Georgia CTSA T32 Predoctoral and T32 Postdoctoral Programs Application Workshop with Janet Gross, PhD

October 29, 2026

9:30 to 11:30 am

T32 Application Due Date: February 15, 2027

Vasiliki Michopoulos, PhD, MSc

MPI, Georgia CTSA T32 Program

Georgia CTSA
Georgia Clinical & Translational Science Alliance

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Clinical and Translational Science Awards (CTSAs)

n ≈ 60 in 32 states

NIH National Center for Advancing Translational Sciences

- **Georgia CTSA** is one of >60 hubs striving to improve the way clinical & translational science is conducted and **improving health outcomes.**
- **Training the next generation of translational scientists**

CTSA Clinical & Translational Science Awards™



NCATS CTSA funding: >$600 M per year

***T32 appointments are contingent upon funding**

Georgia CTSA
Georgia Clinical & Translational Science Alliance

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www.gactsa.org/training

Research Education Program

Master of Science in Clinical Research (MSCR)*

Certificate Program in Translational Science (CPTS)

K12 Career Development Program (Early Career Faculty)

T32s: Predoctoral and Postdoctoral CTR/CTS Training









CTR = Clinical and Translational Research

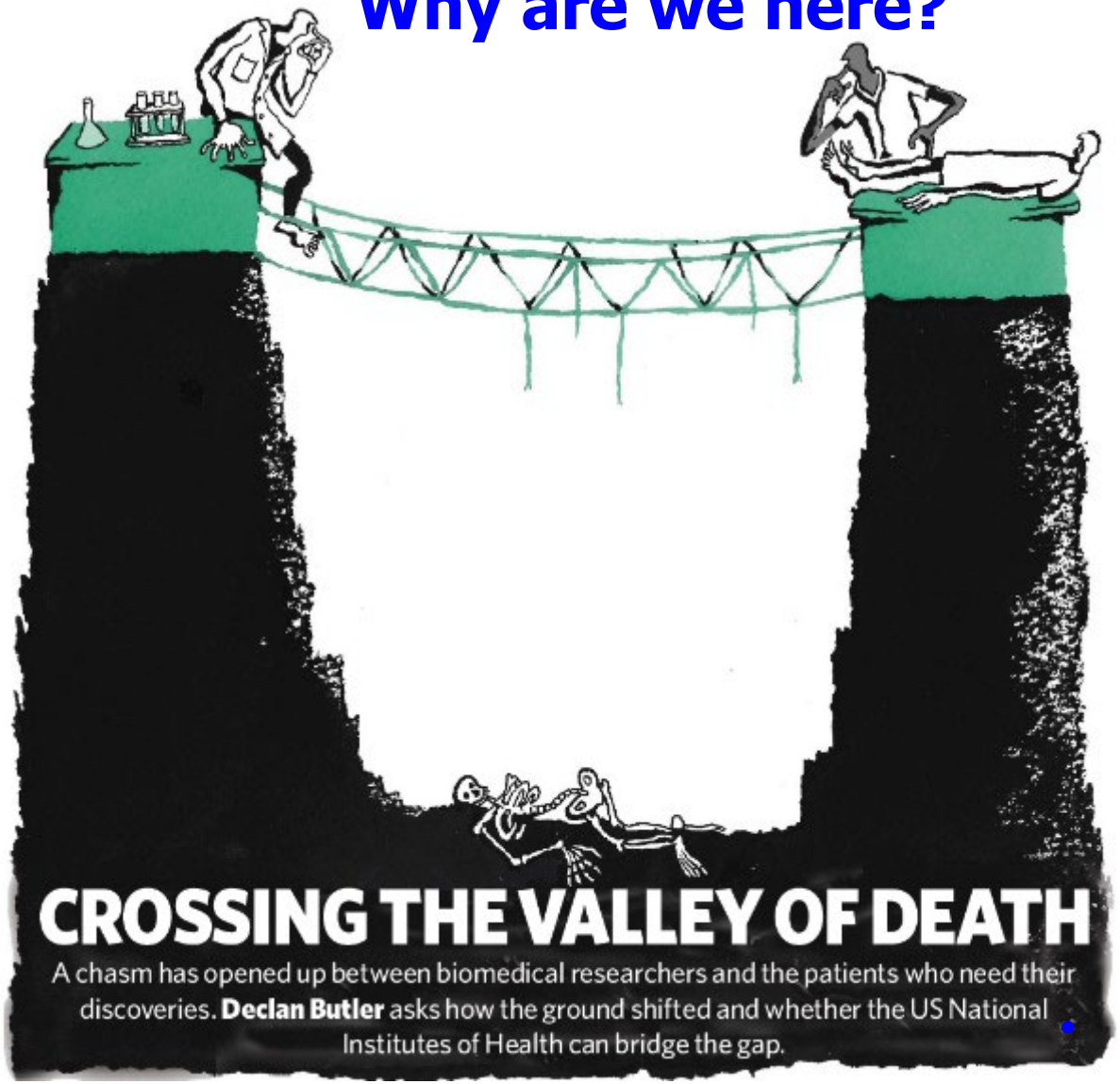
CTS = Clinical and Translational Science

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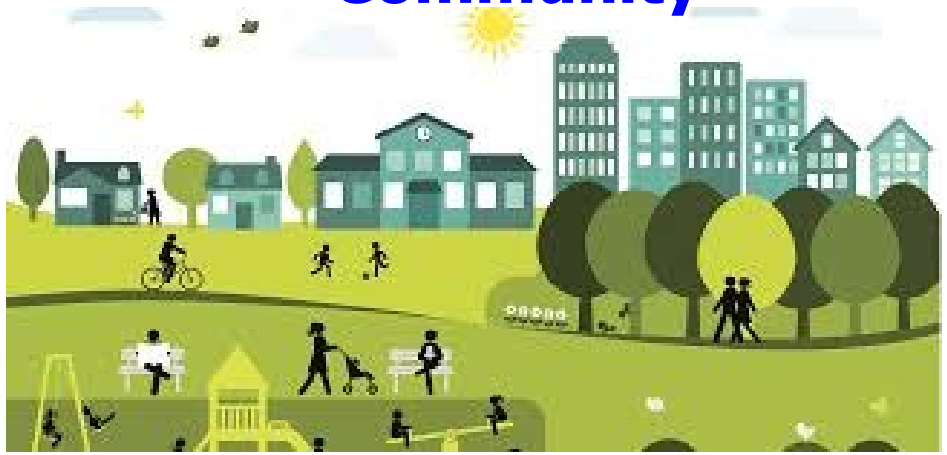
Why are we here?

Nature 2008;453:840





Community



- **Need to improve health outcomes**

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Translational Research Spectrum



T_0 Basic Research

TRANSLA

UNIVERSITY OF GEORGIA

Georgia CTSA T32 Programs

Predoctoral and Postdoctoral CTR Training

- **Didactic *and* Mentored Clinical & Translational Research (CTR) Training**
  - **Didactic: 1) MSCR or 2) Certificate Program in Translational Science (CPTS) or 3) "Menu"**
  - **Mentored: Carry out a mentored CTR project**

Personalized Training Pathways

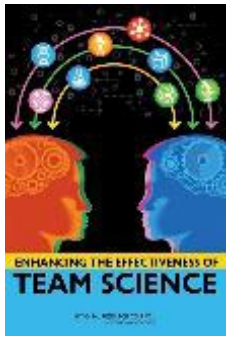
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Other Ongoing Initiatives: T32 Programs

- Grant Writing
- Team Science Training
- Mentorship Training
- Scientific Communication Training
- I-Corps—entrepreneurship training
- Professional Coaching





NSF CORPS NSF Innovation Corps

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Georgia CTSA T32 Program Eligibility

Eligible applicants must be at **one of the four** Georgia CTSA partner institutions:
Emory University
Morehouse School of Medicine (MSM)
Georgia Institute of Technology (Georgia Tech)
University of Georgia (UGA)

Two training tracks:

Predoctoral: Medical students, PhD graduate students, and PharmD students.

Postdoctoral:

1) PhD postdoctoral fellows **(support is restricted by NIH to those trainees with no more than 2 years since the date of their terminal degree)**
2) Physicians (with MD or DO degree) in residency or fellowship training and PharmD graduates in residency (the two years since date of terminal degree is NOT applicable to physicians and PharmDs in residency or fellowship programs).

You must be employed and on payroll at the time of appointment. Employment as a postdoctoral fellow **cannot** be dependent upon receipt of this Georgia CTSA T32 training position.

