Finding the funds: NIEHS funding and training opportunities

American Society for Biochemistry and Molecular Biology (ASBMB)
April 12, 2023

Mike Humble, Program Director
James Williams, Grants Management Specialist
Leroy Worth, Scientific Review Officer
Division of Extramural Research and Training, NIEHS

National Institutes of Health • U.S. Department of Health and Human Services
Today’s Seminar

Introduction

NIEHS Overview & NIH Grants 101 – Dr. Michael Humble, Program Director

Grants Management Overview – James Williams, Lead Grants Management Specialist

Scientific Peer Review – Dr. Leroy Worth Jr, Scientific Review Officer

Q&A
NIEHS Overview & NIH Research Funding 101

Michael Humble, Ph.D.
Program Administrator
Division of Extramural Research and Training
National Institute of Environmental Health Sciences
National Institutes of Health
Department of Health & Human Services
NIH’s mission is 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.
The National Institutes of Health

Office of the Director
(Lawrence Tabak, DDS, PhD)

27 Institutes/Centers (ICs) with specific topic or disease focus
The National Institute of Environmental Health Sciences

- Our **mission** is to discover how the environment affects people in order to promote healthier lives.

*NIEHS is unique at the NIH because we are the only one whose research has a primary focus on preventing disease, rather than diagnosing and treating it.*
What is Our “Environment”? 

- Pesticides
- Synthetic materials
- Built environment
- Weather extremes
- Combustion by-products
- E-waste
- Personal care products
- Cleaning products
- Polluted water
- Nutrition
Exposures Across the Lifespan Impact Life-long Health
2018-2023
STRATEGIC PLAN
Advancing Environmental Health Sciences
Improving Health

Now available at www.niehs.nih.gov/strategicplan
NIEHS Organization

NIEHS Director
Dr. Rick Woychik

Division of Intramural Research

Division of Extramural Research and Training

Division of the National Toxicology Program (now the Div of Translational Toxicology)

Exposure Response and Technology Branch

Genes Environment and Health Branch

Population Health Branch

Hazardous Substances Research Branch (Superfund)

Worker Education and Training Branch

Grants Management Branch

Scientific Review Branch

Program Analysis Branch
Important personnel

- Grants Management Specialist
- Scientific Review Officer
- Program Administrator /Officer
NIH Research Funding 101
So you’ve got an idea..
Recommendation!

Contact an appropriate

Program Administrator

before submitting and, preferably,
before completing the writing of your application
Training, Career Development and Research Support

HS student  College student  Graduate student  PhD/MD/PhD  Faculty Position  Independent PI

Diversity Supplements
What is a Grant Mechanism?

- Fellowship (F)
- Career (K)
- Research (R)
- Training (T)
“R” Research Grants

RO1 Research Grants
• “Traditional” Research Grant
• Up to 5 years of support
• Budget potentially unlimited- modular up to $250K per year
• Renewable

R21 Exploratory/Developmental Grants
• Encourage new exploratory/developmental research projects by providing support for the early stages of their development
• 2 year time period for research project
• Direct costs for the 2 year project period may not exceed $275,000. No more than $200,000 may be requested in any single year.
• Not renewable

R03 Small Grants
• Provision of limited funding for a short period of time
• Up to 2 years, up to $50,000/year
• Not renewable

Not every grant mechanism is available from every Institute
R15: AREA/REAP Awards

The R15 supports small-scale research projects at educational institutions that provide baccalaureate or advanced degrees for a significant number of the Nation’s research scientists but that have not been major recipients of NIH support.

**Academic Research Enhancement Award (AREA)** for Undergraduate-Focused Institutions

**Research Enhancement Award Program (REAP)** for Health Professional Schools and Graduate Schools

- $300,000 total direct costs
- Up to 3 years to spend those funds
- PI may not be the PI on an active NIH research grant at the time of award
- Renewable
Support for Research Excellence (SuRE) Program (R16)

- The SuRE Program supports research capacity building at institutions that enroll significant numbers of students from backgrounds nationally underrepresented in biomedical research.

