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

Today's Seminar

Introduction

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

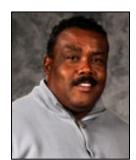
Grants Management Overview – James Williams, Lead Grants Management Specialist

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

Q&A







NIEHS Overview & NIH Research Funding 101

Michael Humble, Ph.D.

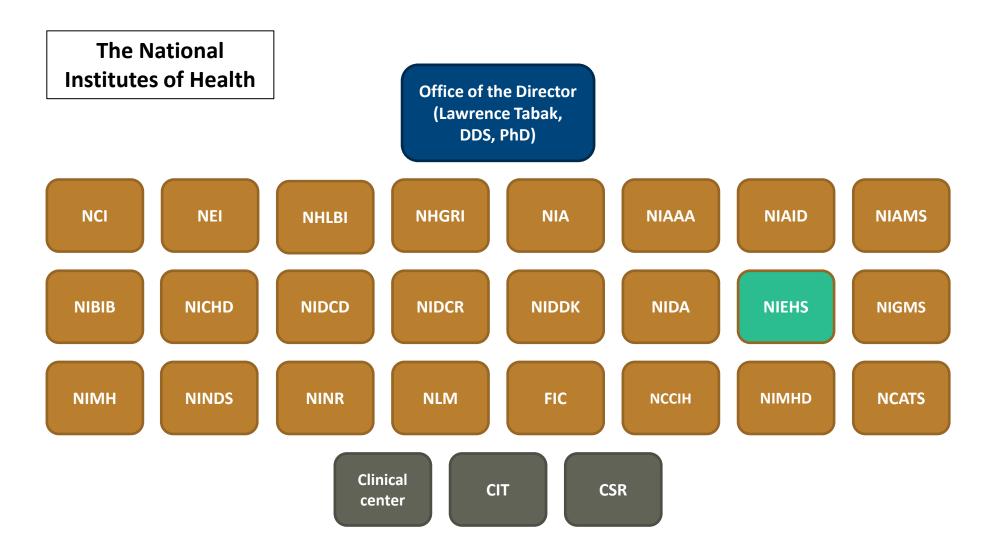
Program Administrator
Division of Extramural Research and Training
National Institute of Environmental Health Sciences
National Institutes of Health

Department of Health & Human Services



NIH Mission

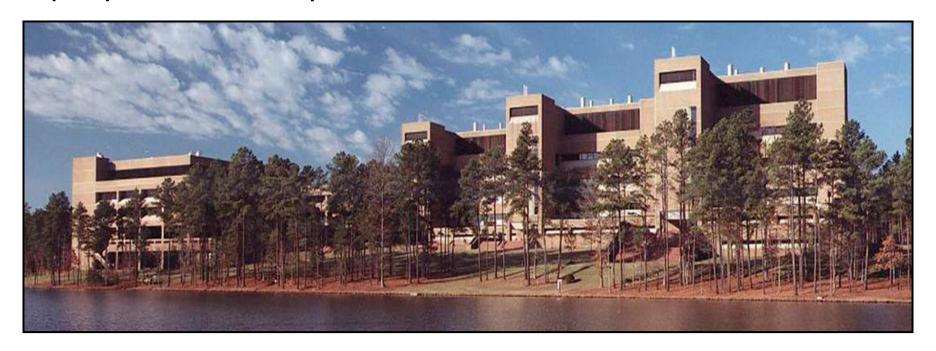
NIH's mission is to seek fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to enhance health, lengthen life, and reduce illness and disability.



27 Institutes/Centers (ICs) with specific topic or disease focus

The National Institute of Environmental Health Sciences

• Our <u>mission</u> is to discover how the environment affects people in order to promote healthier lives.