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Georgia CTSA T32 Program

Didactic and mentored research training for pre- and post-doctoral trainees

APPLICATION DEADLINE

February 15, 2027

TO APPLY YOU NEED

An established mentor, a research proposal concept, and a training plan

T32 provides:

- **MSCR, CPTS, or Menu tuition**
- **Stipend (NRSA predoc stipend or postdoc stipend)**
- Training-related expenses (**health insurance**)
- **Travel funds** ($1,500) to present at 2 meetings

Online submission information:
https://georgiactsa.org/training/t32.html

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Georgia CTSA T32 Program Outcomes

- **Georgia CTSA T32s support pre- *and* postdoctoral trainees**
  - **16 total T32 predoctoral slots supported each year**
    - 10 NIH-funded slots *plus* 6 institutionally supported slots
  - **8 total T32 postdoctoral slots supported each year**
- **192 TL1 trainees since 2007**
- **TL1 trainees remain in CTR/CTS – 151 (89%)** of **169** (completed)
  - **122** in academics, **12** in industry, **7** in federal gov't (CDC, NIH, DOD), **2** research institute
- **Number of former TL1 trainees as of PI of an external grant (n=92)**
  - **44 federal awards ($62.2M)**
  - **1168 non-federal awards ($9.7M)**
- **Publications: 2181** PubMed articles, **67** book chapters, **5** books

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Outcomes for TL1/T32 Trainees

Career that encompasses CTR and/or Clinical and Translational Science (CTS)

- Academic
- Federal (e.g., CDC, NIH, FDA)
- Industry (e.g., Pharma, Biotechnology)

Metrics

- Grants
- Publications
- Other: leadership roles, mentorship, team science, appointment

NIH Loan Repayment Programs (CR-LRP): $50 M per year

Summary

Nov 19th deadline

- Up to $50K/year in educational loan repayment
  - Depending on debt level
- *Also*, pays Federal taxes resulting from the LRP
- 2-year initial contract
  - 2-yr competitive renewals
- ~50% overall application success rate for LRP
- >90% success for Georgia CTSA graduates!

www.lrp.nih.gov



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GRANT WRITING SUPPORT

Grant Writing for T32 Scholars



Janet Gross, PhD

Scientific and Grant Writing

MSCR 594: didactic and peer learning

One-on-one coaching

Hands-on feedback on your application

Georgia CTSA
Georgia Clinical & Translational Science Alliance

EMORY UNIVERSITY

MOREHOUSE SCHOOL OF MEDICINE

Georgia Tech

UNIVERSITY OF GEORGIA

Questions?

Georgia CTSA T32 Program Directors

- Vasiliki Michopoulos (Emory), T32 MPI vmichop@emory.edu
- Jessica Alvarez (Emory), T32 MPI jessica.alvarez@emory.edu
- J. Brandon Dixon, PhD (T32 MPI @Georgia Tech) dixon@gatech.edu
- David Goldsmith (Emory) T32 MPI @Emory drgolds@emory.edu
- Henry Blumberg, MD (Emory), T32 MPI henry.m.blumberg@emory.edu
- James Lauderdale, PhD (T32 Co-Director @UGA) jdlauder@uga.edu
- Alec Davidson, PhD (T32 Co-Director @MSM) adavidson@msm.edu
- Rachel Hardison (T32 Program Administrator) rachel.hardison@emory.edu

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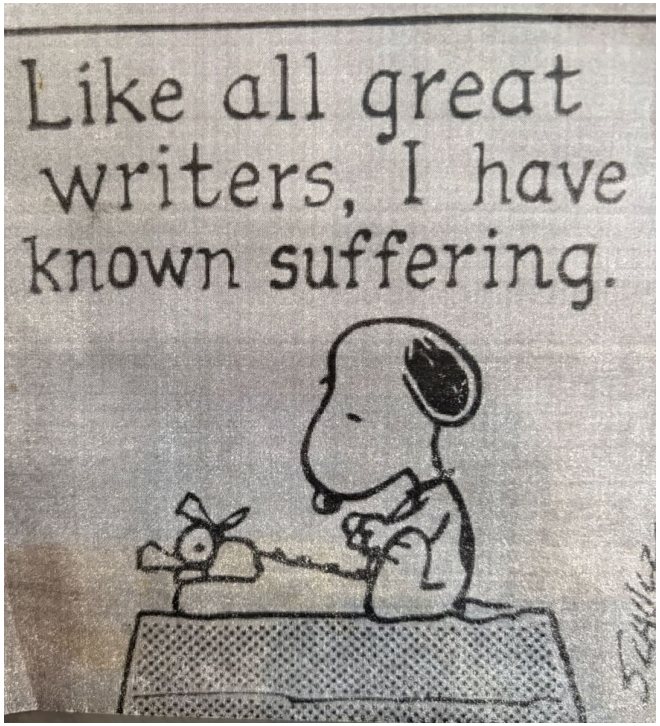
Ga CTSA T32 Application Writing Workshop

October 29, 2026

Presented by Janet Gross, Ph.D. for the Georgia CTSA
jsgros2@emory.edu

Objectives

- Understanding the T32 proposal process (pre and postdoctoral tracks)
- Grant Writing Nuts and Bolts
  - ✓ NIH Fellowship Biosketch
  - ✓ T32 Personal Statement
    - applicant's training
    - research background
    - career goals
  - ✓ Research and Training Plan: Clinical / Translational Research Proposal (6 pages total)
  - ✓ Resources for Grant Writing



T32 Overview

	Predoctoral Track - **PhD students** - **Medical Students**	**Postdoctoral Track** **-PhD postdoctoral fellows** **-MD clinical fellows**
US citizen or permanent resident	✓	✓
Enrolled at one of the GA CTSA partner institutions - Emory, Morehouse SOM, Ga Tech, UGA	✓	✓
- Award duration - (2nd year contingent on progress in year 1)	1-2 years - Typically, 1 year for Medical Students	1-2 years -Typically, 1 year for most residents and MD fellows
Dedicated to a career that encompasses clinical and/or translational research	✓	✓
Application due date	**February 15, 2027**	**February 15, 2027**
Required mentor research training	✓	✓
Required didactic training	MD / MSCR or CPTR PhD / MSCR or CPTR	CPTR or MSCR (or equivalent with approval)
Budget	Tuition, NRSA stipend, $1,500 for travel, health insurance support, and $3,000 for child care expenses	Tuition, NRSA stipend, training-related expenses, $1,500 for travel, and $3,000 for child care expenses

Goal of TL1 training

- **Research Education** is a critical component of the GA CTSA.
  - The GA CTSA is dedicated to providing predoctoral and postdoctoral trainees with state-of-the-art scientific knowledge, tools and methods to improve human health through rigorous clinical and translational research training.

- Through the T32 Core, the GA CTSA will increase the translational research workforce and enhance career development of future leaders of the biomedical research workforce, a major mission of NIH.

- Apply here



Getting ready to prepare a T32 fellowship application



Create HIGH **Overall Impact** for your proposal

- Well written, follows the rules outlined in the Application Instructions
- Clear and focused objectives
- Doable and feasible given time and support available from your mentor's research environment
- Entire narrative is a cohesive whole with a focused theme (i.e., *the story of how you will advance in a career in Clinical and Translational Research*)
- Mentor section is VERY PERSONAL and VERY DETAILED
- Research plan and training plan are complementary

All this is integrated with

your immediate and long-term career goals

How do I articulate my Immediate and Long-term Career Goals?

Reviewers will be looking for the answers to these questions:



1. Immediate Goals: What new training will you receive and from who?
   - Are you competitive - biosketch, mentoring team, research plan
   - How will the training you propose to do advance your career and the science given this new skill set?
2. Long-term Goals: What is the next step for you career-wise and science-wise?

→ Tell us about the research area that you are interested in pursuing – this should be lofty and aspirational but specific and achievable

One way to be very specific is to name the NEW research skills you will acquire

- Name the NEW laboratory methods, analytical methods, modeling schemes, comparative systems, data collection methods, etc.
- Itemize the NEW specialized coursework / workshops / seminars
- Hypothesis-driven work is highly valued
- Human-oriented research is required

From the Application Guidelines - Support

- All Georgia CTSA T32 trainees complete mentored research training and develop a hypothesis-driven clinical and/or translational research (CTR) or clinical and translational science (CTS) project relevant to human health.
- Proposed projects must clearly articulate their human component and explain how the research may contribute to improving human health.
- Projects focused exclusively on basic science and/or animal research projects are *not* eligible for Georgia CTSA T32 support.
- For example, studies including humanized animal model systems may be eligible.
- *When in doubt, ask.*

Do what successful grant writers do: Vet your research idea with LOTS of smart people

- Is your Research Plan scientifically sound?
  - How do you know this?
  - Let others see your work – review and feedback from other mentors/advisors and peers (not just your mentor)
  - Do you have preliminary data?
    - Show data from your own work or from your lab (attribute appropriately)