- Purpose: to develop and sustain research excellence of faculty at institutions that award science degrees, receive limited NIH research support, and serve students from groups underrepresented in biomedical research.

- Goals:
  - Provide research grant support for faculty investigators
  - Provide students with research opportunities
  - Catalyze institutional research and enrich the research environment
F = Fellowships

Purpose: Support an individual while in full time pre- or postdoctoral research training

- Includes stipend, tuition and fees, training
- Awards are for individuals
- Citizenship requirement
- No direct support for research
K99/R00: NIH Pathway to Independence Award

Two grants, one application (4-5 years)

K99 - Career Development Award (1-2 years)

R00 - Research Grant Award (3 years)
NIEHS Transition to Independent Environmental Health Research (TIEHR) Career Development Award (K01)

• For **newly independent** faculty, within 3 years of appointment
• Need to have independent research space and resources
• The award provides **up to three years** of support for:
  – Salary up to $75,000 plus fringe benefits per year
  – Research development funds up to $50,000 per year
  – Must have a **sponsor**, an **NIEHS grantee**

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

- designed to identify the best new biomedical investigators across the spectrum of science supported by the NIEHS
- PI must be an Early State Investigator (ESI)
  - Within 10 years of completing terminal research degree
- PI must have a tenure track or equivalent faculty position
- NIEHS has been committing $3.0 million/year to fund 5-6 new awards

https://www.niehs.nih.gov/research/supported/training/ones/index.cfm

Virtual Consortium for Translational/Transdisciplinary Environmental Research (ViCTER) RFA-ES-21-007

The purpose of the ViCTER program is to use the R01 mechanism to foster and promote early-stage transdisciplinary collaborations and/or translational research efforts to address fundamental research among basic (technology and mechanism oriented), clinical (patient-oriented) and population-based researchers in the environmental health field.

- October 2021 Released RFA-ES-21-007
- November 2021, Funding Opportunity Webinar
- February 1, 2022, application due date (also dates for 2023, 2024)

RFA Webpage: https://www.niehs.nih.gov/research/supported/translational/victer/index.cfm
- Includes Funding Opportunities Webinar Link with Detailed Information about RFA
- Link to the FOA
- Link to Current Grantees
Goals of ViCTER

- Support the exchange of knowledge among individuals
  - from a **diverse set of disciplines** and
  - accelerate the **translation of scientific research** into
  - meaningful **improvements in human health** in those
  - areas where environmental factors are known or suspected to influence the development or progression of disease.

- **Established new** collaborative teams
- **Extend existing areas of research in** new directions
- **Develop novel lines of inquiry** through the creation of a **Virtual consortium** that includes new perspectives.
Notice of Special Interest (NOSI): Understanding Exposure and Health Effects of Micro and/or Nanoplastics (NOT-ES-23-002)

• The purpose of this NOSI is to inform potential applicants that the NIEHS has special interest in applications that investigate exposure to, and health effects of, microplastics (MPs) and nanoplastics (NPs).

• Supports research to gain comprehensive understanding of the physiochemical characterization, exposure, and related human health effects of MPs and NPs.

• R01
• R21

• Released Date: October 3, 2022
• Expiration Date: November 17, 2027

Question: “I have this idea. Is there a funding opportunity I can apply for?”

YES!
Recommendation!

Contact an appropriate Program Administrator before submitting and, preferably, before completing the writing of your application.
Finding Grant Opportunities  grants.nih.gov

2022-2023 NIH Grants Conference and PreCon Events

This conference season has concluded and resources are available.

Plans are underway for 2023-2024 virtual events - register today to stay informed:
- Webinars throughout the year
- Multi-day conference
- NIH and HHS expert guidance
- Institute, Center and Office contacts and resources

Learn More
Undergraduate Research Education Program (UP) to Enhance Diversity in the Environmental Health Sciences (R25 Clinical Trial Not Allowed)

R25 Education Projects

Reissue of RFA-ES-14-004

RFA-ES-19-010

Section VII. Agency Contacts

We encourage inquiries concerning this funding opportunity and welcome the opportunity to answer questions from potential applicants.