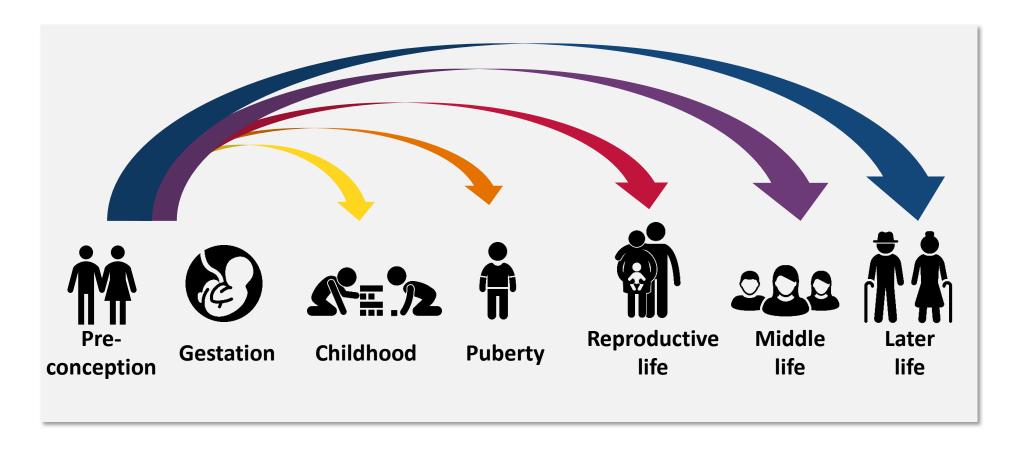
NIEHS is unique at the NIH because we are the only one whose research has a primary focus on preventing disease, rather than diagnosing and treating it.

What is Our "Environment"?



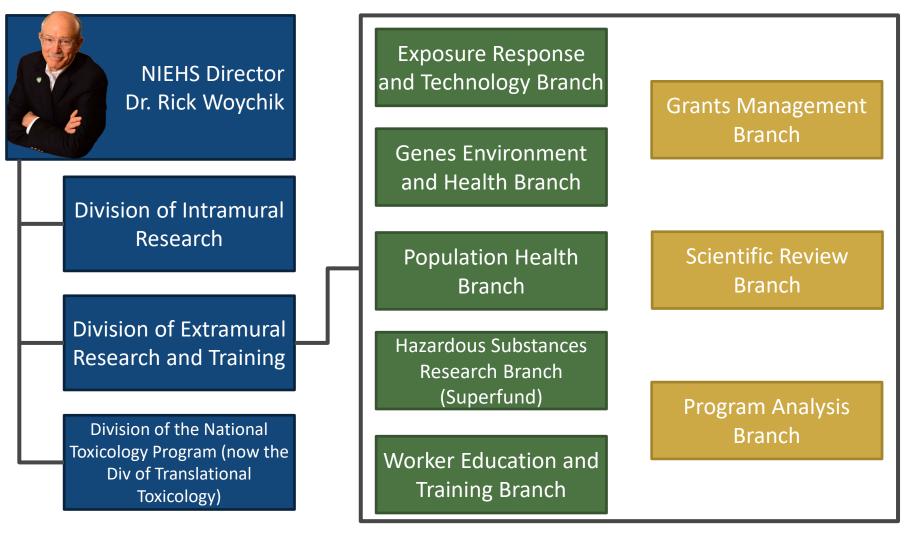
E- waste

Exposures Across the Lifespan Impact Life-long Health

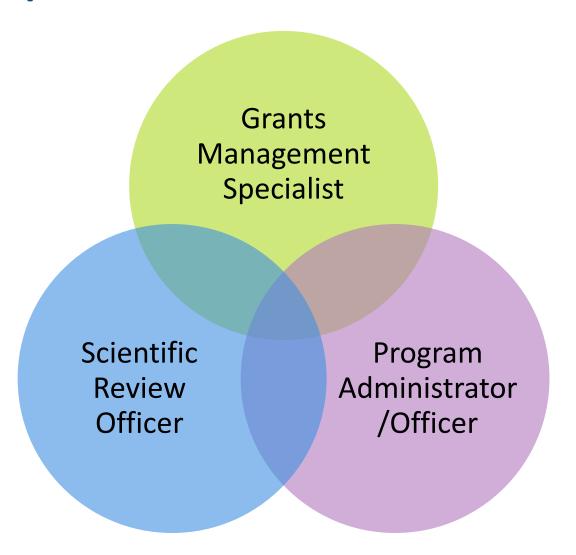




NIEHS Organization



Important personnel



NIH Research Funding 101 So you've got an idea..



Recommendation!

