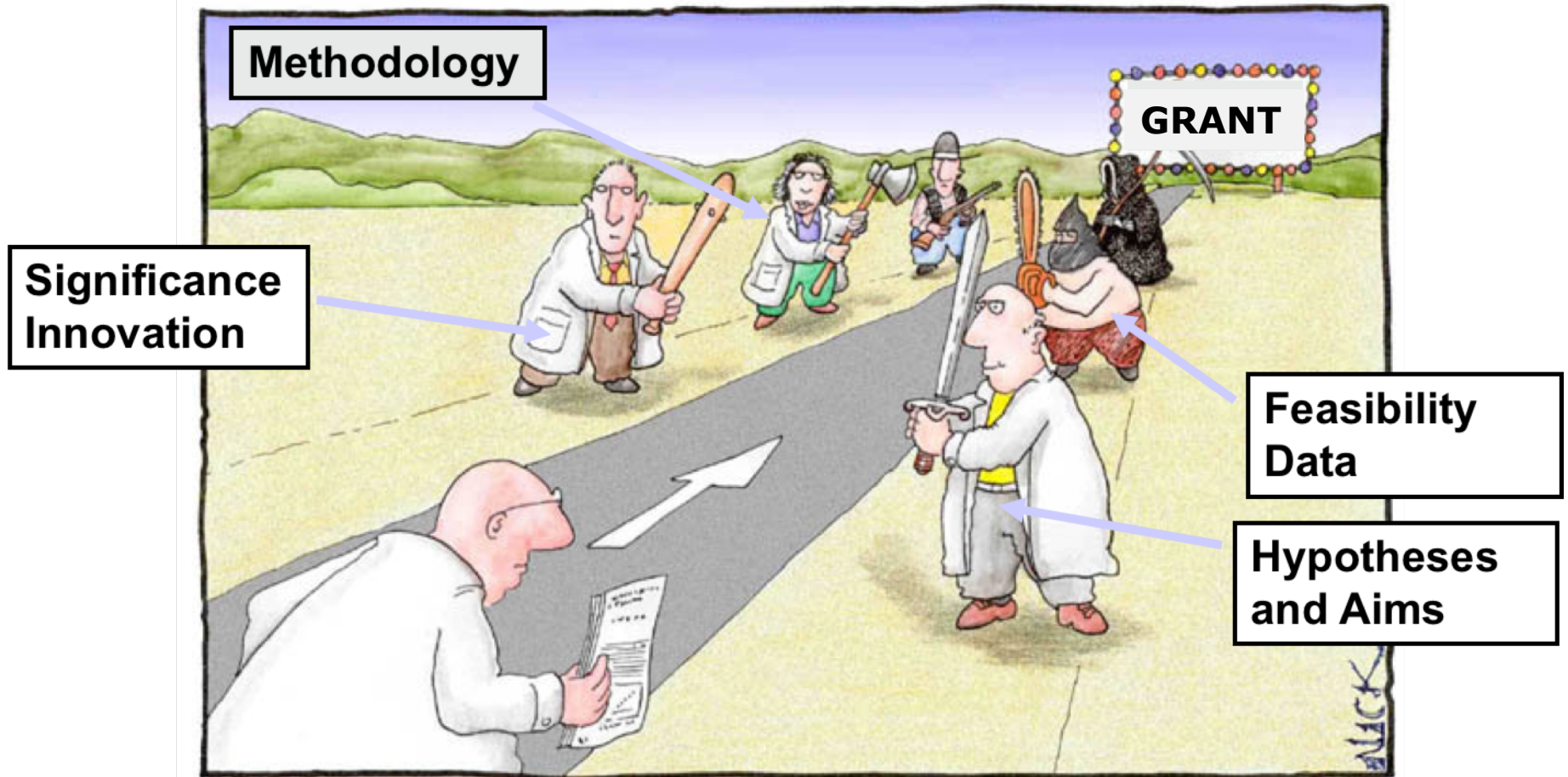*-William Shakespeare*

The essential parts of grant:

Abstract

→ Hypothesis/Specific aims ← **This is the Key!!!**

Significance

Innovation

Research Strategy

The Process

Specific Aims and Hypothesis Page
The most important page of the proposal!

Only page most people, not involved in the research, read

Experienced investigators can assign a surprisingly (>85%) accurate assessment just by reading this page. This is your "blink". (Blink: The Power of Thinking Without Thinking; Malcolm Gladwell; Why are some people brilliant instantaneous decision makers?....those that have perfected the art of "filtering" the things that matter)

~50% grant preparation time should be spent on Hypotheses and Specific Aims page

Remainder of proposal follows (and is comparatively straightforward)

Write, re-write, send to colleagues, re-write, write Significance and Innovation, re-write, write Approach, re-write, etc.

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Hypothesis: An example

H: Osteocytes are very sensitive to their mechanical environment

- Too general of a hypothesis
- What does "sensitive" mean?
- What is the mechanical perturbation?

H: Fluid flow due to loading causes changes in osteocyte gene expression

- Better. Suggests mechanistic approach.
- Hope its not a fishing expedition (gene array).

H: Osteocyte primary cilia transduce peri-cellular fluid flow signals by up-regulating SOST gene expression

• Much better. Very mechanistic, specific, testable.
• Do not be afraid to propose a mechanism or hypotheses that you are not sure is true. That is the point of the hypothesis!

But if not true, a good hypothesis will still be informative and there will be alternatives in the experimental section.

This gives the reviewers confidence that you have thought out the possibilities.

Now, go write that F31 or F32 grant!