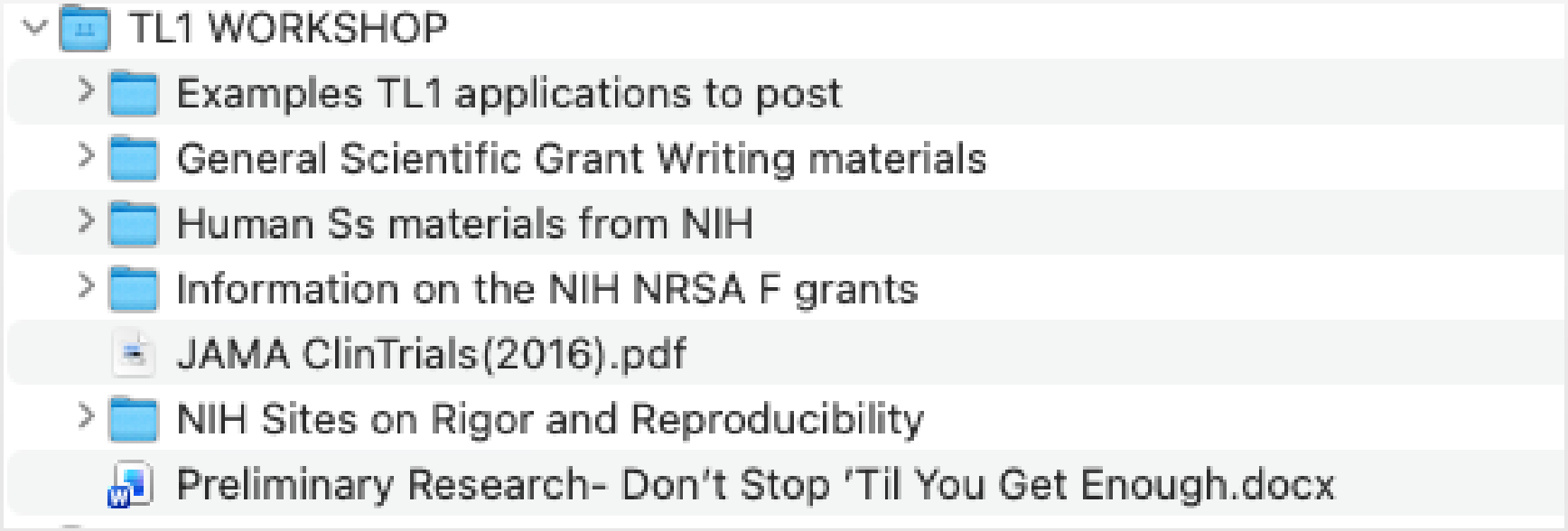
- How will you write about research in an area where you are not an expert?
  - Get advice from your mentors
  - Especially for explaining new techniques

  or analyses in your proposed aims



Drobox Resources

– you will receive a link after the workshop



T32 Application
Nuts and Bolts



T32 Application Required Sections

1. **Cover sheet**
2. **Personal Statement** *(1 page max. - see directions)*
   - applicant's training, research background, and career goals
3. **Abstract/Summary** *(30 lines maximum)*
4. **NIH Biosketches using SciENcv (ORCID ID and eRA Commons username)**
   - **T32 applicant**
   - **Lead mentor**
   - **Co-mentors or Advisory Committee members**
   - **Any other consultants or key collaborators**
5. **Clinical / Translational Research Proposal** *(7 pages max.)*
   a) **Specific Aims (1 page)**
   b) **Training Plan (1 page)**
   c) **Research Plan (5 pages)**
6. **Bibliography** (no page limit)
7. **Protection of Human Subjects** (~<2 pages)
8. **Inclusion of women, children and minorities** (brief statement)
9. **Letters of support**
   a) Letter of commitment/support to serve as Lead Mentor and from any co-mentors and advisors
   b) Letter of recommendation from Division Director or Chair or Dean of Students

Create PDFs

- Follow the online instructions
- Use our online portal to attach files and submit grant
- Questions:
  - GA CTSA Program Coordinator / Administrator:
    Rachel Hardison Rachel.Hardison@emory.edu

At each partner institution:

- Emory University
  - T32 Predoctoral Program: Dr. Vas Michopoulos and Dr. Jessica Alvarez
  - T32 Postdoctoral Program: Dr. David Goldsmith and Dr. Henry Blumberg
- Georgia Tech: Dr. J. Brandon Dixon
- Morehouse School of Medicine: Dr. Alec Davidson
- University of Georgia: Dr. James Lauderdale

Crafting the NEW NIH Biosketch

OMB No. 3145-0279 (Expiration Date 10/31/2026)

NIH Biographical Sketch Common Form

Name: Moran, Caitlin

Persistent Identifier (PID) of the Senior/Key Person: https://orcid.org/0000-0001-8436-0465

Position Title: Associate Professor of Medicine

Organization and Location:Emory University School of Medicine Division of Infectious Diseases, Atlanta, Georgia, United States

PROFESSIONAL PREPARATION

INSTITUTION AND LOCATION	DEGREE	Start Date	Completion Date	FIELD OF STUDY
Emory University Laney Graduate School, Atlanta, Georgia, United States	Master of Science (MS)	08/2015	05/2017	Clinical Research
Emory University School of Medicine, Atlanta, Georgia, United States	Fellow	07/2014	06/2017	Infectious Diseases
University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania, United States	Resident	06/2011	06/2014	Internal Medicine
Georgetown University School of Medicine, Washington, District of Columbia, United States	Doctor of Medicine (MD)	08/2007	05/2011	Medicine
Saint Joseph's University, Philadelphia, Pennsylvania, United States	Bachelor of Science (BS)	08/2003	05/2007	Chemistry

Appointments and Positions

2023 - present Associate Professor of Medicine, Emory University School of Medicine Division of Infectious Diseases, Atlanta, Georgia, United States
2025 - present Faculty, Emory University Laney Graduate School, Atlanta, Georgia, United States
2025 - present Associate Director, Emory Center for AIDS Research (CFAR) Clinical Research Core, Atlanta, Georgia, United States
2025 - present Co-site leader, The Ponce de Leon Center Clinical Research Site, Atlanta, Georgia, United States
2017 - 2023 Assistant Professor of Medicine, Emory University School of Medicine Division of Infectious Diseases, Atlanta, Georgia, United States

Products

Products Closely Related to the Proposed Project

1. Moran CA, Weitzmann MN, Ofotokun I. Bone Loss in HIV Infection. Curr Treat Options Infect Dis. 2017 Mar;9(1):52-67. PubMed Central PMCID: PMC5388454.
2. Moran CA, Weitzmann MN, Ofotokun I. The protease inhibitors and HIV-associated bone loss. Curr Opin HIV AIDS. 2016

NIH Review Criteria

F- Fellowship Grants (each scored 1-9)	K - Career Development (each scored 1-9)
Fellowship Applicant	Candidate
Sponsors, Collaborators and Consultants	Career Development Plan / Career Goals
Research Training Plan	Research Plan
Training Potential	Mentors, etc.
Institutional Environment and Commitment to Training	Environment and Commitment to Candidate

Standard Grants (R, U, P, etc.)
Factor 1. Importance of the Research (Significance and Innovation) (scored 1-9)
Factor 2. Rigor and Feasibility (Approach) (scored 1-9)
Factor 3. Expertise and Resources (Investigator(s) and Environment) (scored YES/NO)

You are not your research, but you are your biosketch

The NIH Biosketch

- A highly formatted, brief curriculum vitae (cv)
- Often the first part of an NIH grant (an often others) that a reviewer reads
- **The biosketch enables reviewers to evaluate you and your team**
- Sections include:
  - Education/training
  - Personal statement
  - Honors/awards
  - Relevant publications
  - Contributions to science



What is a reviewer looking for?

Are you the right person for the work?

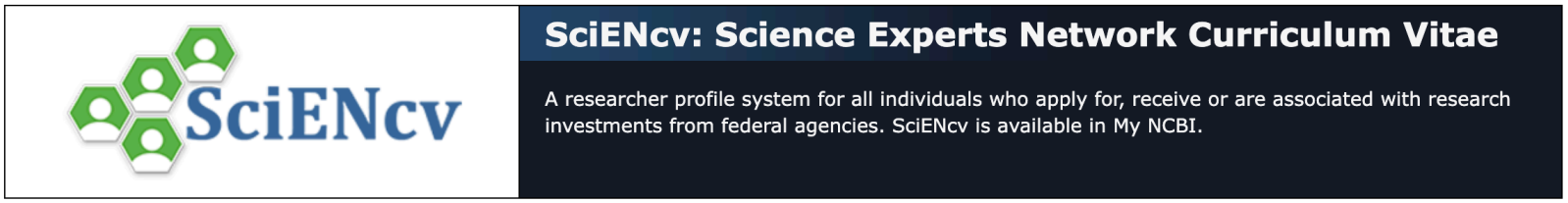
- Is there a good match between your track record (training, current activities) and the research aims?

- Are **you** a good match for the type of grant you are submitting?

- Do you have any related publications?

  - reflection that you are competent in the research techniques proposed and you are likely to publish good science in the future





- ***HINT: google "How do I create an NIH biosketch"***

The NIH biosketch MUST BE created with this app - SciENcv

Steps to Create a New NIH Biosketch in SciENcv: https://www.ncbi.nlm.nih.gov/sciencv/

- **Access SciENcv**: Go to your My NCBI dashboard and click "Manage SciENcv".
- **Create New Document**: Click the "+ New Document" button.

