



K99/R00

Crafting a competitive proposal

**Gulf Coast Consortia + Rice University Office of Research Development
April 25, 2024**



Agenda

1. K99/R00 Overview
 2. Key Components of the K99
 3. Tips & Strategies for effective grantsmanship
- Candidate background, goals, and Career Development plan
 - Research Plan
 - Mentoring section
 - Institution/Environment



Contact info:

Eaf2@rice.edu

eafesta@gmail.com



“Everything you get from other people comes because you met someone else’s needs or desires”

~Kuchner, 2011, *Marketing for Scientists*



K 99/R00: A triadic ecosystem

“the **Awardee** is as much a **product of a K Award** as the research they do. The K Award reflects an **ecosystem** of Candidate, Mentor, and Environment”

~Dr. Peg Atkisson, Atkisson Training Group
<https://www.atkissontraininggroup.com/>



- What kind of scientist are you right now? What skills and expertise do you have?
- **What kind of scientist do you want to be?**
- What are the skills and expertise you need to develop to become that scientist?
- Who is the best mentor to help me get the experience and skills you want?
- What educational activities do you need as part of your development plan?



Mission & goals of NIH



To seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability

- to foster fundamental creative discoveries, innovative research strategies, and their applications as a basis for **ultimately protecting and improving health**;
- to develop, maintain, and renew **scientific human and physical resources** that will ensure the Nation's capability to **prevent disease**;
- to expand the knowledge base in medical and associated sciences in order to enhance the Nation's economic well-being and ensure a continued **high return on the public investment in research**; and
- to exemplify and promote the highest level of **scientific integrity, public accountability, and social responsibility** in the conduct of science.



Purpose of the K99/R00

K99/R
00

Pathway to Independence Award

- To increase and maintain a strong cohort of new and talented, NIH-supported, **independent investigators**
- To facilitate a **timely transition** of outstanding postdoctoral researchers with a research and/or clinical doctorate degree from mentored, postdoctoral research positions (K99) to independent, tenure-track or equivalent faculty positions (R00).
- To provide **independent NIH research** support during this transition in order to help awardees to launch competitive, independent research careers.
- to foster the development of a creative, **independent research program** that will be competitive for subsequent independent funding and that will help advance **the mission of the NIH**



Institutes also have missions and goals

NIAID Mission

[National Institute of Allergy and Infectious Diseases \(NIAID\)](#)

NIAID conducts and supports basic and applied research to better understand, treat, and ultimately prevent infectious, immunologic, and allergic diseases. For more than 60 years, NIAID research has led to new therapies, vaccines, diagnostic tests, and other technologies that have improved the health of millions of people in the United States and around the world.

In fiscal year 2021, the NIAID budget was \$6.1 billion. The Institute dedicated these funds to support scientific opportunities that align with its mission and address domestic and global health problems and diseases.

Among the 27 Institutes and Centers that comprise the National Institutes of Health, NIAID has a unique mandate, which requires the Institute to respond to emerging public health threats. Toward this end, NIAID manages a complex and diverse research portfolio that aims to do the following:

- Expand the breadth and depth of knowledge in all areas of infectious, immunologic, and allergic diseases
- Develop flexible domestic and international research capacities to respond appropriately to emerging and re-emerging disease threats at home and abroad

NIAID advances the understanding, diagnosis, and treatment of many of the world's most intractable and widespread diseases. Key research areas include newly emerging and re-emerging infectious diseases such as tuberculosis and influenza, HIV/AIDS, biodefense, and immune-mediated diseases including asthma and allergy.

Content last reviewed on April 16, 2021



Eligibility

- U.S. citizen or non-citizen
 - The PI's visa must allow him/her to remain in the U.S. for the duration of the relevant phase (K99 or R00) of the award
- Must have a research or clinical doctoral degree
- Must be in a mentored, postdoctoral training position
- Must have no more than 4 years of postdoctoral research experience at the time of the initial (new) or the subsequent resubmission application
- Intended for individuals who require **at least 12 months of mentored research** training and career development that will help them become competitive candidates for tenure-track faculty positions and help them launch robust, independent research programs
 - 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.**
 - 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.



Support over two phases

K99 (Mentored phase)

- Award period
 - 1-2 years of mentored support
- Award amount
 - Salary and research costs may be requested to the level provided by the awarding Institute or Center

R00 (independent phase)

- Award period
 - Up to 3 years of independent support, contingent on satisfactory progress during the K99 phases and an approved, independent, tenure-track (or equivalent) faculty position
- Award amount
 - May not exceed \$249,000 per year
 - This amount includes salary, fringe benefits, research costs, and applicable indirect costs
 - Indirect costs will be reimbursed at the extramural sponsoring institution's indirect cost rate



Expectations of Mentors

- Be an **active investigator** in the area of the proposed research
- Have a successful track record of **mentoring individuals** at the candidate's career stage
- Be committed to the career development of the candidate and the **direct supervision** of the candidate's research
- **Document the availability of sufficient research support** and facilities for high-quality research



Award commitments

K99 phase

- Must have a **full-time appointment** at the academic institution
- Must commit a minimum of **75% of full-time professional effort** (i.e., a minimum of 9 person-months) to your career development and research training during the mentored phase
- May engage in other duties (e.g., clinical, research) as part of the remaining 25% of your full-time professional effort not covered by this award, as long as such duties do not interfere with or detract from the proposed career development program

R00 phase

- Must commit a minimum of 75% of your full-time, 12-month professional effort to research (i.e., full-time for 9 person-months)
- The required 9 person-months or research effort need not be devoted exclusively to the R00-supported research



3 main documents to consult....

FORMS VERSION H SERIES
Released: August 5th, 2023



GENERAL INSTRUCTIONS FOR NIH AND OTHER PHS AGENCIES

SF424 (R&R) Application Packages

<https://grants.nih.gov/grants/how-to-apply-application-guide/forms-h/general-forms-h.pdf>

FORMS VERSION H SERIES
Released: August 5th, 2023



CAREER DEVELOPMENT INSTRUCTIONS FOR NIH AND OTHER PHS AGENCIES

SF424 (R&R) APPLICATION PACKAGES

<https://grants.nih.gov/grants/how-to-apply-application-guide/forms-h/career-forms-h.pdf>

<https://grants.nih.gov/grants/how-to-apply-application-guide.html>

Department of Health and Human Services

Part 1. Overview Information

Participating Organization(s)	National Institutes of Health (NIH)
Components of Participating Organizations	<p>National Cancer Institute (NCI) National Eye Institute (NEI) National Heart, Lung, and Blood Institute (NHLBI) National Human Genome Research Institute (NHGRI) National Institute on Aging (NIA) National Institute on Alcohol Abuse and Alcoholism (NIAAA) National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) National Institute of Allergy and Infectious Diseases (NIAID) National Institute of Biomedical Imaging and Bioengineering (NIBIB) National Center for Complementary and Integrative Health (NCCIH) Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) National Institute on Drug Abuse (NIDA) National Institute on Deafness and Other Communication Disorders (NIDCD) National Institute of Dental and Craniofacial Research (NIDCR) National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) National Institute of Environmental Health Sciences (NIEHS) National Institute of General Medical Sciences (NIGMS) National Institute of Mental Health (NIMH) National Institute of Neurological Disorders and Stroke (NINDS) National Institute of Nursing Research (NINR) National Library of Medicine (NLM) Division of Program Coordination, Planning and Strategic Initiatives, Office of Research Infrastructure Programs (ORIP) National Institute on Minority Health and Health Disparities (NIMHD)</p> <p>Special Note: Not all NIH Institutes and Centers participate in Parent Announcements. Applicants should carefully note which ICs participate in this announcement and view their respective areas of research interest and requirements at the Table of IC-Specific Information, Requirements and Staff Contacts website. ICs that do not participate in this announcement will not consider applications for funding. Consultation with NIH staff before submitting an application is strongly encouraged.</p>
Funding Opportunity Title	NIH Pathway to Independence Award (Parent K99/R00 Independent Clinical Trial Not Allowed)



3 parent announcements for the K99/R00

K99/R00	NIH Pathway to Independence Award (Parent K99/R00 Independent Clinical Trial Required)	PA-20-187	NIH	05-05-2020	05-12-2020	05-08-2024
K99/R00	NIH Pathway to Independence Award (Parent K99/R00 Independent Clinical Trial Not Allowed)	PA-20-188	NIH	05-05-2020	05-12-2020	05-08-2024
K99/R00	NIH Pathway to Independence Award (Parent K99/R00 Independent Basic Experimental Studies with Humans Required)	PA-20-189	NIH	05-05-2020	05-12-2020	05-08-2024

<https://grants.nih.gov/grants/guide/pa-files/PA-20-187.html>

<https://grants.nih.gov/grants/guide/pa-files/PA-20-188.html>

<https://grants.nih.gov/grants/guide/pa-files/PA-20-189.html>



Institute specific instructions for the K99/R00

National Cancer Institute (NCI)

Scientific Program Contact:

Michael Schmidt, Ph.D

(Applicant last name beginning with A-F)

Email: mschmidt@mail.nih.gov

NCI Specific Information:

The NCI accepts K99/R00 applications in all areas of cancer research.

