Keys to Success in Grant Writing

- Your Identifying a ‘Need’!
- Your Idea for a Solution
- Your Commitment to the Process
- Your Grant Writing Skills
Qualities of a Successful Salesperson

- Make a good first impression
- Be well prepared
- Be credible
- Deliver a clear message
- Provide supporting documentation
- Have appropriate endorsements
- Have something special to offer
- Be persistent
Qualities of a Successful Grantsperson

- Make a good first impression
- Be well prepared
- Be credible
- Deliver a clear message
- Provide supporting documentation
- Have appropriate endorsements
- Have something special to offer
- Be persistent

- Bottom line: You have to SELL your idea!
10 Steps to Success

- Identify a niche area
- Gather and review background information for this problem
- Develop a preliminary idea
- Assess the idea’s potential for success and funding
- Seek constructive criticism from knowledgeable colleagues
10 Steps to Success

- Refine the idea to have impact on your field
- Learn and practice the skills of writing applications for grant funds
- Secure collaborators (mentors) to complement your expertise and experience
  - Don’t compete … collaborate!
- Understand the agency MISSION
- Understand the peer review process
Critical Assessment of Your Idea

▶ **1**<sup>st</sup> **Assess yourself** – Do you have the time, necessary expertise and resources to be truly competitive?

▶ **2**<sup>nd</sup> **Assess the Competition** – Is your idea original? Search the literature (PubMed) and for grants that are funded (RePorter)

▶ **3**<sup>rd</sup> **Assess the funding potential** – Search Agencies and NIH to see what opportunities are available and the missions of those agencies.
The Mission

NIDA's mission is to lead the Nation in bringing the power of science to bear on drug abuse and addiction.

This charge has two critical components. The first is the strategic support and conduct of research across a broad range of disciplines. The second is ensuring the rapid and effective dissemination and use of the results of that research to significantly improve prevention, treatment and policy as it relates to drug abuse and addiction.
NOTE: The main RePORT website (http://RePORT.nih.gov) is currently not available due to system maintenance. We expect it to be available by 8 am (ET) Sunday, October 22 most of this period, the RePORTER query tool will remain available. However, it too will be unavailable from 9 pm (ET) Thursday, October 18 until 7 am (ET) Friday, October 19. We sincerely apologize for any inconvenience.
Where do I start on my grant?

3 Simple Steps:

- Read the SF424 and FOA instructions carefully
- Read the SF424 and FOA instructions carefully
- Don’t forget …
  ... read the SF424 and FOA instructions carefully
Application Development Strategy

Plan/Communicate
(get feedback on your ideas)

Think
(do you have adequate data)

Write
(outline or concept paper)
Refine your ideas

- Generate a unique hypothesis
- Can the Specific Aims be done within the grant timeframe
- Get Colleagues/mentors to review early in the process.
So WHY Plan Ahead?

You’re more likely to get …

- Good concept and a compelling scientific question
- Appropriate NIH Institute
- Adequate time to complete
  - A major stress reducer!

- A better grant application
Essential Need of a Committed Grant Writer

CREATE TIME

- Time to look for funding opportunities
- Time to write a competitive proposal
- Time to get critical review from your colleagues

How far in advance should I start planning?
“Ideal” Pre-Submission Planning Timeline

**Planning Phase**
- Months before receipt date
- 8
- 7
- 6
- 5
- 4
- 3
- 2
- 1

- Assess yourself, your field, and your resources
- Brainstorm; research your idea; call NIH program staff
- Set up your own review committee; determine human and animal subject requirements

**Writing Phase**
- First outline your application’s structure; then write your application
- Get feedback; edit and proofread

**Submission Phase**
- Meet institutional deadlines

**Receipt date**

Call NIH
Grants Process At-A-Glance

The following NIH "Grants Process At-A-Glance" chart is provided as a sample of the general time element necessary for a competing application to proceed from Receipt and Referral through the Peer Review process to negotiation and award.

Planning, Writing, Submitting

**Planning**: Applicant should start early, collect preliminary data, and establish internal deadlines.

**Writing**: Applicant often begins writing application several months prior to application due date.

**Submitting**: Applicant organization submits application to NIH/Division of Receipt and Referral (DRR), Center for Scientific Review (CSR) (using Grants.gov and eRA Commons for electronic submissions).

Receipt and Referral

**Application arrives at CSR.** (Applications compliant with NIH policies are assigned for review and funding consideration.)