Scientific/Research Contact(s)
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Fax 919-541-2860
james.williams3@nih.gov
Find A Program, Review or Grants Management Contact

• NIEHS Contacts for Applicants: https://www.niehs.nih.gov/funding/grants/contacts/index.cfm

• NIH RePORTER Matchmaker Tool: https://reporter.nih.gov/matchmaker
Recommendation!

Contact an appropriate

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before submitting and, preferably,

before completing the writing of your

application
Grants Management Overview

James R. Williams
Lead Grants Management Specialist
Division of Extramural Research and Training
National Institute of Environmental Health Sciences
National Institutes of Health
Department of Health & Human Services
Introduction to Grants

Grants Management

Review

Program
Application Submission

Competing applications use the electronic process (ASSIST) to submit grant applications - ASSIST is the Application Submission System & Interface for Submission Tracking

Where does an application come from?

- All applications must be in response to an announcement, posted in the NIH Guide
- Two basic types:
  - Funding Opportunity Announcement (FOA)
    - Generally very broad and allow for a wide variety of submissions
    - There are parent FOA’s for most mechanisms that allow submission for nearly any topic
  - Request For Applications (RFA)
    - Much more limited. Typically these are for a specific area, have a set aside amount of funding and an anticipated number of applications that will be supported.
What’s in an announcement?

- The funding announcement contains a lot of important information and tells the applicant what must be included in an application.
- May include restrictions on allowable costs, funding period, etc.
- States which Institute/Centers (IC’s) are participating in the announcement, the funding mechanism, and important dates.
- Describes in detail what must be included in each section of the application, including any additional requirements that go beyond what must be included in every application.
- You should read through the announcement that an application applied through before review so you understand any specific requirements.
Allowable Costs

- Equipment (deemed necessary for the research project)
- Supplies (includes equipment costs under $5,000)
- Travel
- Consultants
- Consortia
- Alterations & Renovations (depends on the type of federal award)
- Other (such as maintenance costs on equipment if not in the lease agreement, animal costs)
Unallowable Costs

- Alcoholic beverages (Electronic Code of Federal Regulations, Sec. 200.423)
- Goods or services for personal use (200.445)
- Lobbying (200.450)
- Entertainment (200.438)
Budget Types

Modular budgets

- Grant applications with a budget request of $250,000 or less per year (direct costs, minus consortium F&A costs.) Budget requests are submitted in $25,000 increments in grant categories.
- Modular budgets are not used for SBIR, STTR, or foreign (non-U.S. institution) grant applications.

Categorical budgets (known as detailed or itemized budgets)

- Grant applications with a budget request of $250,000 or more; specific dollar amounts are listed in the appropriate categories

Applications requesting more than $500,000 direct costs must have permission from the awarding institute to submit an application
Common Budget Errors

- Exceeding the FOA budget amount
- Budget exceeds $500,000 and applicant did not request permission from the awarding institute to submit the budget request
- Modular budget request did not provide a justification for consortium, or direct/indirect cost breakdown for consortium
- Costs in budget differ from the Budget Justification
- Salaries exceed the NIH salary cap
- Calendar months effort does not equate to the requested salary
- Miscalculation of F&A costs
- Used a modular budget when a categorical budget was required
- Waiting until the last minute to contact NIH on budget clarification questions
- Not asking questions
Grants Management

The Grants Management Officer (GMO) is the NIH official authorized to obligate NIH to the expenditure of funds and permit changes to approved projects on behalf of NIH, such as the funding, duration, or other terms and conditions of an award.
Grants Management

The NIH Grants Management Specialist (GMS) oversees the business aspects of the award, including but not limited to:

- evaluating grant applications for administrative content and compliance with statutes, regulations and guidelines
- negotiating grants
- providing consultation and technical assistance to applicants and grantees, for example, on grants administration policies and provisions
- administering grants after award
Grants Management

Grantee Financial Capability

Assurances
Cost Analysis
Other Support

Pre-Award

Grantee Eligibility

Streamlined Noncompeting Award Process

Interim funding
File Documentation
Grants Management

Preaward Responsibilities

• Administrative Review of Grant Applications
• Assurances/Certifications
• Cost Analysis of Budget
• Grantee Financial Capability
• Other Support
Grants Management