Additional NCI-specific information/requirements can be found at: <http://www.cancer.gov/grants-training/training/funding/K99>

Sonia B. Jakowlew, Ph.D

(Applicant last name beginning with G-N)

Email: jakowles@mail.nih.gov

NCI does not allow carry-over of unspent funds from the K99 phase into the R00 phase.

Corinne Boulanger-Espeut, Ph.D

(Applicant last name beginning with O-Z)

Email: boulangc@mail.nih.gov

Salary Support: Up to \$100,000 plus fringe benefits per year.

Research Support: Up to \$30,000 per year.

Grants Management Contact:

Amy Bartosch

Email: amy.bartosch@mail.nih.gov

<https://grants.nih.gov/grants/guide/contacts/parent-K99-BESH.html>



Use RePORTER & Matchmaker to locate fit

Quick Search

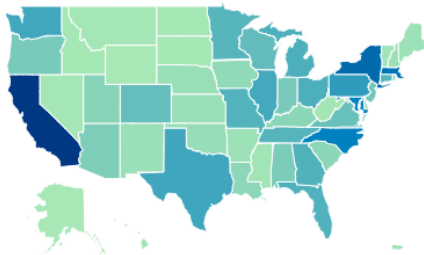
Enter just about anything in the RePORTER Quick Search box above (text, PI names, project numbers, fiscal year, agency) or launch the Advanced Search to precisely configure searches using separate search fields.

Welcome to the NIH RePORTER

Each award supported by NIH promotes efforts to seek fundamental knowledge about the nature and behavior of living systems and/or the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.

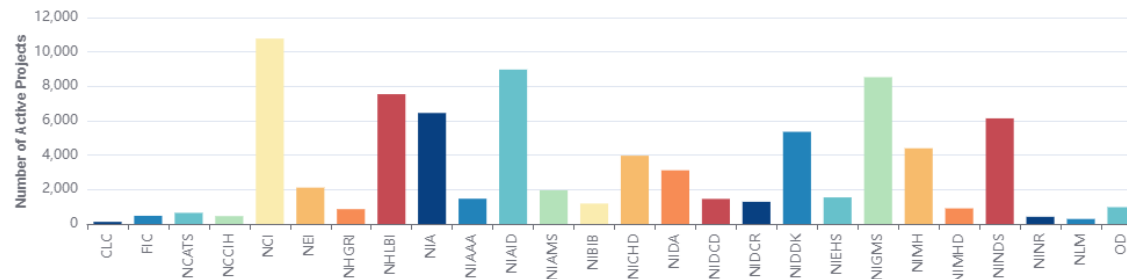
Active Funding by State

Select a state to view projects



Active Projects by Institute/Center

Select a bar to view projects for an Institute/Center



Matchmaker

Enter abstracts or other scientific text to find potential Program Officials, ICs, and review panels for your research. ?

15,000 characters left

- Similar Projects
- Similar Program Officials

Advanced Projects Search

Search using specific criteria to find NIH projects and funding information.



Talk with a program officer....

“After more than five years in research administration, I can tell you that most scholars and researchers would rather **undergo a root canal without anesthesia** than call a program officer”
~Michael Spires, “What to Say—and Not to Say—to Program Officers” *Chronical of Higher Education*

“Timidity is never rewarded in the grants process...”

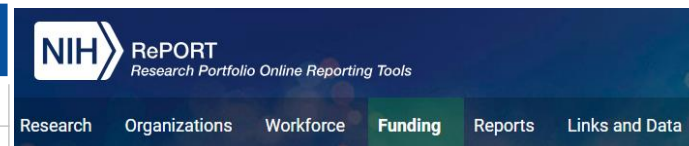
~Lucy Deckard and Mike Cronin, *New Faculty Guide to Competing for Research Funding*

- Read solicitation *first*
- Set up an appointment via email (don't call unless you don't receive a reply within a week)
- Attach a one-page project summary
- Ask if project is a good fit for program
- Request clarification if needed
- Follow up with referrals to other POs as necessary



Funding for K99 varies across ICs

Year	Act. Code	IC	Reviewed	Awarded	% success	funding
2023	K99	NCI	277	45	16.2%	\$6,121,685
2023	K99	NHLBI	167	47	28.1%	\$6,267,784
2023	K99	NIDCR	27	9	33.3%	\$1,149,034
2023	K99	NIDDK	68	14	20.6%	\$1,271,880
2023	K99	NINDS	166	35	21.1%	\$4,590,542
2023	K99	NIAID	97	13	13.4%	\$1,529,598
2023	K99	NIGMS	171	41	24.0%	\$4,991,097
2023	K99	NICHD	83	29	34.9%	\$3,550,543
2023	K99	NEI	55	24	43.6%	\$2,832,053
2023	K99	NIEHS	42	11	26.2%	\$1,144,100
2023	K99	NIA	126	44	34.9%	\$5,340,189
2023	K99	NIAMS	24	11	45.8%	\$1,113,889
2023	K99	NIDCD	24	7	29.2%	\$849,502
2023	K99	NIMH	114	26	22.8%	\$2,951,078
2023	K99	NIDA	47	11	23.4%	\$1,843,860
2023	K99	NIAAA	30	18	60.0%	\$2,763,482
2023	K99	NINR	12	2	16.7%	\$217,272
2023	K99	NHGRI	19	11	57.9%	\$1,486,322
2023	K99	NIBIB	15	7	46.7%	\$748,310
2023	K99	NCCIH***	6	1	16.7%	\$85,877
2023	K99	NIMHD***	11	3	27.3%	\$328,449
2023	K99	NLM	5	3	60.0%	\$265,680
2023	K99	ACTIVITY TOTAL	1,586	412	26.0%	\$51,442,226



<https://report.nih.gov/funding/nih-budget-and-spending-data-past-fiscal-years/success-rates>



NIH Criteria, K99 criteria

NIH Criteria

- **Significance**

- *importance* of the problem or critical barrier; *rigor* of the plan; potential to improve scientific knowledge, technique, practice)

- **Investigator**

- **Innovation**

- how the project challenges the current paradigm; novel approaches, methodologies, interventions)

- **Approach**

- *strategy*; feasibility; analyses; anticipating challenges and proposing workarounds

- **Environment**

K99/R00

- “**For this particular announcement**, reviewers should evaluate the candidate's potential for **obtaining a tenure-track or equivalent faculty position** and developing an independent research program that will make **important contributions to the field.**”



Abbreviated review process...

1. NIH Center for Scientific Review checks requirements and submits to ICs

2. **ICs organize first peer view for K99/R00**

- Individual Scoring
- Group discussion and Summary

3. Second review with a IC council--administrative review (human subjects, animal subjects, other considerations)—make recommendation

4. IC makes the final call



<https://www.youtube.com/watch?v=k8VNX7ij97c>



NIH criterion scores

Overall Impact or Criterion Strength	Score	Descriptor
High	1	Exceptional
	2	Outstanding
	3	Excellent
Medium	4	Very Good
	5	Good
	6	Satisfactory
Low	7	Fair
	8	Marginal
	9	Poor

Criterion score

- Score conveys how each assigned reviewer weighed the strengths and weaknesses of each review criterion

Overall impact score

- The overall impact score is a reflection of the reviewer's overall evaluation
- The overall impact score is NOT a numerical average of the individual criterion scores
- An application does not need to be strong in all categories to be judged likely to have a major impact

https://grants.nih.gov/grants/peer/guidelines_general/scoring_system_and_procedure.pdf



Backwards planning to allow plenty of time

K99/R00 New

- Feb 16
- June 16
- October 16

K99/R00 Renewal, Revision, Resubmission

- March 12
- July 12
- November 12



K99/R00 Anatomy & Key Sections



Components of the K99/R00

Introduction to Application (resubmissions only) 1p.
Project Summary/Abstract (30 lines of text)
Research Narrative (3 sentences)
Candidate Information and Goals for Career Development (6pp.)
Research Plan (6 pp) 12 pp. total
Specific Aims (1 p)
Training in the responsible conduct of research (1 p.)
Plans and Statements of Mentors and Co-Mentors (limited to 6 pp. total)
Letters of Support from Collaborators –primary mentor, co-mentors (limited to 6pp. total—1 pdf)
Institutional Environment
Budget (K99 only-R00 budget is submitted at transition)