**CSR assigns application to an NIH Institute/Center (IC) and a Scientific Review Group (SRG).**

**Scientific Review Officer (SRO) assigns applications to reviewers and readers.**

Peer Review

**Initial Level of Review**

**Priority Score**

**Summary**

**Second Level of Review**
**Peer Review**

**Initial Level of Review:**
SRG members review and evaluate applications for scientific merit.

**Priority Scores:**
Available to PD/PIs on eRA Commons.

**Summary Statement:**
Available to PD/PIs on eRA Commons.

**Second Level of Review:**
Advisory council/board reviews applications.

---

**Award**

**Pre-Award Process:**
IC grants management staff conducts final administrative review and negotiates award.*

**Notification of Award:**
IC issues and sends Notice of Award (NoA) to applicant institution/organization.

**Congratulations!**
Project period officially begins!

*Requests additional information needed just-in-time for award.

---

**Post-Award Management**

Administrative and fiscal monitoring, reporting, and compliance.

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**NOTE:** Timeline is based on the standard grants process. It does not reflect a shorter timeframe for grants undergoing expedited review (e.g., AIDS) and NIH Pilot Study to Shorten the Review Cycle for New Investigator.
Before you start

- Talk to Program officer at appropriate Inst.
- **Read the instructions** for application form *SF 424 R & R*
-知 your audience
  - Which review committee is most likely to get your application?
- Propose research about which you are **passionate** and totally committed to doing
Write as you would for a Newspaper

• **Brevity** - grant pages were cut in half R01 from 25 pages down to 12!
• **Headlines** – hook the reviewer’s interest—they need to become your *advocate* at study section
• **Paragraphs** – two strategies:
  • Introductory paragraphs
  • Each paragraph should make a point
• Write simple declarative sentences
• Assertive presentation style – avoid weak words
• Always present problems as the “glass half full”
Good Grantsmanship

- Grant writing is a learned skill
  - Writing grant applications, standard operating protocols and manuals of procedures that get approved are learned skills
  - Writing manuscripts that get published in peer reviewed journals is a learned skill
- Start by writing with a 3–4 page concept paper
What’s a Concept Paper?

- It helps to generate productive discussion with Program Official and collaborators
  - Study Goals
    - You want support from which IC to study what?
  - Problem/Background
    - Why does this topic need to be studied?
  - Significance
    - Why this is important to the field?
  - Research Question
    - What hypotheses will you test?
  - Team
    - Who will be the key participants and collaborators?
  - Innovation
    - How is it novel? And how will you approach the problem?
Good Grantsmanship

- Collaborate with other investigators
  - Fill gaps in your expertise and training
  - Add critical skills to your team

- “Team Science” is the new direction
Good Grantsmanship

- Successful Grantsmanship requires that you pay attention to:

  Mechanics—how to fill out the forms correctly
  Concepts—understanding the purpose of the grant application
  Psychology—appreciating that grants are read by people (busy people)
Good Grantsmanship

- It also requires that you pay attention to:
  - **Presentation**—understanding that grant writing is different than other writing styles
  - **Logic**—understanding that it is essential to write in terms that is easily understood
  - **Time**—understanding that a quality grant takes a lot of quality time!
Good Grantsmanship

- It also requires that you show your:
  - Independence
  - Resources
  - Institutional support
Independence

- It's important to provide the reviewers see that you are independent and are prepared and able to lead. Consider whether your career stage and expertise are appropriate to the size and scope of the project.

- If you have been published, you will want to reveal your independence as an investigator through your publications.
Resources

- Understand the level of resources needed to compete.
- Determine what resources and support your organization has and what additional support you'll need.
- Consider whether the available equipment and facilities are adequate and whether the environment is conducive to the research.
- Applicants should clearly state that they have the appropriate resources (including space) to conduct the research.
Institutional Support

- Letters of reference and institutional commitment are important.
- Mention any start-up funds, support for a technician, etc. This is a positive indicator of institutional commitment to the peer reviewers.
- If NIH is to provide funds they need to see that your department/organization is behind you as well!
Parts of a Grant Application
SF424 – variation of 398 form in electronic form