MY NCBI > SCIENCV

SciENcv

My Profile

Edit

Name: Anne M. Fitzpatrick, PhD, APRN

Title/Department: Professor of Pediatrics and Nursing
Emory University

ORCID ID: https://orcid.org/0000-0002-2933-5926

Helpful Links

About SciENcv
How to Use SciENcv

If you already have a biosketch posted in SciENcv → Create a new document and select **NIH Biographical Sketch Common Form**



+ NEW DOCUMENT

My Documents

Last Updated ↓	Title	Format	Delete
1/12/26	NIH Biosketch RESTRAIN R01 Jan7 2026	NIH Biographical Sketch Common Form	
1/12/26	NIH Biosketch Adjoa Andoh K23 Jan12 2026	NIH Biographical Sketch Common Form	
1/8/26	NIH Biosketch SCAPISH R01 Jan8 2026	NIH Biographical Sketch Common Form	
1/8/26	Fitzpatrick Other Support Jan8 2026	DOE Current and Pending (Other) Support	

There are 2 forms that you will construct using the SciENcv app

1) **Biographical Sketch Common Form**
2) **NIH Biographical Sketch Supplement**

- Content is similar to what was in the former NIH Biographical Sketch
- But with new rules & new formatting
- You can edit, tailor and save customized updates for each grant you submit
- Follow the directions carefully!!!
- You attest and get a **'certified'** pdf created by SciENcv
- Formatting violations → **ERROR** in submitting the proposal to NIH!!!

1) NIH Biographical Sketch Common Form

see SciENcv NIH Biosketch Handout 'how to' pdf for instructions in our Dropbox

OMB No. 3145-0279 (Expiration Date 10/31/2026)

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Name: Moran, Caitlin

Persistent Identifier (PID) of the Senior/Key Person: https://orcid.org/0000-0001-8436-0465

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University of Pittsburgh Medical Center, Pittsburgh, Pennsylvania, United States	Resident	06/2011	06/2014	Internal Medicine
Georgetown University School of Medicine, Washington, District of Columbia, United States	Doctor of Medicine (MD)	08/2007	05/2011	Medicine
Saint Joseph's University, Philadelphia, Pennsylvania, United States	Bachelor of Science (BS)	08/2003	05/2007	Chemistry

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2. Moran CA, Weitzmann MN, Ofotokun I. The protease inhibitors and HIV-associated bone loss. Curr Opin HIV AIDS. 2016

1) NIH Biographical Sketch Common Form

- **Identifying information** – **Name, Persistent Identifier (i.e., ORCID) which is linked to eRA commons Personal Profile, Position Title**
- **Organization and Location**
- **Professional Preparation** - education and training
- **Appointments and Positions** - list
- **Products** – publications, etc.
  - must be citable and accessible, can use 'et al', can hyperlink the actual URL text (not hidden behind a word)
  - Up to 5 products closely related to the proposed project
  - Up to 5 other significant products that highlight your Contributions to Science
- **Certification** – e-signature on the pdf within 12 months of submission of the proposal

Research Products

- **Publications**
- Audio or video products
- Conference proceedings
- Patents
- Data & research materials
- Databases
- Educational aids/curricula
- Instruments/equipment
- Models
- Protocols
- Software
- Interim: preprint, pre registration

Example: Bar DZ, Atkatsh K, Tavarez U, Erdos MR, Gruenbaum Y, Collins FS. Biotinylation by antibody recognition- A novel method for proximity labeling. BioRxiv 069187 [**Preprint**]. August 11, 2016 [cited 2017 Jan 12]. Available from: https://doi.org/10.1101/069187.

*- In other words, show us **EVERY** paper or presentation where you are an author at this stage of your career*

Products

Products Closely Related to the Proposed Project

1. Moran CA, Weitzmann MN, Ofotokun I. Bone Loss in HIV Infection. Curr Treat Options Infect Dis. 201 PubMed Central PMCID: PMC5388454.
2. Moran CA, Weitzmann MN, Ofotokun I. The protease inhibitors and HIV-associated bone loss. Curr Opi May;11(3):333-42. PubMed Central PMCID: PMC4838480.
3. Ofotokun I, Collins LF, Titanji K, Foster A, Moran CA, Sheth AN, Lahiri CD, Lennox JL, Ward L, Easle MN. Antiretroviral Therapy-Induced Bone Loss Is Durably Suppressed by a Single Dose of Zoledronic A Naive Persons with Human Immunodeficiency Virus Infection: A Phase IIB Trial. Clin Infect Dis. 2020 1663. PubMed Central PMCID: PMC7755092.

acceptable URL format

Other Significant Products, Whether or Not Related to the Proposed Project

5. Moran CA, Jacob BW, Mehta CC, Sheth AN, Krier S, Causey Pruitt ZL, Jones Weiss D, Ec Cohen J, Goparaju L, Holman S, Adedimeji A, Lahiri CD. Predictors of Retention in the W 2011-2019. 30th Conference on Retroviruses and Opportunistic Infections; 2023 February;

No URL included here

2) NIH Biographical Sketch Supplement

- **Identifying information**
- **Organization and Location**

} same

- **Personal Statement** – no citations (max. 3,500 characters)
- **Honors** – (max. 15)
- **Contributions to Science** – up to 5 entries;
  - max. ½ page and 2,000 characters
  - may reference up to 5 products listed in Other Significant Products from the Common Form (can use a brief citation style)
  - may include 'works in progress', and 'manuscripts under review'
- **Certification** – e-signature on the pdf within 12 months of submission of the proposal

NIH Biographical Sketch Supplement

Personal Statement

- Directions are the same as in old biosketch - it is your story – use first person
- no citations (max. 3,500 characters)
- Include ongoing and completed research projects from the past 3 years that you want to highlight
- Probably the hardest part of the biosketch



Personal Statement instructions

- Describe why you are well-suited for your role in the project
- If you wish to explain factors that affected your past productivity, you may address them here
- Indicate whether your products/publications appear under another name

- You can be somewhat creative here
- Recommendation – refer to the type of proposal you are submitting, i.e., GA CTSA Predoc T32

Writing the Biosketch Personal Statement

- Customize/speak directly to purpose of grant
- Length (3,500 characters max.)
- Convey excitement and passion to do this work
- Depending on the type of grant, emphasize your role for:
  - Leadership (PI of a R grant, Mentor on a F or K grant)
  - Training potential for you to advance in your field (F31, F32 or K)
  - Track record and experience to support the proposed aims
  - Tone should be confident but not arrogant
  - Don't just walk us through your accomplishments but speak to the science in this proposal
- Mention your mentor and the research environment
- Ask others read this over for you and offer suggestions for writing, ease of understanding, compellingness

Research Support follows Personal Statement (updated biosketch instructions)

1. If you are currently on **ANY** kind of grant as a pre- or post-doc, show this support using the standard presentation style used in the Standard Biosketch
   - Examples might include:
     - F30, F31, T32 trainee
     - named fellowship grant
     - Funding as a pre-doc or Postdoc on a PI's R01 grant

Ongoing and recently completed projects that I would like to highlight include:

R01 DA942367

Hunt (PI); Role: Postdoctoral Fellow

09/01/16-08/31/21

Health trajectories and behavioral interventions among older people with substance use disorders

OMB No. 0925-0001 (Expiration Date 12/31/2027) and No. 0925-0002 (Expiration Date 11/30/2027)

NIH BIOGRAPHICAL SKETCH SUPPLEMENT

Name: Moran, Caitlin

Persistent Identifier (PID) of the Senior/Key Person: https://orcid.org/0000-0001-8436-0465

Position Title: Associate Professor of Medicine

Organization and Location: Emory University School of Medicine Division of Infectious Diseases, Atlanta, Georgia, United States

Personal Statement

I am delighted to serve as co-Investigator on the project entitled "Intersection of Periodontitis with HIV-Antiretroviral Therapy-Induced Immune Reconstitution Bone Loss, on Alveolar Bone and Tooth Loss, in People Living with HIV" (MPI Weitzmann/ Umeizudike). In this role, I will oversee clinical operations at the Emory site. I am an Infectious Diseases physician and clinician-researcher, and the primary emphasis of my research is on elucidating the pathophysiology of HIV-associated comorbidities with a particular focus on cardiovascular and bone health. I have extensive experience conducting clinical research in people living with HIV (PLWH), serving as Associate Director of the Clinical Research Core of the Emory Center for AIDS Research (CFAR), and site PI for the ACTG protocols of the Ponce de Leon Clinical Research Site. In my early work, I found that the relationship between inflammatory biomarkers and subclinical cardiovascular disease (CVD) progression in women with HIV differed compared to women without HIV, suggesting that different mechanisms account for CVD in women with and without HIV (Moran et al. 2018). This work led to an NHLBI-funded K23 award leveraging the MACS/WIHS Combined Cohort Study (MWCCS) to study on the effects of HIV on reproductive aging and estrogen receptors as a potential mechanism for this difference. I am now Project Director for the cardiovascular project of the NICHD-funded U19 Study of Treatment And Reproductive Outcomes (STAR) investigating the role of HIV and reproductive aging on vascular function and hypertension in reproductive-aged women.
I have a long history of collaboration with Dr. Weitzmann on projects studying immune reconstitution bone loss (Moran et al. 2016, 2017). I was co-investigator on a clinical trial led by Dr. Weitzmann and Dr. Igho Ofotokun that found that a single dose of zoledronic acid prevents antiretroviral therapy-induced bone loss for up to three years in antiretroviral therapy-naive people living with HIV (Ofotokun et al. 2020), and am MPI with Dr. Weitzmann and Dr. Oliver Ezechi on an R01 investigating the role of the microbiome in immune reconstitution bone loss in people living with HIV. My background as an ID clinician and expertise in HIV-associated biomarkers leaves me well-placed to oversee clinical operations for this study.