Budget justification
Biosketch (candidate, mentor(s)-5pp. prepare on SciENCv)
Current and Pending (primary mentor and all co-mentors) prepare on SciENCv (candidates CP is a JIT document)
Letter of Institutional Commitment to Candidate's Research Career Development-1p. on letterhead
Description of Candidate's Contribution to Program Goals (for diversity-related FOAs)
Vertebrate Animals section (if applicable)
Select agents (if applicable)
Resource Sharing Plan (optional)
Data sharing and management plan (2 pp.)
Authentication of key biological and/or chemical resources (if applicable rec. 1 p.)
Appendix (if applicable)



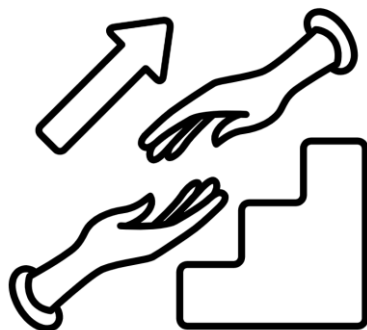
Key components reviewed in the K99/R00



Candidate section



Research Plan



Mentoring section



Institution/environment section



Elizabeth Luth

Assistant Professor
Department of Family Medicine and Community Health
Rutgers University

Elizabeth Luth is a Core Faculty member at the Institute for Health, Health Care Policy, & Aging Research and an Assistant Professor in the Department of Family Medicine and Community Health at Rutgers University. Her research focuses on identifying racial, ethnic, and socioeconomic disparities in end-of-life care and developing practical, inclusive, and scalable tools to reduce disparities and promote health equity. Dr. Luth currently holds an R00 from the National Institute on Aging. This project develops and pilot tests a training and tool for home hospice clinicians to improve care and support to patients with dementia and their families. In 2021, she completed a three-year NIA-funded T32 Postdoctoral Fellowship, followed by a one-year NIA-funded K99, in the Department of Geriatrics and Palliative Medicine at Weill Cornell Medicine. She received her PhD in Sociology from Rutgers University in 2017.

Drawing on two
K99 R00
samples to NIA

Both resubmits

[K99/R00 Sample
Applications |
National Institute on
Aging \(nih.gov\)](#)



Ryo Sanabria, PhD

Assistant Professor of Gerontology

Pronouns: They/Them/Theirs

Expertise: Stress response, Mechanisms of aging, Genetics

USC Leonard Davis
School of Gerontology



Candidate section components



1. Candidate's Background
2. Career Goals and Objectives
3. Candidate's Plan for Career Development/Training Activities During Award Period



Candidate Background Reviewer Criteria

- Based on the candidate's **prior research and training experience, track record, referee's evaluations**, and the quality and originality of prior research and the current application, what is the candidate's potential to become a highly successful, independent investigator who will contribute significantly to his/her chosen field of biomedical, behavioral, or clinical related research?
- Considering the years of postdoctoral research experience to date, what is the candidate's record of **research productivity**, including the quality of peer-reviewed scientific publications?
- What is the **quality of the candidate's pre- and postdoctoral research training**, with respect to development of appropriate scientific and technical expertise?
- Given the candidate's prior training, proposed career development plan, and the referees' evaluations, **is it reasonable to expect that the candidate will be able to achieve an independent, tenure-track or equivalent faculty position** within the time period requested for the K99 phase of this award?





Upon completing my doctorate, I intentionally took a different path than many individuals with PhDs in sociology. Rather than pursuing a teaching position in a Sociology Department, I committed fully to a career in clinical research and applied for a T32 Postdoctoral Fellow **post in an academic medical school.** Since September 2017, Weill Cornell Medicine (WCM) has provided an ideal setting for applying the conceptual and methodological tools from my sociology training to rigorous research focused on caring for sick and dying patients. I have leveraged the support and resources at WCM to continue to grow as a researcher. Developing my grant writing skills, **I obtained two grants** from WCM and Visiting Nurse Service of New York (VNSNY) not only to continue my research on sociodemographic (e.g. race, socioeconomic status, gender) disparities in EOL care, **but also to advance my skills in four specific ways.** **First,** the studies have allowed me to extend my focus beyond EOL care quality to other aspects of the EOL: hospice and hospital care. **Second,** I have been able to concentrate on a specific patient population: patients with Alzheimer's Disease and related dementias (PwD). **Third,** I am gaining a deeper understanding of the many challenges that occur as a consequence of dementia caregiving through pilot interviews with clinicians and family caregivers (FCG) of PwD. **Fourth,** I am leading collaborative teams of co-Investigators across NewYork Presbyterian hospitals and with VNSNY in order to complete these studies. **I have been productive during my T32 Postdoctoral Fellowship,** having [7 articles (4 first-authored) accepted for publication 23-29 and 2 (second-authored) under review].

Tips

- Create a narrative of your past that leads up to the present and points to the future
- It's okay to mention personal interest or connection to what you study
- Identify how you've leveraged your past and your current support
- Summarize key points in biosketch
- Identify what you need to move forward with your plans

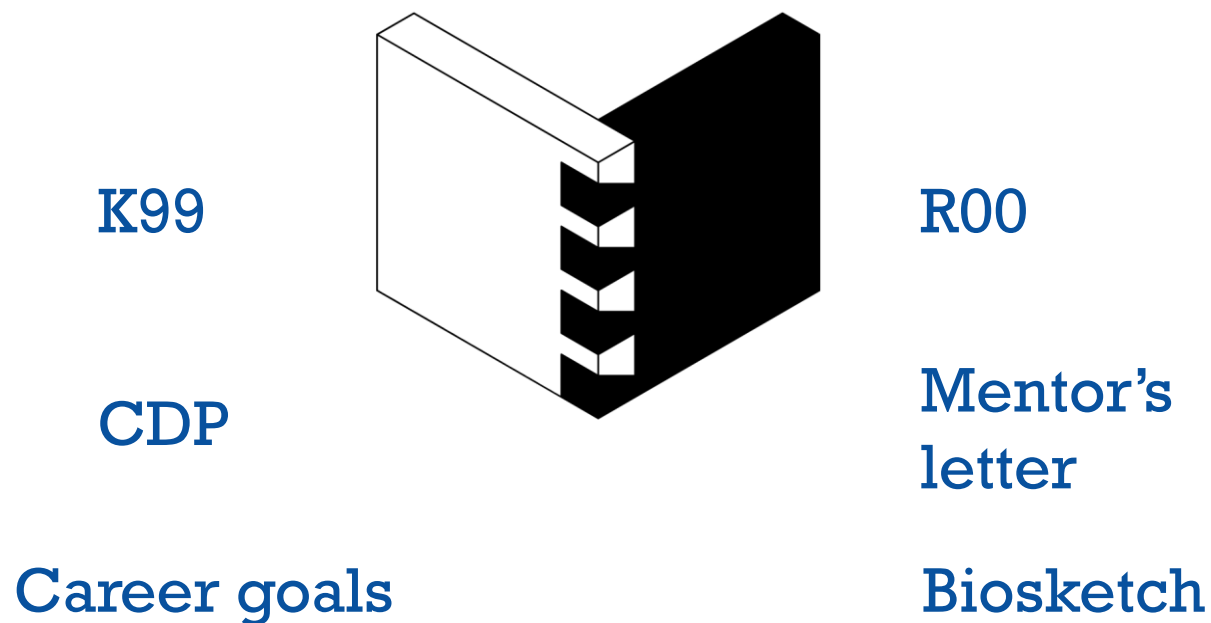




Career goals/CDP reviewer's criteria

- Are the **content and duration** of the career development plan appropriate and well-justified for the candidate's **current stage** of scientific and professional development and proposed **research career goals**?
- To what extent does the proposed career development plan **enhance or augment** the applicant's research training and skills acquisition to date?
- Is the **proposed career development plan** likely to contribute substantially to the scientific and professional development of the candidate, and **facilitate his/her successful transition** to independence?
- To what extent are the plans for **evaluating the K99 awardee's progress** adequate and appropriate for guiding the applicant towards a successful transition to the independent phase of the award?
- Is the **timeline planned for transition** to the independent phase of the award appropriate for the candidate's current stage of scientific and professional development, anticipated productivity, and the career development proposed for the K99 phase of the award?
- If proposed, will the clinical trial experience contribute to the applicant's research career development?





Tips—Career Goals and CDP

- Include both research training and career development activities
- Include coursework if you are trying to gain expertise in a new field
- Include who, what, when, where, why how for all training
- Considering teaching, lab management, grant writing, job interviewing/negotiation, leadership training
- Ensure your mentor echoes your plan in their letter
- Ensure your description of the R00 phase includes how you are using the new skills gained in K99 phase.