*See back of handout for sample*

398 forms—older or current paper format (Used for program grants or subK’s)
<table>
<thead>
<tr>
<th>Forms / Applications / Instructions</th>
<th>Revision Dates</th>
<th>Description / Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>SF424 (R&amp;R)</strong></td>
<td>01/2010</td>
<td><strong>Standard Form 424 (Research &amp; Related) Grant Application Forms</strong>&lt;br&gt;Includes application guides and forms to be used with all competing applications for Research, Career awards, and SBIR/STTR Awards.&lt;br&gt;&lt;br&gt;See <a href="http://grants1.nih.gov/grants/forms.htm">Applying Electronically Page</a> and <a href="http://grants1.nih.gov/grants/forms.htm">Related NIH Guide Notices</a>.</td>
</tr>
<tr>
<td><strong>PHS 398</strong></td>
<td>06/2009</td>
<td><strong>Competing - Public Health Service Grant Application</strong>&lt;br&gt;Includes application guides and forms to be used with all competing applications for Cooperative Agreements that do not use the SF424 (R&amp;R) application package.&lt;br&gt;&lt;br&gt;See <a href="http://grants1.nih.gov/grants/forms.htm">11/23/2003 NIH Guide Notice</a>.</td>
</tr>
<tr>
<td><strong>PHS 2590</strong></td>
<td>06/2009</td>
<td><strong>Continuation - Progress Report for a Public Health Service Grant</strong>&lt;br&gt;See <a href="http://grants1.nih.gov/grants/forms.htm">08/28/2003 NIH Guide Notice</a>.</td>
</tr>
</tbody>
</table>

Other Resources:
- [Progress Report Due Dates - by IPF Number](http://grants1.nih.gov/grants/forms.htm)
- [Progress Report Due Dates - by Institution Name](http://grants1.nih.gov/grants/forms.htm)
- [Mailing Addresses for Continuation (Type 5) Progress Reports](http://grants1.nih.gov/grants/forms.htm)
**F424 (R&R) Application and Electronic Submission Information**

This page provides application guides for preparing electronic grant applications using the SF424 (R&R) application forms. For Adobe Reader softv
structions, go to [http://www.grants.gov/help/download_software.jsp](http://www.grants.gov/help/download_software.jsp). See the [Electronic Submission of Grant Applications](#) page for more inform

<table>
<thead>
<tr>
<th>Table of Contents for this Page:</th>
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<tr>
<td>• SF424 (R&amp;R) Application Guides</td>
</tr>
<tr>
<td>• Additional Format Pages</td>
</tr>
<tr>
<td>• Data Tables (for Institutional Training Grant Applications)</td>
</tr>
<tr>
<td>• Other Information (eRA Assembly guides and Person-Months information)</td>
</tr>
<tr>
<td>• Notable Changes Made to SF424 (R&amp;R) Application Guides</td>
</tr>
</tbody>
</table>

**Latest News:**

- [Now Available: SF424 (R&R) Individual Fellowship Application for NIH and AHRQ](#) (02/05/2010)

**Latest News:**

- [Now Available: SF424 (R&R) Individual Fellowship Application for NIH and AHRQ](#) (02/05/2010)

**Restructured Application Forms**

H and other PHS agencies have transitioned to Restructured Application Forms with new page limits. All applications now use the new applicatio

**F424 (R&R) Application Guides for Restructured Application Forms:**

- Application Guide SF424 (R&R) – [Adobe Forms Version B](#)
- [SBIR/STTR Application Guide SF424 (R&R) – Adobe Forms Version B](#)
- [Individual Fellowship Application Guide SF424 (R&R) – Adobe Forms Version B](#)
Basic Parts of any Grant
(NIH vs Agency)

- Title
- Abstract (or Scope of Work)
- Budget and Justification
- Specific Aims
- Research Strategy
- Other/Admin
General NIH Grant Outline

- Face page/title page
- Description summary (abstract and narrative)
- Performance sites
- Key personnel
- Table of contents
- Detailed budget for initial budget period
- Budget for entire proposed period of support
- Biographical Sketch/(Other support–requested later)
- Resources
- Research Strategy
- References
- Compliance issues–IRB, IACUC, Biosafety, Stem cells
- Checklist
Additional Admin pages

- **Appendix Materials**
  The Appendix may not be used to circumvent the page limitations of the Research Plan.

- **Bibliography & References Cited (formerly “Literature Cited”)**
  Provide a bibliography of any references cited in the Research Plan.

- **Consortium/Contractual Arrangements**
  Explain the programmatic, fiscal, and administrative arrangements to be made between the applicant organization and the consortium organization.

- **Consultants**
  Attach appropriate letters from all consultants confirming their roles in the project. For consultants, letters should include rate/charge for consulting services.

- **Facilities & Other Resources**
  This information is used to assess the capability of the organizational resources available to perform the effort proposed.
Protection of Human Subjects from Research Risk
Applicants must assure NIH that all human subjects are protected.

Inclusion of Women, Minorities and Children in Research
Peer reviewers will also assess the adequacy of plans to include subjects from both genders, all racial and ethnic groups and children.

Care and Use of Vertebrate Animals in Research
If you are planning to use live vertebrate animals in the project, you must adhere to the requirements in the Public Health Service (PHS) Policy.