Contact an appropriate

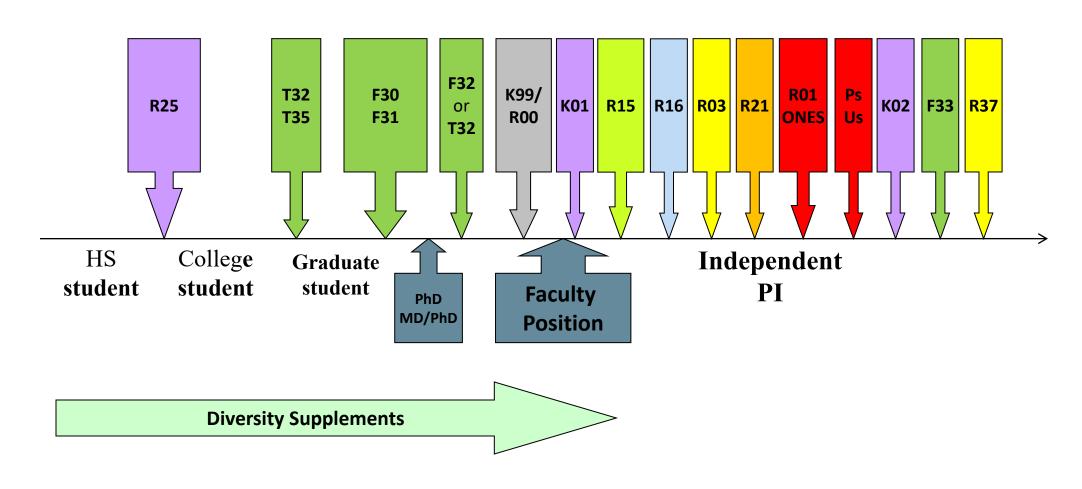
Program Administrator

before submitting and, preferably,

before completing the writing of your

application

Training, Career Development and Research Support



What is a Grant Mechanism?



"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



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

https://grants.nih.gov/grants/guide/pa-files/PAR-21-172.html

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

https://grants.nih.gov/grants/guide/rfa-files/RFA-ES-21-001.html

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 <u>RFA-ES-21-007</u>
- 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, <u>microplastics (MPs)</u> and <u>nanoplastics (NPs)</u>.
- 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

https://grants.nih.gov/grants/guide/notice-files/NOT-ES-23-002.html

Question: "I have this idea. Is there a funding opportunity

I can apply for?" partment of Health and Human Services rt 1. Overview Information National Institutes of Health (NIH) Participating Organization(s) Funding Opportunity Title πcement NIH Research Project Grant (Parent R01 Clinical Trial Not All Components of Participating Organizations National Cancer Institute (NCI) **Activity Cod** R01 Research Project Grant National Eye Institute (NEI) National Heart, Lung, and Blood Institute (NHLBI) Reissue of PA-18-484 Announcement Type National Human Genome Research Institute (NHGRI) National Institute on Aging (NIA) Related Notices . November 12, 2019 - Notice of Special Interest on Neurobehavioral Mechanisms of Social Isolation and Alcohol Use National Institute of Alcohol Abuse and Alcoholism (N/AAA) National Institute of Allergy and Infectious Diseases (NIAID) . November 12, 2019 - Notice of Special Interest: Advancing Research for Tickborne Diseases (TBDs), See Notice National Institute of Biomedical Imaging and Bioengineering (NIBIB) · November 05, 2019 - Notice of Special Interest (NOSI): Biophysical and Biomechanical Aspects of Embryonic Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) . October 29, 2019 - Notice of Special Interest (NOSI) of NIDCR in Supporting Discovery, Characterization, and National Center for Complementary and Integrative Health (NCCIH) Mechanistic Study of Genetic Variants Underlying Dental, Oral, and Craniofacial Diseases and Conditions. See National Institute on Deafness and Other Communication Disorders (NIDCD) National Institute of Dental and Craniofacial Research (NIDCR) . October 22, 2019 - Notice of Special Interest (NOSI): Geospatial Approaches in Cancer Control and Population National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK) Sciences. See Notice NOT-CA-20-004 October 22, 2019 - Notice of Special Interest: Promoting research opportunities on HIV/AIDS in NIAMS. See Notice National Institute on Drug Abuse (NIDA) National Institute of Environmental Health Sciences (NIEHS October 09, 2019 - Notice of Special Interest (NOSI): Epidemiologic Studies to Characterize Cardiovascular Health National Institute of General Medical Sciences (NIGMS) and its Predictors and Trajectories in Diverse Groups of Children. See Notice NOT-HL-19-7 National Institute of Mental Health (NIMH) National Institute on Aging (NIA) National Institute of Neurological Disorders and Stroke (NINDS National Institute of Allergy and Infectious Diseases (NIAID) National Library of Medicine (NLM) National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS) National Institute of Nursing Research (NINR) National Institute of Biomedical Imaging and Bioengineering (NIBIB) Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD) National Institute on Deafness and Other Communication Disorders (NIDCD) **Funding Opportunity Title** Academic Research Enhancement Award for Undergraduate-National Institute on Drug Abuse (NIDA) National Institute of Environmental Health Sciences (NIEHS) Focused Institutions (R15 - Clinical Trial Not Allowed) National Institute of Mental Health (NIMH) National Institute of Neurological Disorders and Stroke (NINDS) National Center for Complementary and Integrative Health (NCCIH) **Activity Code** R15 Academic Research Enhancement Award (AREA) National Institute of Nursing Research (NINR) National Institute on Minority Health and Health Disparities (NIMHD) National Institute of Alcohol Abuse and Alcoholism (NIAAA) National Institute of Dental and Craniofacial Research (NIDCR) National Institute on Drug Abuse (NIDA **Funding Opportunity Title** Research Enhancement Award Program (REAP) for Health National Institute of Nursing Research (NINR National Institute on Minority Health and Health Disparities (NIMHD) Professional Schools and Graduate Schools (R15 Clinical Trial Not National Library of Medicine (NLM) National Center for Complementary and Integrative Health (NCCIH) Allowed) Note: Not all NIH Institutes and Centers (ICs) participate in Parent Announcements. Applicants should carefully note which ICs participate in this announcement and view their respective areas of research interest at the R21 IC-Specific Scientific interests and Contact website. ICs that do not participate in this appoundment will not consider applications for funding **Activity Code** R15 Research Enhancement Award Funding Opportunity Title NIH Exploratory/Developmental Research Grant Program (Parent R21 Clinical Trial Not Allowed) Announcement Type