Learn more about biochemistry/mass spectrometry: my training in biochemistry is limited, and I plan to address this issue during the K99 award period by working closely with the Ting lab to develop an assay for proximity labeling of molecular interactors of actin. I will educate myself by reading instructional text, such as [Mass Spectrometry for Biotechnology](#) by Gary Suizdak, and I will also take [instructional lessons](#) at the Proteomic core at UC Davis. Moreover, I will continue to work closely with the Herr lab in learning how to biochemically interrogate cytoskeletal fitness and function, and will attend [a Single Cell Analysis workshop run every summer](#) at the Cold Spring Harbor, which provides cutting-edge technologies for characterization of single cells. Finally, I will continue collaborations with the [Zoncu lab](#) to incorporate more biochemical tools into my experimental pipeline. I am currently working with Dr. Roberto Zoncu in characterizing the impact of lysosomal function on ER quality control, but we have a mutually shared interest to continue collaborations into other projects.



Long term, I plan to expand my work to the cross communication of cytoskeletal stress response to the quality control and fitness of other organelles. My proposal touches on this briefly in an effort to study the communication between lipid homeostasis and cytoskeletal regulation, but in future proposals, I hope to interrogate the impact of cytoskeletal quality and health to other organelles, including ER and the mitochondria, both of which I have developed expertise in studying throughout my scientific career. All of these studies will be performed in the context of aging. In my previous research, I have shown that many organelles: the cytoskeleton, ER, mitochondria, and lipid droplets, are all dysregulated and experience functional breakdown during the aging process. **However, much of my research has been focused on studying these significant cellular components independently. Similarly, most aging groups study these organelles independently and there are few studies which aim to study inter-organelle communication throughout the aging process. The training plan proposed here will give me the tools and expertise to answer these significant questions in the field of aging biology.**

Independence from Mentor: Dr. Dillin has an incredible reputation for being a supportive mentor and pushing his trainees to transition to independence. As evidenced by his previous postdoctoral trainees who have established their own labs, he maintains open communications, open availability of strains and resources, and complete transparency to avoid scientific overlap. Moreover, **my work on cytoskeletal biology is unique in the Dillin lab, as this is not a primary focus of interest to Dr. Dillin or other members of the lab**, so I do not anticipate heavy overlap. Dr. Dillin has also assured me that I am free to take any reagents and strains I need to establish my own lab, and that the scientific discoveries I make during the K99 phase will intellectually belong to me.



2 components in Research Plan section



Research Strategy

Training in the Responsible Conduct of Research

Specific Aims

Research Narrative

Abstract/Summary



Research strategy Reviewer Criteria

- Is the proposed K99 phase research **significant and scientifically sound**? Will the clinical trial experience contribute to the proposed research project?
- Is the **prior research rigorous**?
 - Has the candidate included plans to address weaknesses in the rigor of prior research that serves as the key support for the proposed project?
- Has the candidate presented strategies to ensure a **robust and unbiased approach**, as appropriate for the work proposed?
- Are the scientific and technical merits of the **K99** research appropriate for developing the research skills described in the **CDP** and appropriate for developing a highly successful **R00** research program?
- Is the proposed R00 phase **research significant, scientifically sound**, and a logical extension of the K99 phase research? Is there evidence of **long-term viability** of the proposed **R00** phase research plan?
- Does the R00 phase project address an **innovative hypothesis or challenge** existing paradigms? Does the project develop or employ novel concepts, approaches, methodologies, tools, or technologies?





Research strategy tips

- Innovation section should detail how the research plan will move the field forward through novel hypotheses and methods
- Include preliminary data for K99 and R00 phases if possible
- Include troubleshooting, alternative approaches, risk mitigation plans
- R00 plan must be specific, and not dependent on mentor
- Reduce jargon or explain terms as reviewers will be outside your niche
- Include adequate space for key visuals (no thumbnail graphics)
- Include an encompassing visual for all research aims





Aims could be separated over K99 and R00 phases

Aim 1 (K99 Y1). To identify common challenges, strategies and gaps in care and support for community-dwelling patients with dementia (PwD) near the end-of-life (EOL). Sub Aim 1. Identify differences in challenges, strategies, and gaps for African American and white family caregivers (FCG)

Aim 2 (K99 Y2). To adapt culturally inclusive, dementia-focused training materials and create a goal assessment tool for home hospice clinicians to guide care and support for PwD and FCG. **Sub Aim 2.** Incorporate perspectives of racially diverse stakeholders.

Aim 3 (R00 Y1-Y2). To examine feasibility and acceptability of the training and tool and revise them based on feedback.

Aim 4 (R00 Y2-Y3). To conduct a pilot test to determine the preliminary efficacy of the training and tool



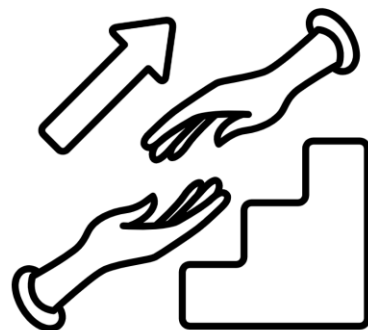
Research plan aims can cross K99 and R00 phases

Timeline for Research Goals

Timeline	Aim	K99 Year 1	K99 Year 2	R00 Year 1	R00 Year 2	R00 Year 3
BET-1's role in actin homeostasis and lifespan	1.1	x				
MYS-1/2's role in actin homeostasis and lifespan regulation	1.1	x				
ChIP-seq of BET-1/ATAC-seq of <i>mys-1/mys-2</i> mutants	1.1	x	x			
Characterizing HSF-1/NHR-49/DAF-16 signaling modality	1.2			x	x	
DAF-16 signaling on actin health and lifespan regulation	1.2			x	x	
Epistatic relationship of TFs on actin homeostasis	1.2				x	x
Generation and validation of turbolD strains	2.1	x	x			
Tissue-specific mass-spec of actin using turbolD	2.1		x	x	x	x
turbolD experiments in <i>bet-1</i> and <i>nhr-49/daf-16</i> mutants	2.1		x	x	x	x
Generation and validation of scWB system	2.2	x	x			
scWB on BRD4/HNF4/FOXO mutants	2.2	x	x	x		
Adapt scWB system to <i>C. elegans</i> to study aging	2.2			x	x	x



2 types of letters required in Mentoring section

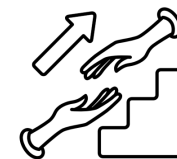


Plans and Statements of Mentor and Co-mentor(s)
**Letters of Support from Collaborators, Contributors
and Consultants**



Mentoring reviewer criteria

- To what extent does the mentor(s) have a **strong track record** in training future independent researchers?
- To what extent are the mentor's research qualifications and experience, scientific stature, and mentoring track record **appropriate for the applicant's career development needs**?
- Is the supervision proposed for the mentored phase of support adequate, and is the commitment of the mentor(s) to the applicant's career development appropriate and sufficient?
- Does the mentor provide an **appropriate plan that addresses the candidate's training needs**, and that is likely to foster the candidate's continued development and transition to independence?
- Does the mentor describe an **acceptable plan for clear separation** of the candidate's research and research career from the mentor's research, including identifying the components of the research plan that the K99 candidate may take to an independent research position?
- Are the consultants'/collaborators' research and/or mentoring qualifications appropriate for their roles in the proposed K99 phase of the award? Do they provide letters of support that affirm their commitment? If applicable, are **the Advisory Committee members' qualifications appropriate for their roles in the proposed K99 phase of the award**?