Resource Sharing Plan(s)
This section includes Data Sharing Plan, when applicable, and Sharing Model Organisms.

Multiple PD/PI
For applications designating multiple PDs/PIs, you must include a leadership plan.
## New – Page Limitations

### Table 2.6-1. Page Limits

<table>
<thead>
<tr>
<th>section of application</th>
<th>page limits *</th>
</tr>
</thead>
<tbody>
<tr>
<td>Also refer to the relevant section of the application instructions and the FOA.</td>
<td></td>
</tr>
<tr>
<td><strong>Introduction to Resubmission Application</strong></td>
<td>1 page</td>
</tr>
<tr>
<td>(3 pages for R25 on PHS398 Research Plan and 3 pages for K12, T and D Training Grants on PHS398 Training Program Plan)</td>
<td></td>
</tr>
<tr>
<td><strong>Introduction to Revision Application</strong></td>
<td>1 page</td>
</tr>
<tr>
<td><strong>Specific Aims</strong></td>
<td>1 page</td>
</tr>
<tr>
<td><strong>Research Strategy (Item 5.5.3 of Research Plan)</strong></td>
<td>6 pages</td>
</tr>
<tr>
<td>For Activity Codes R03, R13, R21, R36, SC2, SC3</td>
<td></td>
</tr>
<tr>
<td><strong>Research Strategy (Item 5.5.3 of Research Plan)</strong></td>
<td>12 pages</td>
</tr>
<tr>
<td>For Activity Codes R01, R10, R15, R18, R21/R33, R24, R33, R34, DP3, G08, G11, G13, SC1, X01</td>
<td></td>
</tr>
<tr>
<td><strong>Research Strategy (Item 5.5.3 of Research Plan)</strong></td>
<td>Follow FOA instructions</td>
</tr>
<tr>
<td>For all other Activity Codes, including S Activity Codes</td>
<td></td>
</tr>
<tr>
<td><strong>Research Education Program Plan</strong></td>
<td>25 pages</td>
</tr>
<tr>
<td>For R25 Research Education Grant Applications</td>
<td></td>
</tr>
<tr>
<td><strong>Biosketch (per person)</strong></td>
<td>4 pages</td>
</tr>
<tr>
<td>(2 pages for DP1 and DP2 Activity Codes)</td>
<td></td>
</tr>
<tr>
<td><strong>Career Development Award (K) Application</strong></td>
<td>12 pages</td>
</tr>
<tr>
<td>Upload to PHS 398 Career Development Award Supplemental Form: Combined Candidate Information (Items 3-5: Candidate’s Background, Career Goals and Objectives, Career Development/Training Activities During Award Period, and Training on the Responsible Conduct of Research) and Research Strategy (Item 11)</td>
<td></td>
</tr>
</tbody>
</table>
Title

- Title
  - Captures the essence of goals and objectives
  
  *(NIH–Limit 81 characters c spaces)*
Application Title

Clear and descriptive

Gives the reviewer the first impression of your proposal

Hooks the reader!
Abstract

- Abstract
  - Concise presentation of the project
  - Statement of significance
  - Hypotheses and research questions
  - Methods and analyses

*Some reviewers may read only the Title and Abstract*
Abstract

Presents the big picture

... Concisely!
Abstract

… is a 2nd “Hook” -- another opportunity to grab the reader

If reviewers are not excited about your application after reading the abstract…
The Project Summary should:
- contain a summary of the proposed activity suitable for dissemination to the public.
- purpose is to describe succinctly every major aspect of the proposed project.
- contain a statement of objectives and methods to be employed.
The Abstract is meant to serve as a succinct and accurate description of the proposed work when separated from the application. State the application’s broad, long-term objectives and specific aims, making reference to the health relatedness of the project (i.e., relevance to the mission of the agency). This section must be no longer than 30 lines of text.
Abstract/Summary

- It is one of the most important sections as it is read by ALL reviewers
- It needs to be written in plain English because it must be interpretable by laypersons
- It must convey enthusiasm for the project
- **It is usually written last, But not at the last minute!**
Tips on Writing the Abstract

- Include highlighted components from specific aims and significance to engender excitement of your proposal—cut and paste some sections is appropriate.
- Summarize the approaches or key methods
- Make sure that relevance to the agency’s or institute’s mission is emphasized
Second component of the Project Summary is the Narrative.
This is the *relevance* of this research to the public written in plain language.
2–4 sentences is all that is required
The Research Plan
The purpose of the Specific Aims section is to describe concisely and realistically the goals of the proposed research and summarize the expected outcomes.
Specific Aims should