Successor in interest

Special terms of award

Supplements

Restrictions on Award

Extensions

Close-out

Offsets

Unobligated/Unliquidated Balances

Post Award

Change of Grantee Institution

Assurance of Compliance

Financial Status Reports

Change of Investigator
Grants Management

Post Award Responsibilities

- Administrative review of noncompeting applications
- Ensure compliance with appropriation and authorizing legislation, and OMB, HHS, NIH, and NIEHS policies and procedures
Recipient Institution

The grantee organization is the legal entity responsible and accountable to NIH for the performance and financial aspects of the research project.

Grants are awarded to grantee organizations on behalf of Principal Investigators (PI).
The Principal Investigator is the member of the team responsible for the scientific or technical aspects of the grant and the day-to-day management of the project.

The PI ensures compliance with the financial and administrative aspects of the award.

The PI works directly with the NIH Program Officer.
Resources


NIH Extramural Nexus – newsletter for the extramural community: http://nexus.od.nih.gov/all/nexus-by-date/

Grant Application Basics: http://grants.nih.gov/grants/grant_basics.htm

eRA Training: Video Tutorials: http://era.nih.gov/era_training/era_videos.cfm
Helpful Webpages


Grants and Funding: https://www.nih.gov/grants-funding

Types of Grant Programs: https://grants.nih.gov/grants/funding/funding_program.htm

Annotated SF424 (R&R) Application Forms (General and Small Business and Multi-project): https://grants.nih.gov/grants/how-to-apply-application-guide.html

How we check for application completeness: https://grants.nih.gov/grants/how-to-apply-application-guide/submission-process/how-we-check-for-completeness.htm

A New Era: “The More Things Change The More They Stay the Same!”

Leroy Worth Jr, Scientific Review Officer, NIEHS
Goals/Outline for Today

- Basics of the NIH Application and Peer Review Process
- Early Career Awards
- Peer Review and Early Career Review Program
- Scientific Opportunities
  - NIEHS
- Wrap-up and Discussion
I’ve got an idea...
The black box of the NIH

An idea goes in, sometimes money comes out
Submission: Types of Applications

1. Solicited
2. Unsolicited

Both have Funding Opportunity Announcement (FOA) numbers
FOAs vs. Investigator-initiated applications

**Funding Opportunity Announcements**

RFA - Request for Applications: Set-aside funds, special review, single receipt date

PA - Program Announcement: Area of interest for the institute. No set-aside funds. Standard receipt dates. Goes to standing study section for review, funded according to Institute’s payline

PAR – Program Announcement with Review: Same as a PA, but has a special review.

**Investigator-initiated**

*(Parent announcements)*

Write and submit a grant application

Assigned to an NIH institute

Reviewed by standing study sections

How to find them?

http://grants.nih.gov, Institute websites, @NIHforFunding

https://www.niehs.nih.gov/funding/grants/announcements/index.cfm
Considerations for responding to FOAs

READ THE ANNOUNCEMENT CAREFULLY:

• Is your idea what they’re looking for (priority)?
• Send your Specific Aims to the Program Officer listed on the FOA for feedback.
• Follow all the directions and seek clarification.
• Submit a Letter of Intent if requested.
# Application Due Dates, Review and Award Cycles

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<th>Cycle I</th>
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<th>Cycle III</th>
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<td><strong>Application Due Dates</strong></td>
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<td>R01 – new</td>
<td>5-Feb</td>
<td>5-June</td>
<td>5-Oct</td>
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<td>K Awards – new</td>
<td>12-Feb</td>
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<td>16-Feb</td>
<td>16-Jun</td>
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<td>R03 – new</td>
<td>16-Feb</td>
<td>16-Jun</td>
<td>16-Oct</td>
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<tr>
<td>R15 – all</td>
<td>25-Feb</td>
<td>25-Jun</td>
<td>25-Oct</td>
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<td>R01 – renewal, resubmission, revision</td>
<td>5-Mar</td>
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<td>Fellowships</td>
<td>8-Apr</td>
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<td><strong>Scientific Merit Review</strong></td>
<td>June-July</td>
<td>Oct-Nov</td>
<td>Feb-Mar</td>
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<td><strong>Advisory Council Round</strong></td>
<td>August -October</td>
<td>Jan</td>
<td>May</td>
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<tr>
<td><strong>Earliest Project Start Date</strong></td>
<td>September or Dec</td>
<td>April</td>
<td>July</td>
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Review criteria