Excerpts from primary mentor's letter for Elizabeth Luth example—2 pp. in length—rewritten and updated for second submission—outstanding letter

Planned meetings

Her track record as a mentor

We have established a productive relationship in the last 2 years and will continue to meet **weekly for the duration of her K99 award**. These meetings will allow me to support her progress toward her career development and research goals and to complete the annual progress reports for the K99 award. I will help her strategize about her training and research and how to disseminate her findings. I am delighted to help Libby promote her career by connecting her to other researchers in her field. I also bring to our relationship the experience and knowledge accumulated from having successfully **mentored over 90 junior investigators**, including numerous NIH K awardees. I have received multiple **mentoring awards**, including Harvard Medical School's Clifford Barger Excellence in Mentoring Award. I look forward to sharing my expertise in designing behavioral interventions and RCTs for advance cancer patients near life's end as Libby learns to do both of these things in the home hospice setting for patients with ADRD. **My track record as a continuously-funded R01-level NIH-funded investigator for over 20 years**, starting with my own K award, will allow me to advise and support Libby as she transitions to the R00 portion of the project, including the job search and R00 application preparation. My **2015-2022 NCI R35 Outstanding Investigator Award** will continue for the K99 portion of Libby's Pathway to Independence Award, and allows for additional support for research and mentorship activities. Moreover, the Cornell Center for Research on End-of-Life Care I direct, creates a resource-rich environment to provide additional support for Libby's research efforts as she carries out the proposed work. Her interests in EoL care and racial disparities are closely aligned with our Center's strengths. **Libby's focus on patients with Alzheimer's Disease and Related Dementias [ADRD] and home hospice care signify areas where her growing expertise are a welcome complement the Center's existing portfolio.**

Gestures to independent contribution

To address the areas where I hold less expertise Libby has completed her co-mentorship team with leading authorities in areas she has identified for her own growth. Dr. Abraham Brody will provide mentorship in the areas of work force training in hospice and ADRD care as well as in designing pragmatic trials. Dr. Sara Czaja will provide mentorship in developing tools to support family caregivers of patients with ADRD that are appropriate for racially diverse populations. Dr. Kathryn Bowles will mentor Libby in the areas of hospice, workforce training, and intervention development. The fact that Libby's co-mentors are located in New York City will facilitate in-person contact and regular mentorship team meetings with Libby.

Goes on to describe her connections to these other mentors—they are aware of each other and are a team



Description of Institutional Environment

**Institutional Commitment to the Candidate's
Research Career Development (letter)**



Institution/Environment Review Criteria

- To what extent does the institution provide a high quality environment appropriate for your development during the K99 phase of the award?
- To what extent are the research facilities and educational opportunities, including collaborating faculty, adequate and appropriate for your research and career development goals during the K99 phase of the award? Is adequate evidence provided that the K99 sponsoring institution is strongly committed to fostering the candidate's development and preparation for transition to independence?
- Is there adequate assurance that the required minimum of 9 person-months (75% of the candidate's full-time professional effort) will be devoted directly to the career development and research activities proposed for the K99 phase of the award? [letter from chair]

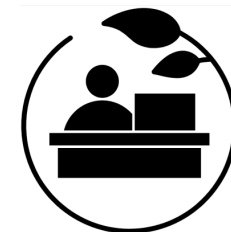




Environment & Institution tips

- Can be modular (more like a facilities document) or narrative in nature
- Should mention *you*, the researcher, throughout and how the environment supports you

- Irving Sherwood Wright Center on Aging. Located within walking distance to the Division of Geriatrics and Palliative Medicine, the Wright Center provides primary outpatient medical care to older adults (mean age 80 with a range of health conditions and their families. The practice team includes internists, geriatricians, a geropsychiatrist, a geriatrics social worker and geriatrics nurse practitioner. In 2017, the Wright Center saw 9,883 unique patients. Dr. Luth has already established a collaborative working relationship with the Director of the Wright Center, **Dr. Ronald Adelman and he has agreed to support her efforts to recruit family caregivers of Wright Center patients with dementia.**



Grantsmanship and the K99/R00:



“It is probably the most creative writing that we do as academics—some might even call it fiction writing. Where else can you lay out a beautiful, innovative, and elegant research plan uncomplicated by ... realities”



A proposal is a unique genre of academic writing



Inherent Risk



Form



Structure & Pacing

Future oriented and thus risky
Attentive to funder's and institute's priorities
Persuasive rhetoric
Personal tone that conveys excitement
Brevity rewarded
Accessibility to reader is important



1. Give yourself time

- 3 months+ (ideally more)
- Make your own checklist from the K99/R00 solicitation
- Speak to your research administration office
- Review successful applications
- Read abstracts of successful K99/R00 on RePORTER
 - Consider reaching out to successful candidates you find on RePORTER with the GCC
- Talk to your program officer
- Give your mentors and others the information they need
- Allow time for at least 2 revisions of your materials (give reviewers at least 2 weeks)





2. Learn to use models appropriately

- Read samples outside your discipline/niche
- First, *look* at them without reading
 - Layout
 - White space
 - Use of formatting techniques
 - Placement of figures
 - Use of headers
- Sections/Paragraphs
 - Length, use of space
 - Power positions
 - Transitional signals
- Content
 - State of knowledge on a topic
 - Unanswered questions/problems to be solved [gap statement]
 - Why answering this question/solving this problem is important
 - How they will fill this gap [approach]
 - Significance and impact of this work
 - Novelty and innovation
- Word choices
 - Language “chunks” for hedging, setting up the gap, indicating your work in relation to other’s work



3. Write using the review criteria as your guide

- Make sure that you address all reviewers' criteria
- Use italics, bold, or underlining to highlight key information that reviewers are looking for
- *Follow the organization and the nomenclature of the grant* so that reviewers can easily find what they are looking for

Reviewer criteria: “Has the candidate presented strategies ensure a robust and unbiased approach to research questions?”

Statement in your research plan: “[listing strategies in the approach]...these multiple strategies *provide a robust and unbiased approach to answer my research questions.*” [echoing language in FOA] (see Botham et al.)



4. Elicit feedback on your specific aims early & often

- 1) Use resources to write your aims page
- 2) Seek feedback from your mentor and others who are similar to your reviewers
- 3) Ask for 3-4 prioritized comments from each reviewer
- 4) Take your revised aims to your PO to ensure that it is suited to the agency's funding plans

NIH Grant Applications The Anatomy of a Specific Aims Page

Release Date: April 09, 2015
Category: Scientific Grant Writing
Author: **Michelle S., Ph.D., E.L.S.**

The Specific Aims section is the most vital part of any NIH grant application. In this section, you must quickly gain the reviewers' trust and confidence while simultaneously convincing them that your work is important to fund. You must also convey that you and your team are the best people to complete the work you've proposed. For these reasons, the Specific Aims can be one of the most difficult sections to write. In this article, we provide some tips on structure, content, and organization of your Specific Aims page.

The Specific Aims section is central to your grant proposal. Therefore, it should be the first section you write. You may think of your Specific Aims page as an abbreviated version of the full grant. By having this page written and well-thought out, the remainder of grant application will be easier to write.

The Introductory Paragraph

In this paragraph, your goal should be to introduce your research subject to the reviewers and quickly capture their attention. This paragraph should describe the significant gap in knowledge that directly relates to the critical need the funding entity deals with. It is critical to know your funding entity's mission statement and ensure the critical need you are trying to fill fits well within its mission. It should include the following information:

First Sentence/Hook: In this sentence, briefly describe what your proposal will be about. Ideally, this sentence should convey a sense of importance or urgency to your research. Explain quickly WHAT your research topic is and WHY it is critical that you conduct the research (i.e. saving lives, preventing cancer, etc.)

What is Known: State what is currently known in the specific field. This part should not be very long (3-5 sentences) but it should ground the reader in the subject of your research. Provide the reader with only the necessary details to understand why you are proposing the work. Remember to be concise and focused on only the key points.

Gap in Knowledge: The gap in knowledge is the piece of information that is not known. Clearly state the gap in knowledge that needs to be addressed. Convey that your research will fill this gap using the funding that you are requesting. In the example Specific Aims page we use here (See Figure 1), the most critical piece of the gap in knowledge has been italicized. This technique can be useful to emphasize the most important words or phrases in your Specific Aims page. If you choose to use *italics* or underline to emphasize key points, remember to do so moderately. Overuse of italics or underlining can be distracting.

The Critical Need: The critical need is the knowledge (hypothesis-driven), technique, new compound, or treatment that you propose to develop. This need is important to increase medically relevant knowledge or improve health care. The critical need is the reason your proposal should be funded. Emphasize the significance of the problem you are trying to address. Additionally, it should be clear in this paragraph that your research proposes the next logical step to advance the field.



Below is an example of an introductory paragraph:

Viruses are thought to be involved in 15% to 20% of human cancers worldwide, thus providing critical tools to reveal common mechanisms involved in human malignancies. As the etiologic agent of adult T cell leukemia/lymphoma (ATLL), human T cell leukemia virus type I (HTLV-1) is just such a virus. HTLV-1 encodes a potent oncoprotein, Tax, which regulates important cellular pathways including gene expression, proliferation, apoptosis, and polarity. Over the years, Tax has proven to be a valuable model system in which to interrogate cellular processes, revealing pathways and mechanisms that play important roles in cellular transformation. Although the Tax oncoprotein has been shown to transform cells in culture and to induce tumors in a variety of transgenic mouse models, the mechanism by which Tax transforms cells is not well understood. A large number of Tax mutants have been generated and their biological activities have been thoroughly characterized, primarily in cell culture systems. Currently, a major obstacle in the field is that the transforming activity of Tax mutants cannot be compared using available transgenic models due to random transgene integration sites, variable transgene copy number, and inconsistent transgene expression levels, making it difficult to link the biological activities of Tax mutants with their transforming potential.