· November 12, 2019 - Notice of Special Interest: Advancing Research for Tickborne Diseases (TBDs). See Notice

Related Notices

Activity Code

R21 Exploratory/Developmental Research Gran

Recommendation!

Contact an appropriate

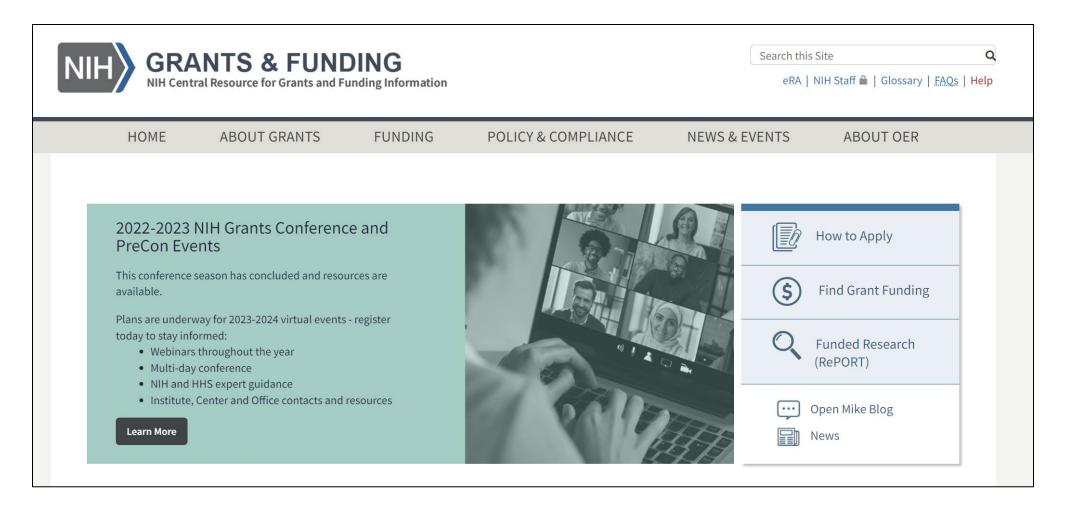
Program Administrator

before submitting and, preferably,

before completing the writing of your

application

Finding Grant Opportunities grants.nih.gov



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)

Michael C. Humble, Ph.D.

National Institute of Environmental Health Sciences (NIEHS)

Telephone: <u>984-287-3272</u> Email: humble@niehs.nih.gov

Peer Review Contact(s)

Linda K. Bass, Ph.D.