- Cover the broad, long-term goals
- Describe the specific objectives and hypotheses to be tested
- Summarize expected outcomes
- Describe the impact on the research field
- Be obtainable within the proposed timeframe
- Grab the reader immediately
- Is limited to one page.
Specific Aims–outline

- **Introduction paragraph**
- **Opening paragraph**
  Provide knowns/unknowns and problem/need
- **Long range goal paragraph**
  What, why and whom
- **Aims paragraph**
  3–4 at most
- **Impact paragraph**
  How is this innovative?
INTRODUCTORY PARAGRAPH—

The primary purpose of this paragraph is to convince the reviewers that there is a significant problem that provides a compelling argument for a critical need relevant to the mission of the agency.
Specific Aims Overview

- **OPENING SENTENCE**

  ◦ Begin to tell the story to convert the reviewer to become an **advocate** for your grant
  ◦ Address two key points: 1) Identify what the proposal is about and 2) immediately relate it to the mission of the agency
Specific Aims Overview

- OPENING SENTENCE CONTINUED

  - Must educate the reviewer with what is important in your scientific area
  - Should be 3–4 sentences providing the reviewer with state-of-the-art knowledge
  - All key points that reviewers need to know MUST be introduced
  - Should be the conceptual framework for the proposal
Specific Aims Overview

- FRAMING the PROBLEM
  - List all the knowns that led your to your conclusion
  - What is not known to make your case for a "problem"
  - Define the critical need of the proposal
  - Conclude with a lack of a solution being a problem for the funding agency—not your "solution" to the problem
Specific Aims Overview

**KEY POINT**

If by the conclusion of the opening paragraph you have not convinced every reviewer that there is a significant “problem” or need (related to their mission), then everything that follows will not mean very much!
Specific Aims Overview

SECOND PARAGRAPH

The primary purpose of the 2nd paragraph is to convince all reviewers that you and your colleagues have the “solution” to the “Problem” (fix that critical need) as identified in the first paragraph
Specific Aims Overview

- **LONG-RANGE GOAL**
  - This is your career long range goal of which this proposal will only be a part of the process
  - Your long term goal and the mission of the agency should be aligned
  - Be realistic: do not overstate your capabilities
Specific Aims Overview

- **OBJECTIVE of APPLICATION**
  - This is where you define the overall purpose of the project—not in 1\textsuperscript{st} paragraph)
  - Designed to match “critical need”
  - Must have a well-defined endpoint.
Specific Aims Overview

- ADD A RATIONALE
  - Every overview and objectives should have a statement of rationale
  - What will become possible after the project is finished that is not possible now
  - The rationale is the underlying reason you decided to pursue the project in the first place.
  - Again, the statement of rationale should relate to the agency’s mission.
WHY MOST QUALIFIED?

- Your opportunity to be proactive regarding your collective qualifications
- Summary of reasons as to why you have the competitive advantage, e.g.:
  - Unique qualifications of team
  - Quality and Quantity of preliminary data
  - Unique skills, technology, past success
Specific Aims Overview

THIRD PARAGRAPH—THE AIMS

- The purpose of the third paragraph is to provide a logical step-by-step development of the key activities (Aims/Goals) by which you will fulfill the objective.
- Two to four focused Aims
- Each must be an eye-catching headline
- Each should flow logically one to the next
- Must collectively test the hypothesis
Specific Aims Overview

- **KEY POINT**

Each of the aims should be related to the other aims but avoid having one aim being dependent upon the outcome of another.
The primary purpose of the fourth or final paragraph is to inform the reviewers (and the funding agency) exactly what the “return on their investment” will be and why this is of value to the mission of the agency.
Specific Aims Overview

BOTTOM LINE

- This is your Executive Summary
- MAJOR Influence on reviewer
- Write it first, last and every day in between

*Specific Aims samples in handout*
Remember: NIH reviewed criteria

- Significance
- Approach
- Innovation
- Investigator
- Environment

*Same format as Research Strategy!*

*R01 limited to 12 pages*
Organize the Research Plan to answer 5 essential questions:

- What do you intend to do?
- Why is the work important? Significance? Innovation?
- What has already been done?
- What have you done to establish the feasibility of what you are proposing?
- How will the research be accomplished? Who? What? Where? Why?
Research Strategy

Outlined as:

Specific Aim 1
  • Significance
  • Innovation
  • Approach

Specific Aim 2
  • Significance
  • Innovation
  • Approach
Research Strategy

*OR outlined as:*

**Significance**
- Specific Aim 1
- Specific Aim 2

**Innovation**
- Specific Aim 1
- Specific Aim 2

**Approach**
- Specific Aim 1
- Specific Aim 2
Research Strategy
Significance (approx 1–2 pages)

- State the existing knowledge, include literature references and highlights of relevant data
- Define the rationale of the proposed research
- Explain gaps that the project is intended to fill
- Discuss the potential contribution of this research to the field and to public health
Research Strategy Significance – suggestions

- Does this study address an important problem? How are the researchers qualified to address these?
- Be aware of existing data and grants be sure to reference any potential reviewers from study section.
- List potential barriers and alternative approaches
- Show that the objectives are attainable and within the stated time frame
Research Strategy Innovation (1/2 to 1 page)

- Are the concepts and methods original to the research field?
- Are concepts, approaches or methods of the study design innovative?
- Does the project challenge existing concepts or develop new methodologies or technologies?
Research Strategy
Innovation – suggestions

- Describe how the application differs from current research or clinical practice
- Provide a review of the literature to support innovative methods, approaches or concepts of your research
- Summarize the novel findings that will be presented as preliminary data in the Approach section
Research Strategy
Approach (approx 9–10 pages)

- Contains the PI’s preliminary data and experience related to the experimental design
- Shows the overview of the experimental design
- Describe the methods and analysis to be used
- Discuss potential difficulties or limitations and how these will be overcome
Research Strategy Approach (approx 9–10 pages)

- Discuss the expected results and list alternative approaches if unexpected results are found
- Provide a time table of work plan
- Describe any new methodology and why it represents an improvement over existing ones
- Provide a detailed discussion of the way the data will be collected, analyzed and interpreted
Research Strategy Approach – suggestions

- Avoid excessive experimental detail by referring to publications that describe the methods to be employed esp your own citations
- Explain why a method or approach will be used over another
- If using complex technology for the first time, take care to show familiarity or co-I expertise.
- Develop alternate strategies for potential problems
Are the investigators appropriately trained and well suited to carry out this work?
Is the work proposed appropriate to the experience level of the principal investigator and other researchers?
Does the investigative team bring complementary and integrated expertise to the project (if applicable)?
Revisions to Biographical Sketch

Personal Statement added:
Experience and qualifications particularly well-suited for your role in the project

Publications revised:
No more than 15 publications
Emphasize importance to the field, and/or relevance to the application

PMCID numbers required—see My NCBI
### BIOGRAPHICAL SKETCH

Provide the following information for the Senior key, personnel, and other significant contributors. Follow this format for each person. **DO NOT EXCEED FOUR PAGES.**

<table>
<thead>
<tr>
<th>NAME</th>
<th>Hunt, Virginia Lively</th>
<th>POSITION TITLE</th>
<th>Associate Professor of Psychology</th>
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<tbody>
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<td><strong>EDUCATION/TRAINING</strong></td>
<td><strong>INSTITUTION AND LOCATION</strong></td>
<td><strong>DEGREE (Applicable)</strong></td>
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<td></td>
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<td>B.S.</td>
<td>05/90</td>
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<td></td>
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<td>Ph.D.</td>
<td>05/96</td>
</tr>
<tr>
<td></td>
<td>University of California, Berkeley</td>
<td>Postdoctoral</td>
<td>08/88</td>
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</table>

### A. Personal Statement

The goal of the proposed research is to investigate the interaction between drug abuse and normal aging processes. Specifically, we plan to measure changes in cognitive ability and mental and physical health across a five-year period in a group of older drug users and matched controls. I have the expertise, leadership and motivation necessary to successfully carry out the proposed work. I have a broad background in psychology, with specific training and expertise in key research areas for this application. As a postdoctoral fellow at Berkeley, I carried out ethnographic and survey research and secondary data analysis on psychological aspects of drug addiction. At the Division of Intramural Research at the National Institute on Drug Abuse (NIDA), I expanded my research to include neuropsychological changes associated with addiction. As PI or co-Investigator on several previous university- and NIH-funded grants, I laid the groundwork for the proposed research by developing effective measures of disability, depression, and other psychosocial factors relevant to the aging substance abuser, and by establishing strong ties with community providers that will make it possible to recruit and track participants over time. In addition, I successfully administered the projects (e.g. staffing, research protections, budget), collaborated with other researchers, and produced several peer-reviewed publications from each project. As a result of these previous experiences, I am aware of the importance of frequent communication among project members and of constructing a realistic research plan, timeline, and budget. The current application builds logically on my prior work, and I have chosen co-investigators (Drs. Grzywacz and Newlin) who provide additional expertise in cognition, gerontology and geriatrics. In summary, I have a demonstrated record of successful and productive research projects in an area of high relevance for our aging population, and my expertise and experience have prepared me to lead this effort.
the proposed project.