Color Key: Hook Known Information Gap in Knowledge Critical Need

Figure 1. The Introductory Paragraph. Sections of the paragraph have been color coded to highlight each critical component.

The Second Paragraph

In this paragraph, your goal should be to introduce the solution that fills the gap in knowledge. It is critical to convince your reviewers that you (and your colleagues) have the solution to address the current knowledge gap and the expertise to accomplish this solution. Keep your wording simple, relevant, and to the point. You will want to address the following points:

- » What do you want to do?
- » Why are you doing it?
- » How do you want to do it?

There is some flexibility in this paragraph, depending upon how your proposal is structured and what your goals are. For example, your research may be strictly hypothesis-driven and seek to test several elements of one general hypothesis. In other cases, you may be seeking to develop a critical tool or technique in the proposal. Based on these variations, this paragraph will shape up differently. However, it should include the following components:

Long-Term Goal: This is your overarching research goal. Because you are asking for support from a particular funding entity, it is important to ensure that your long-term goals align with the mission of your funding entity. Keep your wording general in this sentence—you are stating your long-term plans, and the reviewers understand that the specifics may be subject to change.

Hypothesis and Proposal Objectives: Your proposal should contain both of these components, depending on the long-term goal. State your central hypothesis clearly, specifically, and with simple language. You want to demonstrate to the reviewers that you have a hypothesis-driven proposal that is testable. Describe how your project addresses the critical need, and clearly state the proposed solution. In general, avoid vague hypotheses because it will be unclear to the reviewers what you expect to determine with the proposed research.

Rationale: Explain how you arrived at your central hypothesis (for example, using past studies and published literature). Briefly, state what your project's completion would make possible (e.g., new therapeutics), and tie it to the funding entity's mission.

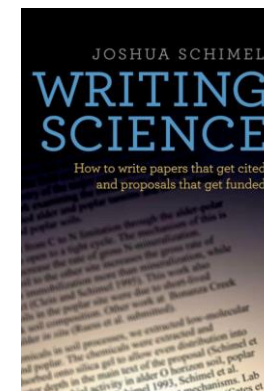
Qualifications: Briefly state why your experimental design and your team are the best to accomplish the research goals. You can mention factors such as your preliminary data, personnel qualifications, laboratory equipment, etc., but it is important to keep it concise.

Here is an example of a second paragraph:



5. Use prior training and experiences to highlight your potential

- Avoid making a laundry list of past pubs and experiences
- For each scientific project address challenge, knowledge gap, central findings, impact and significance of the project as well as your contribution, and what you gained from this experience.



Classic Storytelling Structure



6. Create a research plan that bridges the gap between a scientific unknown and an expected payoff

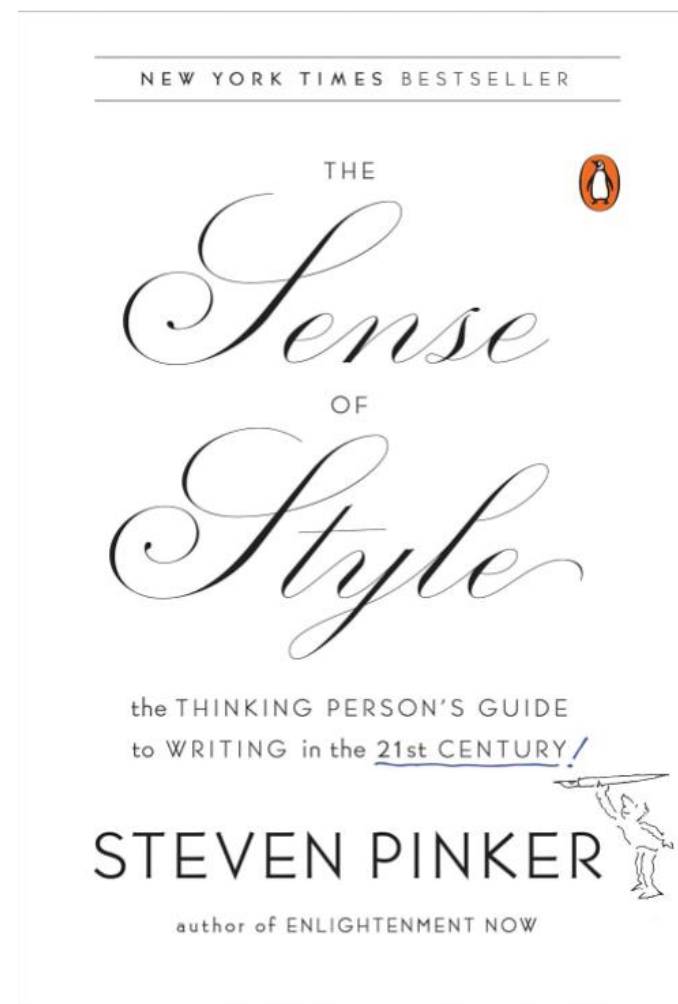
1. Why is your project needed?
2. What is innovative about the project?
3. How will the project be completed?
4. How long will the project take?
5. **What are the expected payoffs from the project?**



7. Use clear writing

“I think the **curse of knowledge** is the chief contributor to opaque writing...It simply doesn't occur to the writer that readers haven't learned their jargon, don't seem to know the **intermediate steps** that seem to them to be too obvious to mention, and can't visualize a scene currently in the writer's mind's eye.

And so the writer doesn't bother to explain the **jargon, or spell out the logic, or supply the concrete details** — even when writing for professional peers.”





Introduce metadiscourse

1. **Frame markers & transitional signal words** words and phrases that indicate sequence or stages in a study or in the textual representation of such a study; terms that guide the reader through the shifts in the argument (e.g. First, Second, Last, Subsequently, then, to start with; at this point; in brief; in conclusion; overall, thus far; to repeat; to sum up/ although; while; yet in contrast, similarly; furthermore; on the one hand, on the other hand; therefore...)
2. **Hedges** words and phrases that help authors to soften claims in order to guard against being proven incorrect and/or to open a space for disagreement (Hyland 2009) (e.g. about, almost, apparent, appears, assume, believe, claims, estimate, fairly, from this perspective, generally, indicates, in many cases, in most instances, in our view; maybe; might; on the whole; possibly; probably; likely; relatively; supposes; should; typically; tends to...)
3. **Boosters** words and phrases that help the authors to convey confidence and certainty in their findings; (e.g. Always, beyond doubt; certainly; clearly; conclusively; definitely; demonstrates; established; found; find; indeed; indisputably; known...)



Use signal words to carve out research niche

“Others”

- “While some argue...”
- “Others’ concerns lie with...”
- “In contrast to this finding”
- “Similarly, X explains...”
- “Although this study found...”
- “Yet this study is limited by...”
- “Whereas previous methods....”



FIFTH EDITION
SCIENTIFIC WRITING
AND COMMUNICATION
PAPERS, PROPOSALS, AND PRESENTATIONS
Angelika H. Hofmann



“Us”

- “X Framework will guide our study because...”
- “We chose a mixed methods approach because...”
- “Based on this pilot, we hypothesize...”
- “We aim to...for the purpose of”
- “I investigated...to find...”
- “Notably, we found that...”
- “We developed...to be used...”
- “The objectives of this study were...however”



Follow topic-stress principles

Confusing: Molecules are comprised of **covalently bonded atoms**. Molecules' **reactions** are controlled by the strength of the **bonded atoms**. Molecules, however, sometimes **react slower** than **bond strength** would predict.

Clear: Molecules are comprised of **covalently bonded atoms**. **Bond strength** controls a molecule's **reactions**. Sometimes, however, **those reactions** are slower than bond strength would predict.





