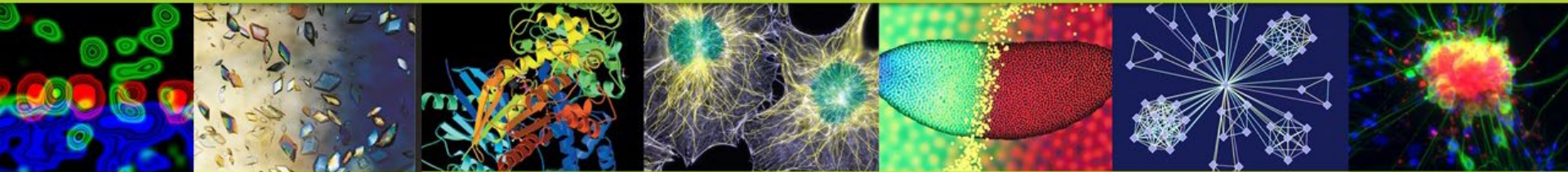


# Grant Writing Webinar Series for Institutions Building Research and Research Training Capacity

## Webinar 2 - Determining Whether a Funding Opportunity is Right for You

September 26, 2022



# About Today's Webinar

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*This webinar is being recorded.* It will be posted online for future access. If you registered to attend, you will receive an email notification when the recording is available.

*The recording of Webinar 1 is posted on our website.*

You can enter questions in the Q&A Box. We will answer as many as we can throughout the webinar.

You will also have the opportunity to ask questions in an open Office Hour. Details will be shared at the meeting's end.

# Acknowledgements

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Thank you to the following teams that helped make this webinar series possible!

- The NIGMS Information Resources Management Branch
- The NIGMS Web Team
- The NIGMS Administrative, Travel and Service Center
- The NIGMS Communications and Public Liaison Branch
- The NIGMS Division of Extramural Activities

Thank you to all of today's speakers & volunteers!

Thank you for attending or viewing this event.

# Purpose of This Webinar Series

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This series is *not* a detailed review of specific NIGMS or NIH funding opportunities.

The goal of the entire series is to share strategies for how to navigate the NIH funding process, considerations for determining research and grant writing readiness, and thoughts on effective writing strategies.

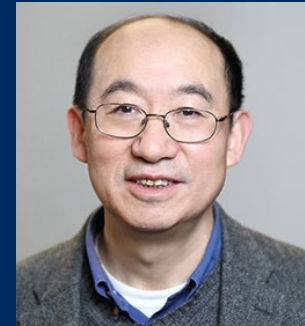
This information is appropriate for investigators and sponsored programs or research development professionals.

This information does *not* supersede official NIH instructions in funding opportunity announcements, the SF424 or the Grants Policy Statement.

# Today's Topics & Speakers

1. Finding Relevant ICs, Study Sections and Program Officers
2. Helpful Considerations When Choosing Which Funding Opportunity to Apply to
3. Highlights of NIGMS MIRA & Training Grants, NIH R15 & R16
4. Writing a Specific Aims Page or Project Description

## Speakers:



Zhongzhen Nie, Ph.D.  
Branch Chief, NIGMS  
Pharmacological &  
Physiological Sciences Branch