National Institute of Environmental Health Sciences (NIEHS)

Telephone: <u>984-287-2326</u> Email: bass@niehs.nih.gov

Financial/Grants Management Contact(s)

James R. Williams

National Institute of Environmental Health Sciences (NIEHS)

Telephone: <u>984-287-3338</u> Email: williamsjr@niehs.nih.gov



Mike Humble, Ph.D.

Health Scientist Administrator, Basic
Science

Tel 984-287-3272 humble@niehs.nih.gov



<u>Linda K. Bass, Ph.D.</u> Scientific Review Officer

Tel 984-287-3236 Fax 919-316-4606 bass@niehs.nih.gov



<u>James R. Williams</u> Grants Management Officer

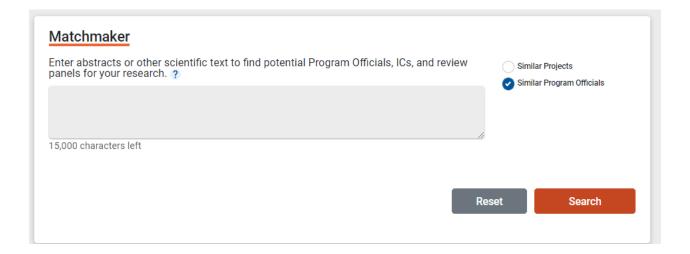
Tel 984-287-3338 Fax 919-541-2860 james.williams3@nih.gov

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

Program Administrator

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



Application Submission

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

http://grants.nih.gov/grants/guide/notice-files/NOT-OD-16-042.html

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

- Salaries—commensurate with institutional salary, effort and the NIH salary cap (https://grants.nih.gov/grants/policy/salcap_summary.htm)
- 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 <u>must</u> 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

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

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

Grantee Financial Capability

Assurances

Cost Analysis

Other Support



Grantee Eligibility

Streamlined Noncompeting Award Process

Interim funding

File Documentation

Preaward Responsibilities

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

Successor in interest

Special terms of award

Supplements

Extensions

Offsets



Restrictions on Award

Close-out

Unobligated/Unliquidated Balances

Change of Grantee Institution

Assurance of Compliance

Financial Status Reports

Change of Investigator

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)

Principal Investigator

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

Office of Extramural Research (OER) Web Page: http://grants.nih.gov/grants/oer.htm

NIH Grants Policy Statement (Rev. 12/19): http://grants.nih.gov/grants/policy/nihgps/

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

How to Apply - Application Guide: http://grants.nih.gov/grants/how-to-apply-application-guide.htm