Use code-glossing to demystify jargon

- Defining terms or concepts or offering examples that explain these concepts (e.g. in other words; called; known as; that is to say; this means; put another way; for example; for instance; such as)
 - Term at **beginning** of the sentence: you assume everyone knows it
 - Term in the **middle** of the sentence, you assume that most readers know it
 - Term at the **end** of the sentence, you are defining it for everyone
- “This idea that excited states relax with rates determined by the solute-solvent system’s **ordinary energy fluctuations, commonly called linear response theory**, is a critical component in the success of transition-state theories of chemical reaction rates in liquids”



Use strong research verbs

- **Knowledge Verbs:** Count, Define, Draw, Identify, Indicate, List, Name, Point, Quote, Recall, Recite, Read, Record, Repeat, State, Tabulate, Trace, Write
- **Comprehension Verbs:** Associate, Compare, Compute, Contrast, Describe, Differentiate, Discuss, Distinguish, Estimate, Interpret, Interpolate, Predict, Translate
- **Application Verbs:** Apply, Calculate, Classify, Complete, Demonstrate, Employ, Examine, Illustrate, Practice, Relate, Solve, Use, Utilize
- **Analysis Verbs:** Order, Group, Translate, Transform, Analyze, Detect, Explain, Infer, Separate, Summarize, Construct
- **Synthesis Verbs:** Arrange, Combine, Construct, Create, Design, Develop, Formulate, Generalize, Integrate, Organize, Plan, Prepare, Prescribe, Produce, Propose, Specify
- **Evaluation Verbs:** Appraise, Assess, Critique, Determine, Evaluate, Grade, Judge, Measure, Rank, Rate, Select, Test, Recommend



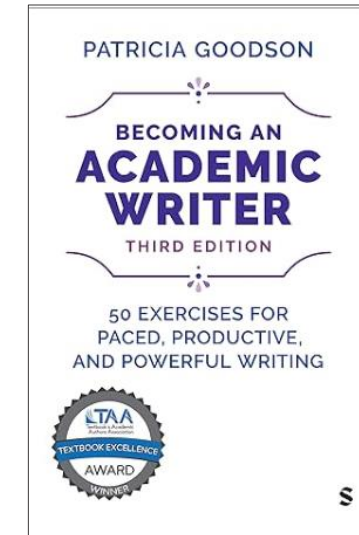
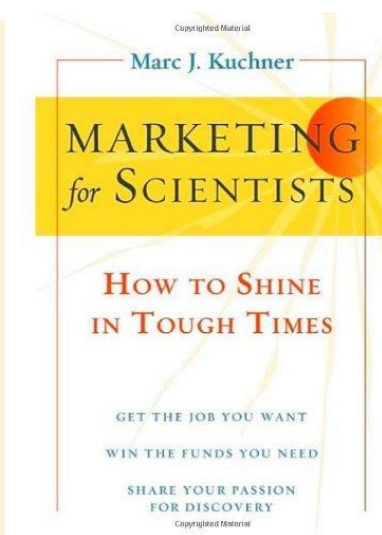
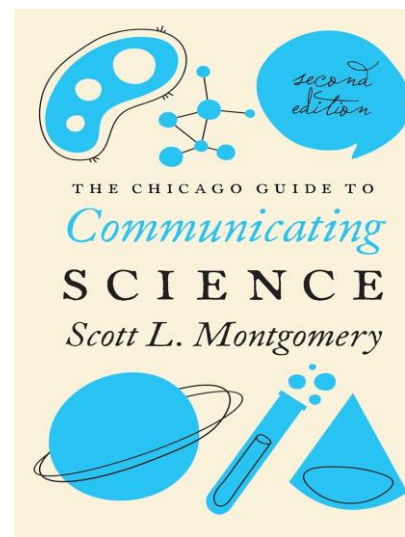
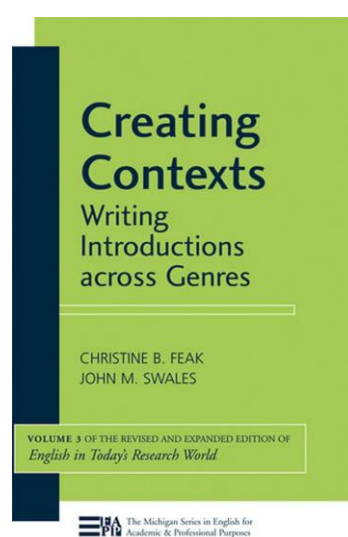
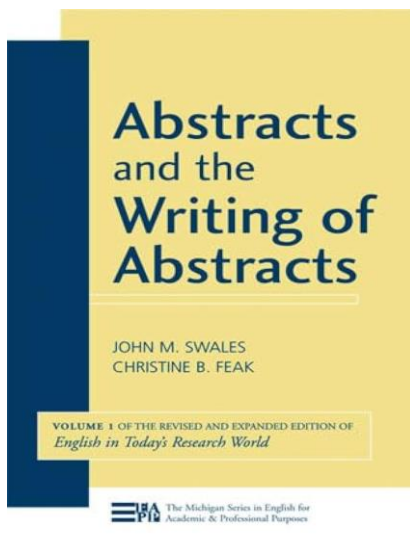
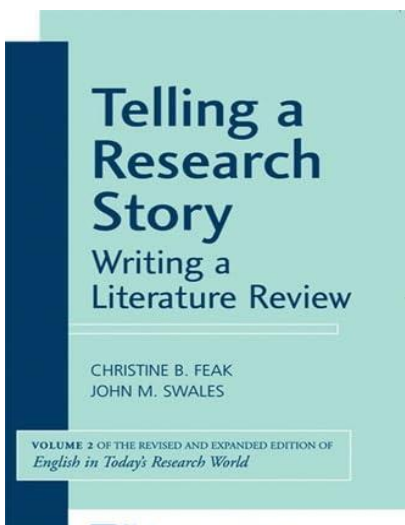
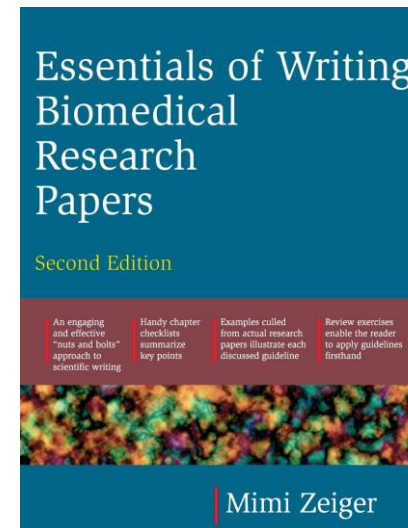
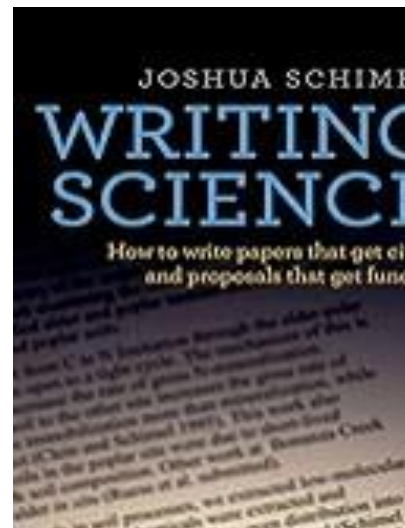
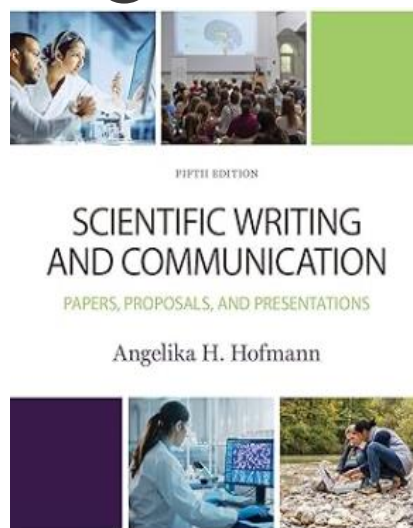
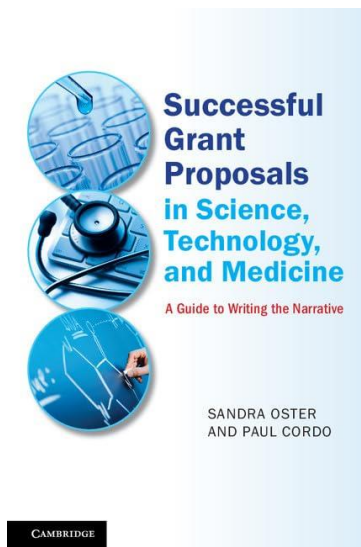
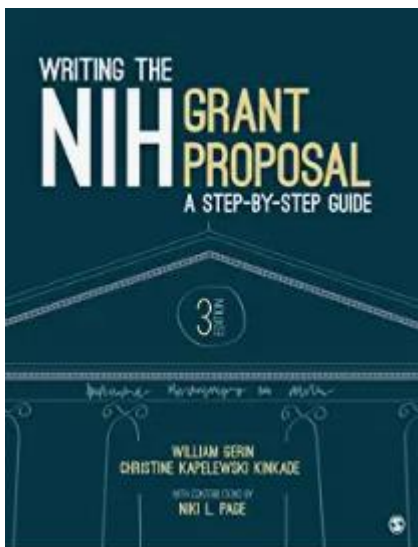
8. Weave a consistent story throughout all documents