Core Criteria
- Significance
- Investigator
- Innovation
- Approach
- Environment

- Each assigned Reviewer provides a score (1-9) for each core criteria
- You’ll also get an overall impact score (10-90) reflecting the Reviewer impressions of the entire application
  - Additional review criteria as applicable (RFA or PAR)
First rule of grantsmanship: KNOW YOUR AUDIENCE and WHAT THEY ARE LOOKING TO ASSESS!

**Reviewers are:**
- Accomplished, dedicated
- Fair
- Overcommitted, tired
- Inherently skeptical, overly critical
- Need to be convinced
- May have only a general understanding

*Unless you plan to support your own research, you’re writing for them – not you!*
Make it easy for them!

- Lay things out logically and repeat premise.
- Be clear and concise, limit jargon & acronyms.
- Proofread
- Know what they are looking for and give it to them!

_The key to success in grant-writing is to engender enthusiasm in the reviewer, who then becomes an advocate for the proposal!_
Pain Points with applications

- Overly ambitious
- Lacks preliminary data
- Limited novelty/Incremental science
- Lacks experimental evidence
- Research plan not feasible
- Questionable reasoning in approach
- Not well experienced with methods
- Does not generate excitement
- Lack of productivity
- Lack of attention to detail
Funding Considerations

• Summary Statement: Score and Narratives

• Programmatic Priorities

• IC Advisory Council or Board

• Budgetary Considerations

• Institute Director
New and early stage investigator status

**NEW INVESTIGATOR** is...
Someone who has never been the PI on a “significant, independent” NIH research grant (like an R01)

**EARLY-STAGE INVESTIGATOR** is...
A New Investigator who finished their terminal research degree or medical residency within the last 10 years

*Make sure your eRA Commons profile is updated!*
A Field Guide to NIH Staff

THE PROGRAM OFFICER
• Responsible for the programmatic, scientific, and/or technical aspects of a grant
• Develop research programs (write RFAs)
• Provide guidance and assistance to applicants
• Post-award administration (review your progress reports, do site visits, etc.)

THE SCIENTIFIC REVIEW OFFICER
• Responsible for scientific and technical review
• Ensures fair and unbiased evaluation of scientific and technical merit
• Provides a summary of the review (summary statement)
• Reviews applications for completeness and conforming to application requirements

THE GRANTS MANAGEMENT SPECIALIST
• Responsible for the business management aspect of grants
• Evaluate grant applications for administrative content and compliance with statutes, regulations, and guidelines
• Negotiates awards
• Interprets grants administration policies
Grant Mechanisms

Although there are many mechanisms, not all are available at all institutes under all circumstances.

http://www.grants.nih.gov/grants/funding/funding_program.htm
How to Determine if an FOA Accepts Clinical Trials?

**FOA Title (new FOAs only)**

- Funding Opportunity Title: Early Phase Clinical Trials in Imaging and Image-Guided Interventions (R01 Clinical Trial Required)

**FOA Section II. Award Information**

- Application Types Allowed:
  - New
  - Resubmission
  - Revision

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

- Clinical Trial?
  - Required: Only accepting applications that propose clinical trial(s)

**Tip:** Check your FOA at least 30 days before the due date for any updates
Recommendation!

Contact an appropriate Program Officer before submitting and, preferably, before completing the writing of your application.
Contact information

NIEHS Fellowship Program (F awards)
Mike Humble, PhD
humble@niehs.nih.gov

NIEHS Career Development Program (K awards)
Carol Shreffler, PhD
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Thank You!

Any Questions?
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