Ongoing and recently completed projects that I would like to highlight include:

U19 HD119884
Alcaide/Sheth (MPI), Role: Research Project 1 Director
09/12/2025 – 08/31/2030
Study of Treatment And Reproductive Outcomes

R01 AR079298
Weitzmann/Ezechi/Moran (MPI)
09/21/2021 – 08/31/2026
Predictors of Antiretroviral Immune Reconstitution Bone Loss – the Gut and the Microbiome
U54 AG062334

UM1 AI069418

Personal Statement section recap:

1. Personal Statement paragraph
2. No list of citations after Personal Statement in this revised Biosketch
3. Research Support (now and recent)

- Most medical students and pre-doctoral fellows will not have much to put after the Personal Statement paragraph. This is not a problem.
- If you have forthcoming abstracts or manuscripts, you can refer to these
- Preprints are allowed (follow citation instructions) in your list of 'products'
- You can also refer to papers on which you have received an Acknowledgement

NOTE:

- There are 2 items labeled “Personal Statement” in this application
  - #1: As part of the main application, there is a 1-page required essay describing your training, research background and career goals called Personal Statement
  - #2: The **Personal Statement is an important** section of the NIH Biosketch (here 1 para is sufficient)

These are different but very similar; include both

Suggestions for Writing the NIH Biosketch Personal Statement

- Customize the personal statement for each grant proposal
- Mention the training option you will be selecting (e.g., MSCR, CPTS, Menu)
- Mention the name of the grant proposal (e.g., T32) and speak directly to the purpose of this funding mechanism
  - *I envision using the training, experience and research findings from this TL1 award to launch my career in cardiovascular research focusing on the role of shear stress affecting the interface of endothelial cells and leukocytes in maintaining the balance of immune activation and immune tolerance, on cardiovascular diseases.*

Funded KL2 → K01 → R21→ R01

…..

Once we have thoroughly characterized both the behavioral and neurophysiological effects of stimulation at the amygdala in biasing, I will be poised to make the next step to a K01 project wherein I hope to establish an independent lab to systematically examine the contributions of limbic regions (also frequently implanted in epilepsy patients) to emotional perceptual bias, and to broaden our focus to include other measures of affective system function. Emory is the ideal environment for the implementation of the proposed brain stimulation research: in addition to the availability of rare DBS patients, we have a world-renowned epilepsy surgical team, which provides access to approximately 1 patient per week with implanted electrodes in the limbic system making this KL2 and a future a K01 project highly feasible.

Honors



Honors

- Travel awards, LRP, teaching awards, service awards, honor societies (clarify specific awards); conference presentation awards

- Maximum = 15

Contribution to Science

Briefly describe up to 5 of most significant contributions to science. For each:

1) Historical background that frames the scientific problem
2) The central finding(s)
3) The **influence** of the finding(s) on the progress of science or the application of those finding(s) to health or technology
4) Your **specific role** in the described work.

- up to 5; max. ½ page and 2,000 characters
- may reference up to 5 products listed in Other Significant Products from the Common Form (can use a brief citation style)
- may include ‘works in progress’, ‘manuscripts under review’

Thinking about my "Contributions to Science"

- What goes here?
- How do I organize this?
- What do I report?

- Some ideas
  - ✓ In your previous research experiences, what did the team do and what exactly did you do? Name names.
  - ✓ What did you learn from what you did?
  - ✓ Can you reflect on what you found and how it may have led to the current proposal?
  - ✓ Be aspirational – express your professional hopes and desires

C. Contribution to Science

1. Dietary composition has long been identified as a modifiable risk factor in the development of a variety of health outcomes. My undergraduate research, under the mentorship of Dr. Krzystof Czaja and supported by the CURO research assistantship at the University of Georgia, was focused on the impact of macronutrient composition on gut-vagal-brain physiology. We found statistically significant differences in vagal and hindbrain composition between rats maintained on diets of varying macronutrient composition, with those fed a high sugar, high fat diet showing the highest level of inflammatory markers in the vagus nerve and most significant neuronal restructuring in cerebral feeding centers. I was *acknowledged* in Czaja, K., et al (2017) for my contribution to body fat composition measurement using MRI, macroscopic and microscopic anatomical dissection, cryosectioning, immunohistochemistry, data organization and management, statistical analysis, and preparing text for publication. The results of this work provided a mechanistic framework for the impact of diet on host physiology. The significance of the results gave me an opportunity to present at a university wide research conference and provided scientific background for my honors thesis exploring the connection between broad spectrum antibiotic use and obesity, which was later published under first authorship.

Contributions to Science

1. Medical School Research Experience:

The microbiome is emerging as an important target for influencing health outcomes. During medical school, I have been involved in research in the Clinical Microbiome Program at Emory Clinic under the mentorship of Dr. Smith. I completed an elective focused on exploration of current models of clinical research focused on the investigation of the microbiome. Forthcoming results of our metabolomic analysis of microbial derived small molecules will have important implications for human health, disease biomarker tracking, and preventative medicine, providing additional insight and therapeutic perspective to microbiome and metabolome-based interventions, such as probiotics and fecal transplants as a means of preventing, controlling, and reversing disease.

(this Contribution to Science had no associated publications - this is ok)

Contributions to Science

3. **Postdoctoral Career**:

I worked with the team that created a novel shared decision aid, called iChoose Kidney, for providers (nurses, social workers, or physicians) to use with ESRD patients to help them make treatment decisions about kidney transplantation vs. dialysis. I worked with the PI to calculate the risk prediction models, and convert these to a widely accessible, free mobile tool (on iTunes and on a website). This tool is currently being used in practice by more than 400 providers across the US, and our preliminary scientific studies suggest the tool improves knowledge and decision-making ability among patients. A multi-center, randomized study at 3 of the largest transplant centers across the nation (Emory, Columbia, and Northwestern) is testing the clinical effectiveness of the tool.

If you are the PI of the grant….

- Even if you are a postdoctoral fellow, you need to read / review / edit the Personal Statement of all other contributors to this proposal

- WHY?
  - Because this is the PI's job
  - Each Personal Statement must reflect that writer's role on the project

- If someone is sponsoring / mentoring / collaborating with you, that should be mentioned in that person's Personal Statement

Recommendations

- Follow the directions – use the example as a model
- Chances are as a junior investigator you will have between 1-2 (maybe 3) Contributions to Science
- Do not misrepresent any facts
  - List all publications as they would appear in PubMed or in any other searchable database
- *Advice from a sage academician:*
  - *"Extraordinary evidence for extraordinary claims"*
  - *"The magnitude of your supposed accomplishment must align with your tangible contributions"*
  - *"Self-aggrandizing will certainly backfire. Probably better to lean towards humility to increase likability factor"*



1-Page Personal Statement for the T32 Application



T32 Personal Statement (1 pages max.)

- formatting: **use Arial 11 font and .5-inch margins throughout**

a) Applicant's Training
b) Research background
c) Career Goals

Theme - how this TL1 training program and training afforded by the mentoring team will specifically enhance your career development in CTR

This essay will be somewhat redundant with your Personal Statement from biosketch. However, don't cut/paste. Make these unique. Reviewers will read these very carefully.

Suggestions for Personal Essay Writing in the T32 application:

- Follow all directions
- Dot your PERSONAL ESSAYS with scientific facts, findings, interests, goals, etc.
- "Speak" to the reviewer; "Sell" your idea; Be compelling!!
- Write in the 1st person but don't be "folksy" or overly casual
- Reflect on your personal experiences in science and where this award will lead you professionally
- Make a case for your personal career path - describe what you hope will be your contribution to the field
- Don't simply walk us through your biosketch (we just read that)
- Pay attention to aesthetics/layout – NO TYPOS, NO GRAMMATICAL ERRORS

T32 Personal Statement instructions

a) Describe your training to date

- Draw attention to any special technical or clinical skills
- Does not have to be related to the proposed project

b) Describe any research background

- In any discipline; share what you've done research-wise
- Highlight exciting findings / skills
- If you don't have any research background to speak of, be brief (and don't worry).

c) Describe your career goals

- in clear, concrete terms

c) Describe your Career Goals

- How has what you've studied to date has led you to where you are now
- Consistent themes or issues – challenges in the science that intrigue you, why, what will you do to solve these problems
- Change in path, discipline - explain
- Justify the T32 award - How will it help you develop and advance your career - where will you go with this award and 5 years hence scientifically speaking.
- Identify exactly what your training goals are, for example:

    1. Epidemiology of TB/HIV coinfection
    2. Advanced cohort study methodology
    3. Molecular epidemiology
    4. Bioinformatics
    5. Spatial transcriptomics

c) Describe your Career Goals (continued)

- Tell us about your Training Plan
- What will be the elements of your Training Plan
  - **MSCR** – Master of Science in Clinical Research (30 credits, thesis, grant proposal)
    - highly recommended for medical students, residents, fellows, those who have had limited didactic research training
  - **CPTS** – Certificate Program in Translational Science (16 credits, grant proposal) – common option for PhD students
  - **Menu Option** – 5 required courses plus electives based on personalized training pathway (no required credit minimum outside the 5 required courses)
    - MSCR/CPTS 593 Research Ethics (required by NIH) [1 credit]
    - MSCR/CPS 594 Scientific and Grant Writing [2 credits]
    - MSCR/CPTS 761 Introduction to Clinical and Translational Science [2 credits]
    - MSCR/CPTS 591 Community Engagement and Health Equity [1 credit]
    - MSCR 592 Clinical and Translational Science Colloquium [1 credit]
    - Electives (based on applicant's needs—can be at any of the Georgia CTSA institutions or workshops, etc.)
    - If you select this option, describe in detail your plan and why you've chosen this option; are there any other courses you'll take outside of the MSCR?