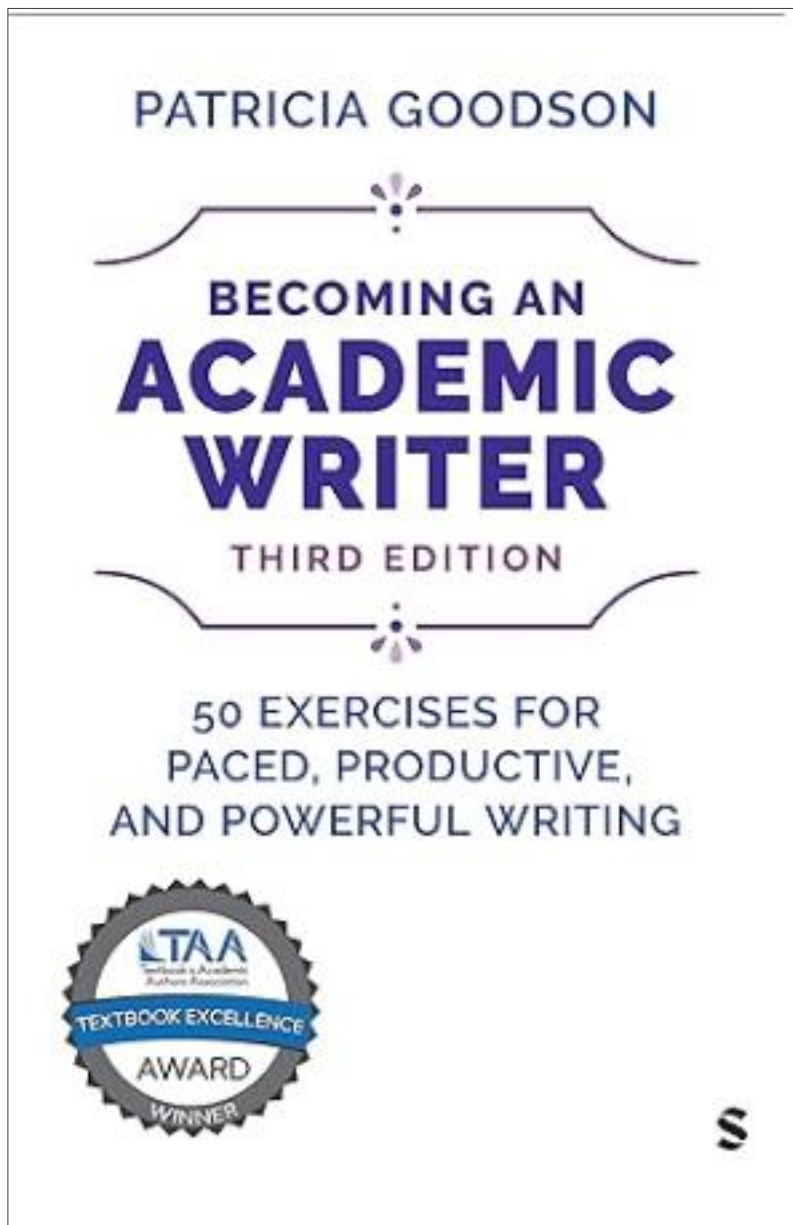
- Story you are telling must match up across all documents
 - Team selected is the team you need
 - K99 research leads to R00 research
 - K99 training enables you to conduct R00 research
 - All training is supported in the budget
 - Details, timelines, budgets are well-integrated
- “the most successful requests are usually the ones with a clear and compelling story to tell....those that convey a clear and powerful message about your project/work in alignment with the funder’s priorities”

~Walker & Unruh, 2017



Books worth reading





Part II. Practice Writing Sections of Journal Articles, Research Reports, and Grant Applications

Chapter 7. Exercises for Writing Introductions, Purpose Statements, or Specific Aims Sections	147
Think About It . . .	148
EXERCISE 29—Map	151
EXERCISE 30—Dump	155
EXERCISE 31—Craft the Purpose Statement	157
EXERCISE 32—Develop the Rationale	161
EXERCISE 33—Present the Literature Review	164
EXERCISE 34—Lay Out the Theoretical Framework	166
EXERCISE 35—Check It	168
<i>Checklist for Introductions</i>	168
Notes	169
Electronic Sources	170
References	170
Chapter 8. Exercises for Writing the Methods Section	173
Think About It . . .	174
EXERCISE 36—Practice Describing	176
EXERCISE 37—Describe the Research Design	178
EXERCISE 38—Describe the Sample	180
EXERCISE 39—Describe the Measures	181
EXERCISE 40—Describe Data Collection and Data Management Procedures	184
EXERCISE 41—Describe the Data Analysis	187
Note	188
References	188



Understanding Career Development “K” Awards

YouTube · NIH Grants · Nov 17, 2021

YouTube

The video player shows a title card for the NIH Virtual Seminar on November 1-4, 2021, titled 'Understanding NIH Career Development “K” awards'. The video is currently at the 0:01 mark of a 43:10 duration. The player includes standard controls like play/pause, volume, and full screen, as well as a 'Watch later' and 'Share' button. A 'More videos' section is visible below the main video, featuring thumbnails for related content such as 'Using RePORT to Understand Who and What NIH Funds', 'Navigating Early Career Funding Opportunities', 'Fundamentals of the NIH Grant Process & Need to Know Resources', and 'Writing an Effective K Application'.

In this video

- 20:40 What happens if the application does not meet the payline?
- 23:48 Pre-Award Review
- 29:11 Early Termination and Institutional K Awards
- 33:36 Research Effort Requirement
- 41:57 How to get individual counseling



SCOARE (Science Communication Advances research excellence)

WHAT IS THE SCOARE WORKSHOP?

In this NIH-funded **online** research mentor training workshop “**Scientific Communication Advances Research Excellence**” (SCOARE), developed by Drs. Carrie Cameron and Shine Chang of The University of Texas MD Anderson Cancer Center, mentors will learn best practices and strategies for helping mentees develop their scientific speaking and writing skills, which have been shown to build mentees’ commitment to research careers. Virtual workshops are delivered in 2 *online* 3-hour sessions and are limited to 20 attendees; participants must attend both sessions.

[Scientific Communication | MD Anderson Cancer Center](#)

[SCOARE \(scoareresources.com\)](https://scoareresources.com)



WE ARE PLEASED TO ANNOUNCE THAT A NEW

“SCOARE WORKSHOP FOR NEAR-PEER MENTORS (GRADUATE STUDENTS AND POSTDOCS)”

AND A NEW MODULE ON

“WORKING WITH NEURODIVERSE MENTEES”

ARE NOW AVAILABLE. PLEASE CONTACT US TO SCHEDULE.

Email: SCOARE@mdanderson.org

Thank you for your time and attention
And best wishes for a successful K99/R00 application
eaf2@rice.edu



- Some slides taken from Jon Meyer, Pathway to Independence: K99/R00 presentations to GCC
-
- K99 examples from Elizabeth Luth and Ryo Sanabria [K99/R00 Sample Applications | National Institute on Aging \(nih.gov\)](#)
- Bioscience Writers. Anatomy of a Specific Aims Page. [NIH Grant Applications - The Anatomy of a Specific Aims Page \(biosciencewriters.com\)](#)
- Botham et al. (2017). Ten simple rules for writing a career development award proposal. *PLOS Computational Biology*. 10.1371
- Deckard, L. and Cronin M, (2016). New faculty guide to competing for research funding : what all new faculty need to know about finding funding and writing research proposals. College Station, Texas : Academic Research Funding Strategies, LLC.
- Hoffman, A. (2022) *Scientific Writing and Communication: Papers, Proposals, and Presentations*. 4th ed. Oxford University Press.
- Hyland, K. (2005). *Metadiscourse: Exploring Interaction in Writing*. London and New York: Continuum Press.
- Hyland, K. (2009). *Academic Discourse: English in a Global Context*. London and New York: Continuum Press.
- Kuchner, M. (2011). *Marketing for Scientists: How to Shine in Tough Times*. Island Press.
- Michaely, P. et al. (2023) Guide to assembling a successful K99/R00 application. *Journal of Clinical and Translational science*.
- Pinker, S. (2015). *A Sense of Style: The Thinking Person's Guide to Writing in the 21st Century*. Penguin.
- Rappaport, O. et al. (2022). How to gain a competitive edge in grant writing. *Nature*. ISSN 1476-4678 (online).
- Schimel, J. (2019). *Writing Science: How to Write Papers that get Cited and Proposals that Get Funded*. Oxford University Press.
- Spires, Michael (2011). What to Say—and Not to Say—to Program Officers. *Chronicle of Higher Education*.
- Walker and Unruh. (2017) *Funding Your Research in the Humanities and Social Sciences: A Practical Guide to Grant and Fellowship Proposals*. Routledge.