B. Positions and Honors

Positions and Employment
1998-2000 Fellow, Division of Intramural Research, National Institute of Drug Abuse, Bethesda, MD
2000-2002 Lecturer, Department of Psychology, Middlebury College, Middlebury, VT
2001- Consultant, Coastal Psychological Services, San Francisco, CA
2002-2005 Assistant Professor, Department of Psychology, Washington University, St. Louis, MO
2005- Associate Professor, Department of Psychology, Washington University, St. Louis, MO

Other Experience and Professional Memberships
1995- Member, American Psychological Association
1998- Member, Gerontological Society of America
1998- Member, American Geriatrics Society
2000- Associate Editor, Psychology and Aging
2003- Board of Advisors, Senior Services of Eastern Missouri
2003-04 NIH Peer Review Committee, Psychology of Aging; ad hoc reviewer
2005-09 NIH Risk, Adult Addictions Study Section, member

Honors
2003 Outstanding Young Faculty Award, Washington University, St. Louis, MO
2005 Excellence in Teaching, Washington University, St. Louis, MO
2008 Award for Best in Interdisciplinary Ethnography, International Ethnographic Society

C. Selected Peer-reviewed Publications (Selected from 42 peer-reviewed publications)

Most relevant to the current application
D. Research Support

**Ongoing Research Support**

R01 DA942367-03  (Hunt)  09/01/07-08/31/12
Health trajectories and behavioral interventions among older substance abusers
The goal of this study is to compare the effects of two substance abuse interventions on health outcomes in an urban population of older opiate addicts.
Role: PI

R01 MH922731-05  (Merryle)  07/15/05-06/30/10
Physical disability, depression and substance abuse in the elderly
The goal of this study is to identify disability and depression trajectories and demographic factors associated with substance abuse in an independently-living elderly population.
Role: Co-Investigator

Faculty Resources Grant, Washington University  08/15/09-09/18/11
Opiate Addiction Database
The goal of this project is to create an integrated database of demographic, social and biomedical information for homeless opiate abusers in two urban Missouri locations, using a number of state and local data sources.

**Completed Research Support**

K02 AG442898  (Hunt)  09/01/06-08/31/09
Drug Abuse in the Elderly
Independent Scientist Award: to develop a drug addiction research program with a focus on substance abuse among the elderly.
Role: PI

R21 AA998075  (Hunt)  01/01/04-12/31/06
Community-based intervention for alcohol abuse.
Environment/Resources

- Does the scientific environment in which the work will be done contribute to the probability of success?
- Do the proposed experiments take advantage of unique features of the scientific environment or employ useful collaborative arrangements?
- Is there evidence of institutional support?
Remember....... 

- Provide well-focused research plan 
- Keep specific aims simple ... and specific 
- Link hypotheses to specific aims 
- Explain method to test every hypothesis 
- Don’t wander from the main theme 
- A conceptual model can clarify ideas
Remember....... 

- Be realistic ... not overly ambitious
- Discuss potential problem areas
- Discuss possible solutions
  - Explain rationale for your decisions
- Be explicit
- Reviewers cannot read your mind ...

*Don’t assume they know what you intend*
Remember the details

- Use an Arial, Helvetica, Palatino Linotype, or Georgia typeface (No NTR), and a font size of 11 points or larger. (A Symbol font may be used to insert Greek letters or special characters; the font size requirement still applies.)

- Type density must be no more than 15 characters per inch. Type may be no more than six lines per inch. Use at least 0.6 inch margins (top, bottom, left, and right—it can shrink converting to PDF)

No information should appear in the margins.
Prepare a reviewer-friendly application

- Be well organized and clear
- Use logical transitions between sections
- Avoid "weak" words and abbreviations
- Keep emphasized text to a minimum
- Add section headings -- major and minor and leave spaces between paragraphs
- Make tables and figures easy to view
- Eliminate all misspellings and typo’s

READABILITY is key to your success!
Acquire “Friendly” Reviews

- Show your draft application to a colleague
  - What you intend to do
  - Why you believe it is important to do
  - Exactly how you are going to do it
- If they don’t get it, you must revise your application
- Review your own grant like a reviewer
- Leave enough time to make revisions
DOM–Internal review

- DOM Research Committee can provide peer review by a reviewer of your choice on campus or off and they are paid for this service.