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

Self Help Resources page: http://grants.nih.gov/support/index.html

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

Leroy Worth Jr, Scientific Review Officer, NIEHS

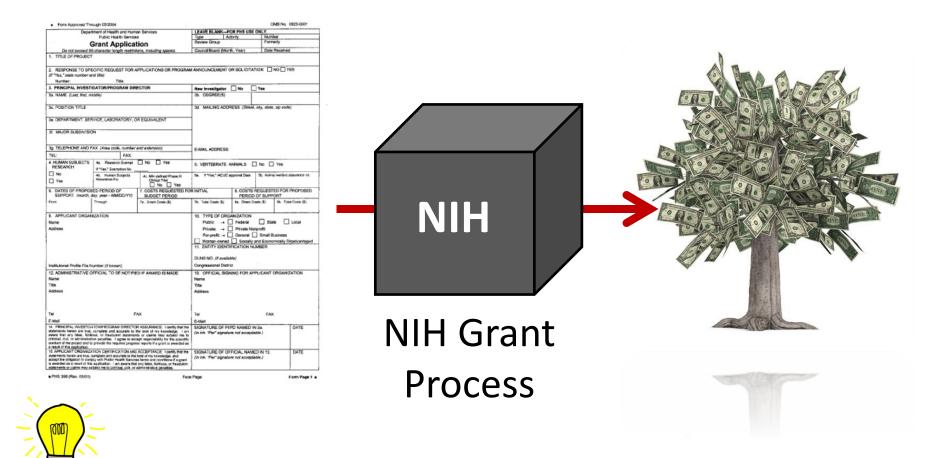
Goals/Outline for Today

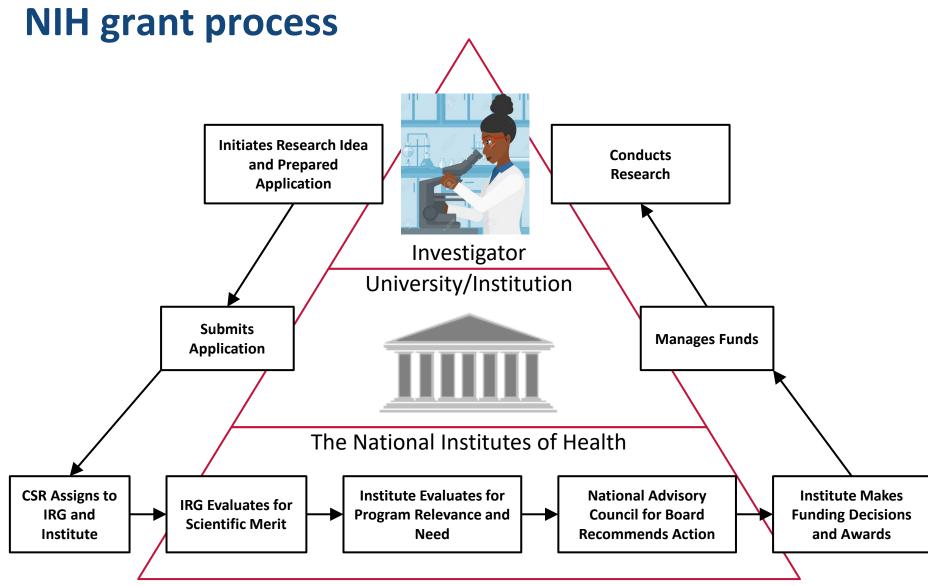
- Basics of the NIH Application and Peer Review Process Early Career Awards
- Peer Review and Early Career Review Program
- Scientific Opportunities
 - NIEHS
- Wrap-up and Discussion

I've got an idea...



The black box of the NIH





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.

How to find them?

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



Investigator-initiated (Parent announcements)

Write and submit a grant application

Assigned to an NIH institute

Reviewed by standing study sections

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

Grant	Cycle I	Cycle II	Cycle III
Application Due Dates			
R01 – new	5-Feb	5-June	5-Oct
K Awards – new	12-Feb	12-Jun	12-Oct
R21 – new	16-Feb	16-Jun	16-Oct
R03 – new	16-Feb	16-Jun	16-Oct
R15 – all	25-Feb	25-Jun	25-Oct
R01 – renewal, resubmission, revision	5-Mar	5-Jul	5-Nov
K Awards – renewal, resubmission, revision	12-Mar	12-Jul	12-Nov
R21 – renewal, resubmission, revision	16-Mar	16-Jul	16-Nov
R03 – renewal, resubmission, revision	16-Mar	16-Jul	16-Nov
Fellowships	8-Apr	8-Aug	8-Dec
Scientific Merit Review	June-July	Oct-Nov	Feb-Mar
Advisory Council Round	August -October	Jan	May
Earliest Project Start Date	September or Dec	April	July

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

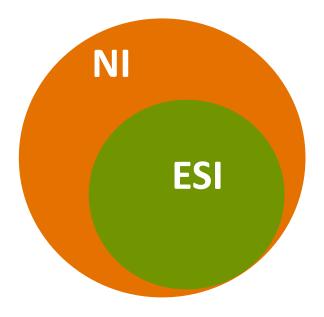
- Overly ambitious
- Lacks preliminary data
- Limited novelty/Incremental science
- Lacks experimental evidence
- Research plan not feasible

- 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



A NEW INVESTIGATOR is...

Someone who has never been the PI on a "significant, independent" NIH research grant (like an R01)

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

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

Submit your application

Get your summary statement

Grant Mechanisms

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

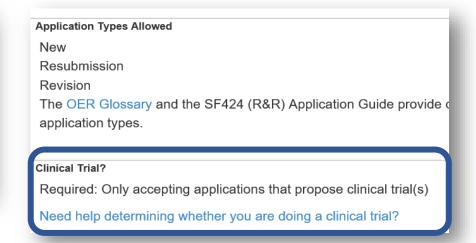
http://www.grants.nih.gov/grants/funding/funding_program.htm

How to Determine if an FOA Accepts Clinical Trials?

FOA Title (new FOAs



FOA Section II. Award Information



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

shreffl1@niehs.nih.gov





Thank You!

Any Questions?



National Institutes of Health f Health and Human Services

Contact Information



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James R. Williams
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williamsjr@niehs.nih.gov



Leroy Worth Jr., PhD
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worth@niehs.nih.gov