What are the Reviewers Looking for?

- What new scientific skills / techniques / areas will you learn?
- Who is spearheading your training and looking out for your career development (i.e., name the mentor / lab)?
- How will the new training support your ability to carry out the proposed research aims?
- All this can be very concrete and specific; write in the 1st person to make this flow nicely

Selecting a Primary Mentor for Mentored Research Training

- Lead mentor should be an established investigator with current federal funding
  - NIH, AHRQ, CDC, PCORI, etc. or R01 equivalent)
  - Co-mentors do not have to meet similar requirements
- If you are uncertain about the suitability of your lead mentor, it is advised that you run this by the T32 leadership
- Review the mentor requirements under **Program Requirements** at the GA CTSA T32 website



Research and Training Plan for the T32 Application



Writing up the Research section (6 pages total)

This consists of two parts:

1. **Specific Aims** (1 page, traditional style used in your discipline; study other examples and your mentor's work)

2. **Research Plan** (5-page maximum, see instructions)
   - Significance
   - Innovation
   - Approach

NIH Specific Aims page

→ Master Plan for your application

- See examples of Specific Aims pages on Dropbox (I will share with you)
- One page maximum
- ***Encapsulation of the entire proposal – sets the stage for how compelling, exciting and feasible is your work***
- Presentation style for this 1 page reflects the style used in your field of work – standard, stereotyped presentation style

  i. Introductory section establishing public health relevance and scientific rationale
  ii. How this project exemplifies clinical and/or translational research
  iii. Followed by listing of the research objectives/tasks/overarching scientific questions
  iv. Sometimes followed by a summary of 'what is the value of this work to the field'

An excellent Specific Aims page:

- Favorably disposes the reader for the rest of the application
- Augers well for your qualifications, your grant writing and your research skills
- Conveys excitement and importance while using a very logical, compelling and articulate presentation
- Becomes the "master plan' for the rest of your research plan
- This section of a grant is the **#1 most important section** to the reviewers and to your research



Specific Aims instructions from the NIH grant proposal guidelines

- State concisely the goals of the proposed research and summarize the expected outcome(s), including the impact that the results of the proposed research will exert on the research field(s) involved.

- List succinctly the specific objectives of the research proposed, e.g.,
  - –to test a stated hypothesis,
  - –create a novel design,
  - –solve a specific problem,
  - –challenge an existing paradigm or clinical practice,
  - –address a critical barrier to progress in the field, or
  - –develop new technology.

Words in **RED** are all good words to use in a Specific Aims section

- Specific Aims page cannot exceed one page.

RESOURCES for writing the SPECIFIC AIMS page



- Look at others' Specific Aims pages
- See my Dropbox site
- Google "how do I write an NIH F31"
- NIH Specific Aims writing support
  - https://www.niaid.nih.gov/grants-contracts/draft-specific-aims
- Writing an NIH F31 proposal (samples)
  - https://www.niaid.nih.gov/grants-contracts/sample-applications#f31
  - Northwestern University CLIMB writing program
  - https://www.northwestern.edu/climb/resources/written-communication/nih-grant-and-dissertation-proposals.html

Structure:
According to Grant Central

1. Introductory paragraph will contain a high impact opening sentence that "immediately establishes the relevance of the proposal to human health"
2. Current knowledge
3. Gap in the knowledge base and/or unmet need, i.e., what is the clinical problem
4. What/Why/Who – long-term goal, objective of this application, and central hypothesis and how it is formulated
5. Listing of the Specific Aims

Each Aim should yield interesting findings

- You should be able to test hypotheses (or conduct the research) for each aim regardless of the outcome of the other aims

- Being able to conduct Aims 2 and 3 cannot be dependent on an anticipated outcome from Aim 1
  - Unless, you have strong preliminary data for what you anticipate you will find in Aim 1 (i.e., Aim 1 is a replication of previous work)

- The work proposed can be achieved in the 1-2 year time allotted (depends on how long you will be a TL1)
  - How will you substantiate this?
  - Preliminary data, past experience, timeline?

Example of Specific Aims using the term "Objectives"

Objectives

Objectives of the proposed study include:

Objective 1. To estimate prevalence of latent tuberculosis infection among HIV positive individuals in Georgia, using two IFN-g assays (T.SPOT-TB and QuantiFERON Gold in Tube) and tuberculin skin test.

Objective 2. To examine factors associated with concordance and discordance between the three tests to be utilized.

a) To assess impact of degree of immunosuppression (by CD4 count) on performance of IFN-g assays and TST

b) To assess influence of co-infection with hepatitis C virus on the performance of IFN-g assays and TST.

Objective 3. To determine predictors of latent tuberculosis infection among HIV positive individuals

No hypotheses required here

KL2 (funded) Specific Aims:

Aim 1: **To develop an electronic decision support tool to communicate estimated risks of poor health outcomes for dialysis vs. kidney transplantation**.

1a) Develop and validate predictive models for 3-year mortality for three treatment options: a) dialysis, b) deceased donor (DD) transplant, and c) living donor (LD) transplant.

1b) Develop and validate predictive models for length of stay for a) dialysis, b) DD transplant and c) LD transplant.

1c) Translate these predictive models into a decision support tool (i.e. iPad App).

Aim 2: To determine the feasibility of implementing the decision support tool among a metro-Atlanta dialysis patient population. Our primary objective of this feasibility study is to gather preliminary data to inform a future, randomized study of the tool in a metro-Atlanta dialysis population to improve outcomes.

Example of Inter-dependent Aims

To test our hypotheses, we propose the following **3 Specific Aims:**

Aim 1. To determine if patients with chronic renal failure (CRF) have an exaggerated sympathetic response during exercise.

Aim 2. Test a pilot therapy of BH4 for patients with an exaggerated sympathetic response during exercise.

Aim 3. In patients with a good treatment response to therapy, determine if there is improvement in resting and exercise-induced sympathetic over-activity, endothelial dysfunction, and oxidative stress.

Consider:

- *Why are these aims inter-dependent?*
- *Is this a good strategy?*

…. Introductory para here …..

To investigate these associations, I propose to work with a multidisciplinary team with expertise in nutrition, endocrinology, metabolomics, and the gut microbiome to examine a dataset from the NIH's Metabolomics Workbench, which contains metabolic profiling of >100 participants enrolled in the Prospective Registry (PRISM) in inflammatory bowel disease study at Massachusetts General Hospital. We will test the following aims and hypotheses:

Aim 1: To investigate the associations of fecal level of 5-MIAA with Crohn's disease in humans.

Hypothesis: Higher fecal 5-MIAA will be associated with fewer diagnoses of Crohn's disease (CD).

We will conduct targeted analysis of the fecal metabolome database from a cross-sectional cohort of individuals enrolled in PRISM (N=102 selected individuals; CD (N=68), non-IBD (N=34) controls) by quantitating the levels of 5-MIAA in relation to CD. CD was diagnosed using standard endoscopic, radiographic, and histologic criteria.

Example from a 1-year F32

Aim 1: Create a novel, automated VTE risk assessment model designed to increase appropriate prophylaxis in preoperative workflows using the national NSQIP dataset.

1a) Derive a new prediction model for 30-day post-operative VTE that captures routine preoperative data using multivariable logistic regression.

1b) Apply decision tree machine learning to define variable thresholds for RAM clinical decision support.

1c) Test the COBRA score in the NSQIP dataset as a baseline comparison for the newly developed RAM.

1d) Cross-validate the newly developed model against prior 10 years of historical NSQIP datasets.

1e) Compare rates of pre- and postoperative blood transfusions in risk-stratified patients to explore the perceived risk of bleeding as a barrier to automated VTE prophylaxis protocols.

1f) Perform subgroup analysis by specialty service lines to confirm RAM generalizability.

1g) Build a pilot version of the novel risk assessment model in the EHR development environment.

Training will include multivariable modeling and use of advanced data management and analysis software in addition to EHR programming.

Aim 2: Perform a scoping review of VTE prophylaxis guidelines of surgical subspecialties.