- For more information visit: [https://www2.medicine.wisc.edu/home/research/reviewprocess](https://www2.medicine.wisc.edu/home/research/reviewprocess)
Eight Basic Questions Reviewers Ask

• How high are the intellectual quality and merit of the study?
• What is its potential impact?
• How novel is the proposal? If not novel, to what extent does potential impact overcome this lack? Is the research likely to produce new data and concepts or confirm existing hypotheses?
• Is the hypothesis valid and have you presented evidence supporting it?
Eight Basic Questions Reviewers Ask

• Are the aims logical?
• Are the procedures appropriate, adequate, and feasible for the research?
• Are the investigators qualified? Have they shown competence, credentials, and experience?
• Are the facilities adequate and the environment conducive to the research?
Actual Reviewer Comments You Really Don’t Want to See

“This application is characterized by ideas that are both original and scientifically important…

…unfortunately the ideas that are scientifically important are not original and the ideas that are original are not scientifically important.”
“In addition to proposing a research design that is a fishing expedition ... 

... the application also proposes to use every type of bait and piece of tackle ever known to mankind.”
More Reviewer Comments You Want to Avoid

There is not a clear hypothesis …
The specific aims do not test the hypothesis…
The specific aims depend on results from previous aims…
The proposal is overly ambitious…
It’s not clear the investigator can do the proposed experiments…
Preliminary data is lacking…
More Reviewer Comments *You* Want to Avoid

*The studies are more descriptive than mechanistic…*

*Alternative approaches or interpretation of data are inadequately described…*

*Experimental details are lacking or have not been adequately described…*

*This is not the appropriate grant mechanism…*
Good Review

*Increase your chances of a good review*

- Make sure your application presents well
- Make sure your application goes to the right review group*
- Try to keep your reviewers happy

* Consult with Program Officer
NIH Reviewers

Keep your reviewers happy

- Reviewers work late at night
- Help them stay alert and interested
- Make your application easy to read and easy to understand
- Convince them to advocate for your idea
  - Get them on your side!
After the Critique

Contact your program officer and be prepared to discuss:

- Questions about what the reviewers said about your application (after you have summary statement “pink sheets”)
- Scores and percentiles
- Questions about the fundability of application
- Questions about revising the application
REVISING & RESUBMITTING

- Write A Clear Introduction Section
- Address All Criticisms Thoroughly
- Respond Constructively
- Acknowledge and Accept the Help of Reviewer Comments
- Don’t Be Argumentative!
- Don’t be Abrasive or Sarcastic!
Pre-Submission Planning Timeline

**PLANNING PHASE**

Months before receipt date:

- 8: Assess yourself, your field, and your resources
- 7: Brainstorm; research your idea; call NIH program staff
- 6: Set up your own review committee; determine human and animal subject requirements

**WRITING PHASE**

- 5: First outline your application’s structure; then write your application
- 4: Get feedback; edit and proofread
- 3: Meet institutional deadlines
- 2: Receive dates

**SUBMISSION PHASE**
Grant Writing Tips Sheets

Many NIH Institutes put out guides and tip sheets on their Web sites. These guides can be useful resources. Here are just a few.

- **All About Grants** - Including Grant Application Basics, How to Plan a Grant Application and How to Write a Grant Application.
- **Applying for an NHGRI Grant**
- **Choosing an Appropriate NIH Funding Instrument and Funding Mechanism** (MS Word - 209 KB)
- **NIH Grants Information CD** (PDF - 51 KB)
- **Peer Review Guidelines and Information**
- **Peer Review Meetings** - Meeting dates, descriptions, rosters, guidelines, etc.
- **Preparing Grant Applications**
- **Quick Guide for Grant Applications**
- **Quick Guide for the Preparation of Grant Applications** (Complementary and Alternative Medicine)
- **SBIR/STTR Policy and Grantsmanship Information**
- **Tips for New NIH Grant Applicants**
- **Writing a Grant**

**Note:** For help accessing PDF, RTF, MS Word, Excel, PowerPoint or RealPlayer files, see Help Downloading Files.
Grant Writing Samples

- SF 424 with instructions and samples for summary, narrative, facilities, equipment, and personnel budget justification
- SF 424 (R01) grant sample - courtesy of David Andes
- PHS 398 Sample Face Page
- Annotated R01-Grant Sample (NIAID)
- Sample K08 grant (NIDDK)
- Sample K08 grant (Vanderbilt)
- Sample K08 grant - courtesy of Peiman Hematti

Grant Tools

- Person Month Conversion
- Spreadsheet for a simple 5 year budget
- Spreadsheet for SF424 budget
Components of a Successful Grant Application – *Bottom Line!*

- **Strong Idea**
- **Strong Science**
- **Strong Application**
Questions?

- Thank you for attending!