I will synthesize national and local guidelines and use results to help design a preoperative VTE risk assessment and perioperative prophylaxis protocol built on best practices, facilitating future model implementation. *Training* will focus on applying the PRISMA-ScR (Preferred Reporting Items for Systematic reviews and Meta-Analyses–Scoping Reviews) format.[20]

VTE= venous thromboembolic events
NQSIP = National Surgical Quality Improvement Program
COBRA = a 5-variable model score that predicted risk of VTE
RAM = risk assessment models
EHR = electronic health record

Specific Aims (1 page)

- Do you have too many aims?
- Are they logically interrelated?
- Are subsequent aims dependent on successful outcome of preceding aims? (bad idea)
- Do they belong in the same proposal?
- *Most proposals are overly ambitious.*

- ***You can weave in mentions of your Training Opportunity on the Specific Aims page for a training grant***

RESEARCH Plan (~5 pages)

a) *Significance*

- *Typically, a series of paragraphs, often organized by subheaders*

b) *Innovation*

- *Often this is a series of terse statements or small paragraphs that make a specific point that supports innovation, novelty, important groundbreaking techniques, first time to do something, etc.*
- *Can be a bulleted list*

c) *Approach*

- *A highly formatted 'recipe-like' presentation of methodology*

SIGNIFICANCE

- Explain the importance of the problem or critical barrier to progress in the field that the proposed project addresses.

- Explain how the proposed project will improve scientific knowledge, technical capability, and/or clinical practice in one or more broad fields.

- Describe how the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field will be changed if the proposed aims are achieved.

THIS SHOULD NOT BE A LITERATURE REVIEW but rather a SYNTHESIS of current and previous research

Organization for Significance section:

(example #1)

SIGNIFICANCE

Critical Barriers to Eye Examination in the Emergency Department

Technical Improvements to the Funduscopic Exam

Telemedicine in Neuro-ophthalmology of the Future

RESEARCH STRATEGY *(example #2)*

A. Significance

A.1. Kidney Disease is a substantial public health problem in the Southeastern US. Kidney transplantation is the optimal treatment for ESRD patients

A.2. Racial disparities exist in access to optimal treatment for ESRD patients.

A.3. AA ESRD patients are less likely to be informed of kidney transplantation.

A.4. Patients who are most at risk for poor outcomes have the greatest difficulty in accessing health information.

A.5. Critically important treatment decisions are often made without evidence-based information about a patient's prognosis.

A.6. Shared decision making through decision support tools can increase patient involvement in the health care decision making process, leading to better health outcomes.

Important Preliminary Data might go HERE

Innovation

- Explain how the application challenges and seeks to shift current research or clinical practice paradigms.
- Describe any novel theoretical concepts, approaches or methodologies, instrumentation or interventions to be developed or used, and any advantage over existing methodologies, instrumentation, or interventions.
- Explain any refinements, improvements, or new applications of theoretical concepts, approaches or methodologies, instrumentation, or interventions.

- *WORDS IN RED ARE GREAT GRANT WRITING WORDS*

INNOVATION

1) Research questions and hypotheses that have never been clinically tested:

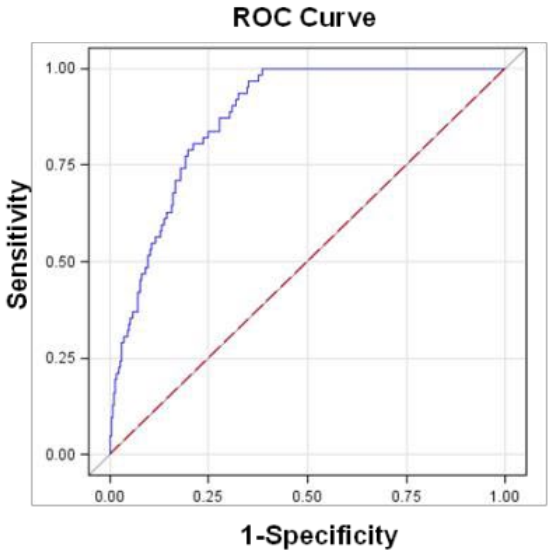
2) Studying a unique patient population:

3) Utilizing advanced technologies in an innovative fashion:

Innovation (KL2)

Figure 2. Clinical and Translational Framework for Research

Predictive Model Development



Aim 1

Refine Patient Education iPad Application



Aim 2

Translate to a Clinical Setting



K01

APPROACH

- Describe the overall strategy, methodology, and analyses to be used to accomplish the specific aims of the project.
  - Describe plans to address weaknesses in the rigor of the prior research that serves as the key support for the proposed project.
  - Describe the experimental design and methods proposed and how they will achieve robust and unbiased results.
  - Unless addressed separately in the **Resource Sharing Plan**, include how the data will be collected, analyzed, and interpreted, as well as any resource sharing plans as appropriate.
  - Resources and tools for rigorous experimental design can be found at the **Enhancing Reproducibility through Rigor and Transparency website**.

APPROACH (continued)

- For trials that randomize groups or deliver interventions to groups, describe how your methods for analysis and sample size are appropriate for your plans for participant assignment and intervention delivery.
  - These methods can include a group- or cluster randomized trial or an individually randomized group-treatment trial.
  - Additional information is available at the **Research Methods Resources webpage**.

- Discuss potential problems, alternative strategies, and benchmarks for success anticipated to achieve the aims.

- If the project is in the early stages of development, describe any strategy to establish feasibility, and address the management of any high risk aspects of the proposed work

APPROACH (continued)

- Explain how relevant biological variables, such as sex, are factored into research designs and analyses for studies in vertebrate animals and humans.
  - For example, strong justification from the scientific literature, preliminary data, or other relevant considerations, must be provided for applications proposing to study only one sex.
  - Refer to the **NIH Guide Notice on Sex as a Biological Variable in NIH-funded Research** for additional information.

- Point out any procedures, situations, or materials that may be hazardous to personnel and the precautions to be exercised.
  - A full discussion on the use of select agents should appear in the **Select Agent Research** attachment below.

- If research on Human Embryonic Stem Cells (hESCs) is proposed but an approved cell line from the NIH hESC Registry cannot be chosen, provide a strong justification for why an appropriate cell line cannot be chosen from the registry at this time.

Rigor and Reproducibility including Sex as a Biological Variable (SABV)

- Required discussion of this issue in all NIH grants



APPROACH
(many options for organizing this)

- *Use subheaders to make this section very clear*
- *Be generous in using 'white space', indenting, stylized text*

A. Overview of research design
B. Methods (for each aim)
   - Analyses and Expected Results
   - Limitations/Anticipated Problems
   - Alternative Approaches
C. Timeline
D. Future Directions

Study good examples

- Read any kind of grant application from your mentor's lab
- Study my examples on Dropbox
- Review full grants of F31 and F32 from peers, colleagues
  - Lots of interesting info on Google
- Look at F31 and F32 examples of abstracts on NIH RePORTER

Grant Writing





Terms/phrases to avoid

Expressions with no clear limits	Words of personal judgment	Causal colorful language	Use with caution as transitions but never as fillers
a lot	assuredly	agree to disagree	in effect
fairly	beautiful	bottom line	indeed
really	luckily	brute force	basically
slightly	obviously	few and far between	in terms of
sort of	sadly	okay	it goes without saying
	fortuitous	sketchy	
	intriguing	tip of the iceberg	

Can you deconstruct a paragraph?

Distracting	Useful
• Tangent – material that is not directly related	•Opening/introductory statement or lead statement
• Digression – going off in a different direction than the topic	•Factual support •Examples of the focal point
• Fluff/filler e.g., As part of this research, we plan to fulfill our mission of recruiting the maximum number of patients possible.	•Supporting data/findings e.g., We will enroll 10 patients per week which will be feasible based on the current census of more than 100 emergency room visits/week.
• Vague	•Implications of the facts presented
• Emotional/Jargon/Colloquial	•Transition
• Passive/indirect	•Summary statement
• Redundant	•Header/Subheader

Reviewers' Concerns and Criticisms of the Research Plan

Is the research design complete?

For example, if you are comparing 3 out of 4 cells of a 2x2 design, why are you omitting the 4th cell?

- Do not leave anything to the imagination.

Group 1: *Stroke Pts who are Smokers*

Group 2: *Stroke Pts who are non smokers*

Group 3: *MI Pts who are Smokers*

?? MI Pts who are non smokers

Research Plan

Level of Detail in Methods

1. Treatment of data
   - Raw data, transformed/scaled data
   - Collapsed by group
   - Confounds to the data

Research Plan

2. Well-specified, operationally defined variables and outcomes; what are they and how will they be obtained?
   - Demographics
   - Biomarkers
   - Correlates of depression
   - Immune functioning

Research Plan

3. Description of Experiments
   - Consistency of level of detail from one experiment to the next
   - General Methods section can save you space
   - Know your agents, your clinical interventions, your high tech procedures. Are there alternatives that you should mention? Have you thoroughly described them?

"It is clear that the applicant is not completely familiar with the drug interactions that follow the combined administration of substance x and substance y in patients with diabetic neuropathy."

Research Plan

4. Use of scientific terminology
   - Controversial terms vs. well-accepted terms
   - Are there philosophical “camps” in this scientific community? Are you considering all sides of the issue fairly?

5. Theoretical framework
   - Is this customary for your field?

6. Theoretical context
   - Is your idea supported by the research design and methodology proposed?
   - Are you using the best model/organism/ procedures for the research question proposed?
     - Substantiate all this

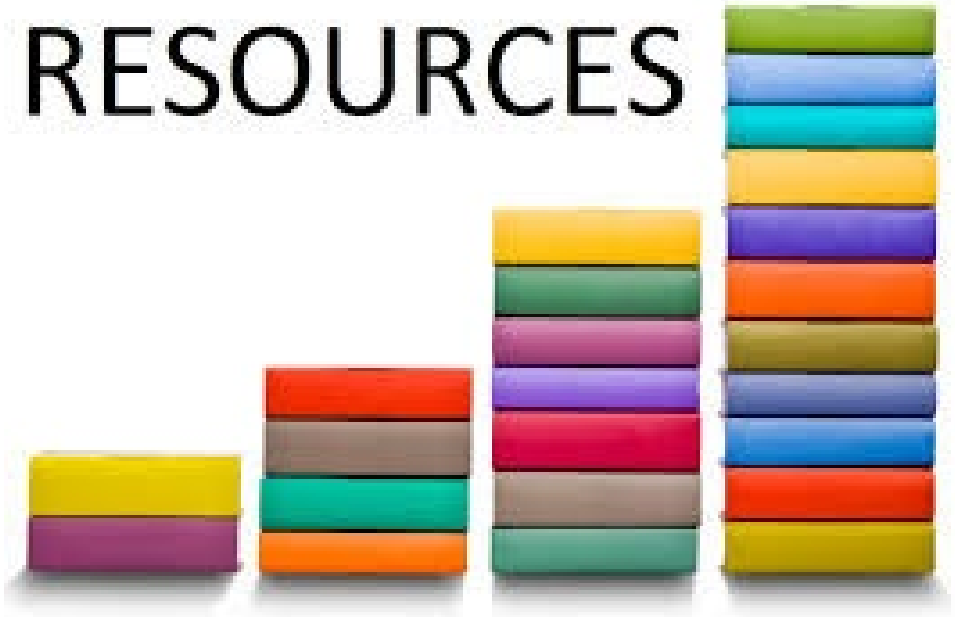
Sources of Data

1. Most 1 to 2-year proposals will leverage existing data
   - Banked biospecimens
   - Access an available dataset or registry
   - Piggy-back on ongoing enrollment in a clinical trial

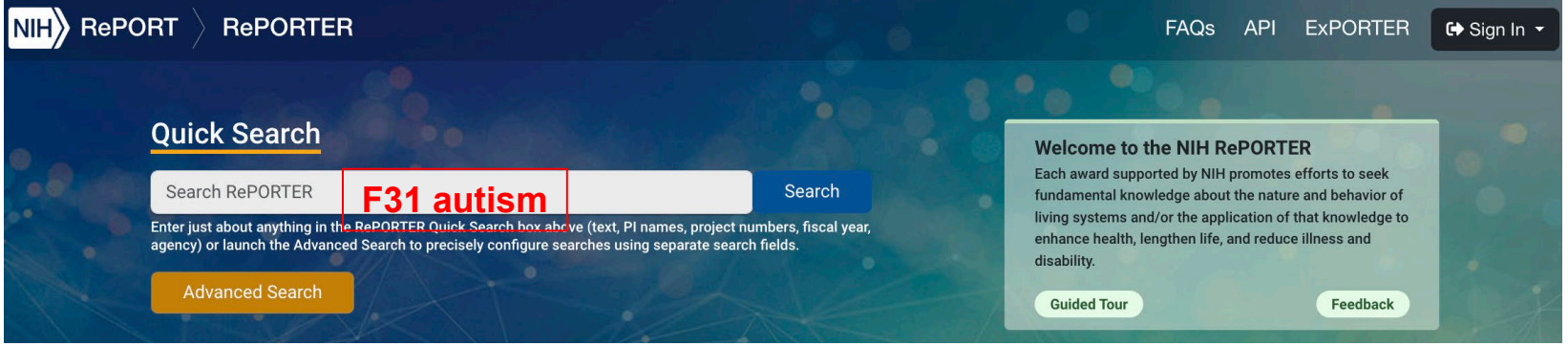
2. Be sure reviewers have all the information they need to evaluate the integrity of your sources of data
   - Data collection methods
   - Sampling techniques
   - Reproducibility and validity of assays
   - Representativeness of subjects
   - Previous publications with these data

Human Subjects Considerations

- If you are using an existing dataset
  - How much information should you provide?
- Why are you proposing the population you've chosen?
- What is the relevance of the selected population to state of the research - omitting children, omitting males or females
- What is the availability and likelihood of getting data from these subjects, tissue, animals, etc.
- Do you have enough subjects in your study?
  - Statistical implications - sample size calculation and power analysis – is this necessary for this kind of research?



For Grant Writing



Advanced Projects Search

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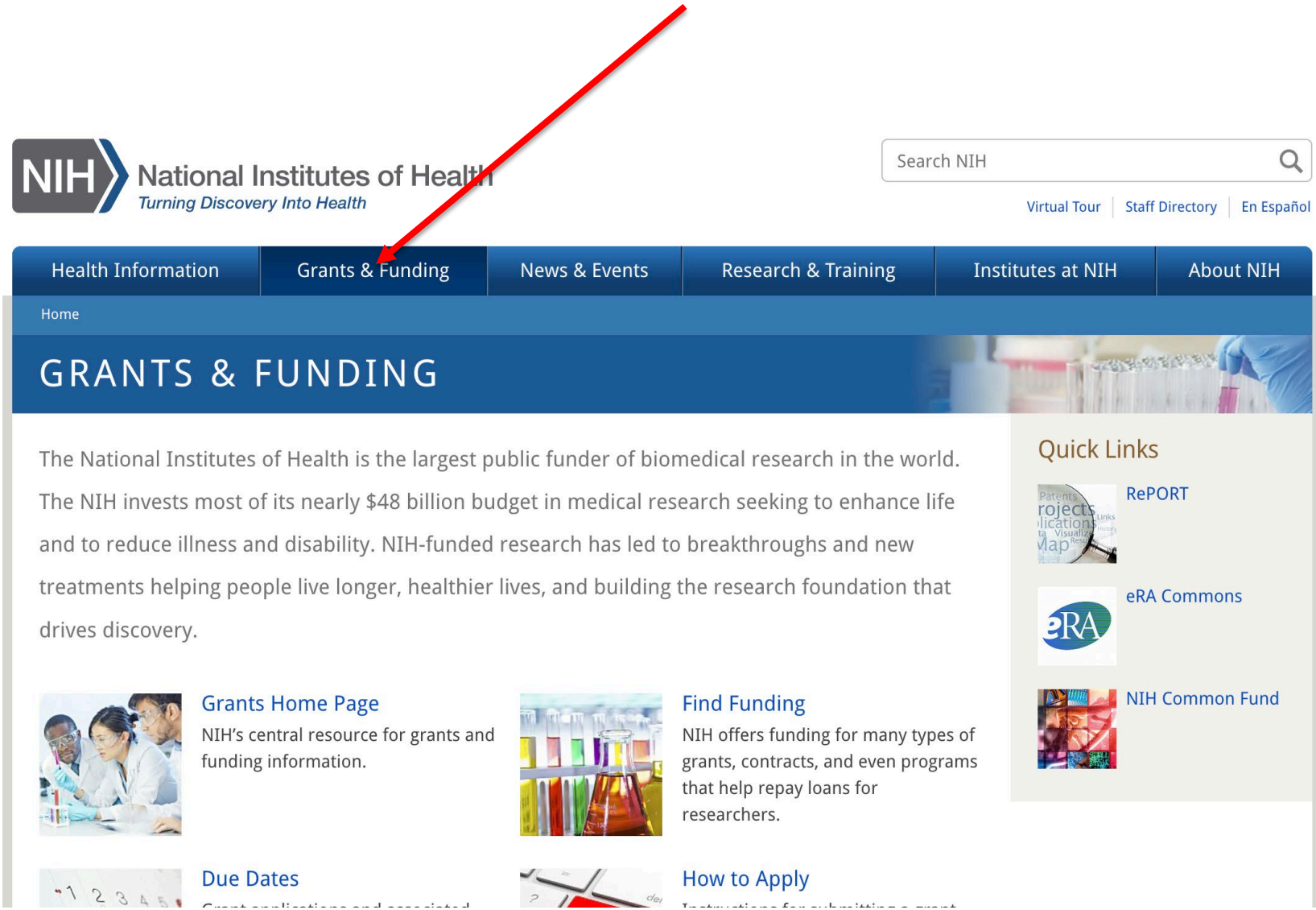
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- ✓ Think critically
- ✓ Complete all sections carefully - avoid careless errors
- ✓ Have others read your work - ask for critical comments not just a cursory review
- ✓ Get feedback on the research plan from experts
- ✓ Build in time to reflect on your own product; read your own work “at an arm’s length” (preferably on paper)

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