Behrouz Davani, Ph.D.  
Branch Chief, NCI Diversity  
Training Branch

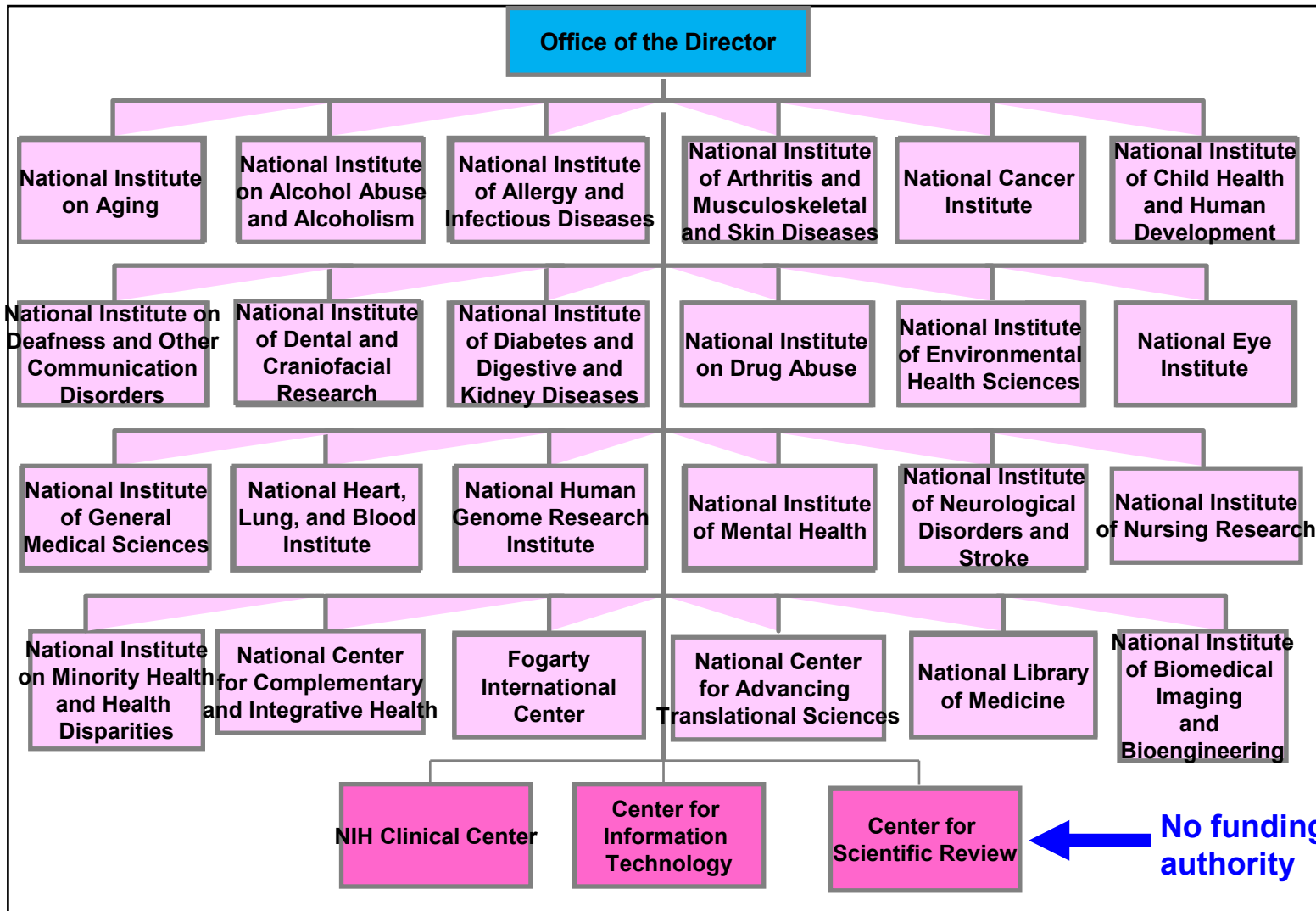
# PART I

## Finding Relevant ICs, Study Sections and Program Officers:

Learn the basics of using NIH websites and databases to find potential ICs to consider your work and relevant study sections and program officers.

Zhongzhen Nie, Ph.D.  
Branch Chief, NIGMS  
[zhongzhen.nie@nih.gov](mailto:zhongzhen.nie@nih.gov)

# NIH Institutes/Centers (ICs) with Funding for Biomedical Research



Each with its own:  
mission & priorities,  
budget,  
funding strategy

← No funding authority

# Which IC is a Good Fit for Your Application?

- You could start with advice from investigators in your field (mentors, collaborators, etc.), but then consult a Program Officer, as the final word comes from NIH
- NIH Website: Each IC has its own mission and funding policy
  - <https://www.nih.gov/institutes-nih/list-institutes-centers>
- Use NIH RePORTER to identify relevant ICs
  - <https://reporter.nih.gov/>

Research Organizations Workforce Funding Reports Links and Data

About Contact FAQ 



## RePORTER

The RePORT Expenditures and Results (RePORTER) module allows users to search a repository of NIH-funded research projects and access publications and patents resulting from NIH funding. Enter just about anything in the RePORTER Quick Search box above (text, PI names, project numbers, fiscal year, agency) or launch the Advanced Search to precisely configure searches using separate search fields.



# Use Matchmaker in RePORTER to Find ICs

## Advanced Projects Search

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

Get Started >

## Publications Search

## Matchmaker

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

RCC cells; (2) To examine the functional consequences of betaArrestin2-p115-RhoGEF interaction in cultured RCC cells; and (3); To elucidate role for beta2AR signals that are transduced by betaArrestin2 in RCC tumor growth and metastasis in; animals. |

14,017 characters left

- Similar Projects
- Similar Program Officials

Reset

Search

Note: This abstract is copied from one of my own NIH grant applications.

# Use Matchmaker in RePORTER to Find ICs

Projects

Program Officials

## Filters

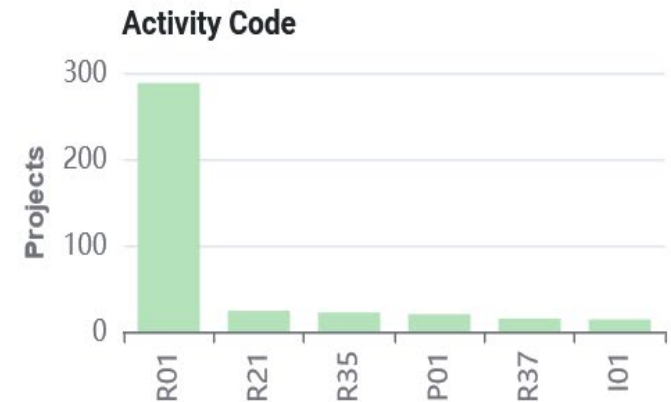
Active Projects

> Fiscal Years

> Agencies

> Activity Codes

> Program Officials



Matchmaker is a tool that suggests potential ICs and Program Officers (POs) you could consider following-up with.

NIH will determine which IC and PO will accept an application after submission.

# Tools to Find Appropriate Program Officers (POs)

## 1. Matchmaker in RePORTER

| Program Official | IC    | email | Projects |
|------------------|-------|-------|----------|
| last, first      | NCI   | view  | 25       |
| last, first      | NCI   | view  | 16       |
| last, first      | NCI   | view  | 12       |
| last, first      | NCI   | view  | 12       |
| last, first      | NINDS | view  | 10       |
| last, first      | NCI   | view  | 7        |
| last, first      | NCI   | view  | 6        |
| last, first      | NCI   | view  | 6        |
| last, first      | NCI   | view  | 6        |

## 2. Browse IC webpages:

NIGMS Contacts by Research Areas

<https://nigms.nih.gov/about/Pages/contactbyarea.aspx>

Biophysics, Biomedical Technology, and Computational Biosciences

- [Bioinformatics and Computational Biology](#)
- [Biomedical Technology](#)
- [Biophysics](#)

Genetics and Molecular, Cellular, and Developmental Biology

- [Cell Biology](#)
- [Developmental and Cellular Processes](#)
- [Genetic Mechanisms](#)

Pharmacology, Physiology, and Biological Chemistry

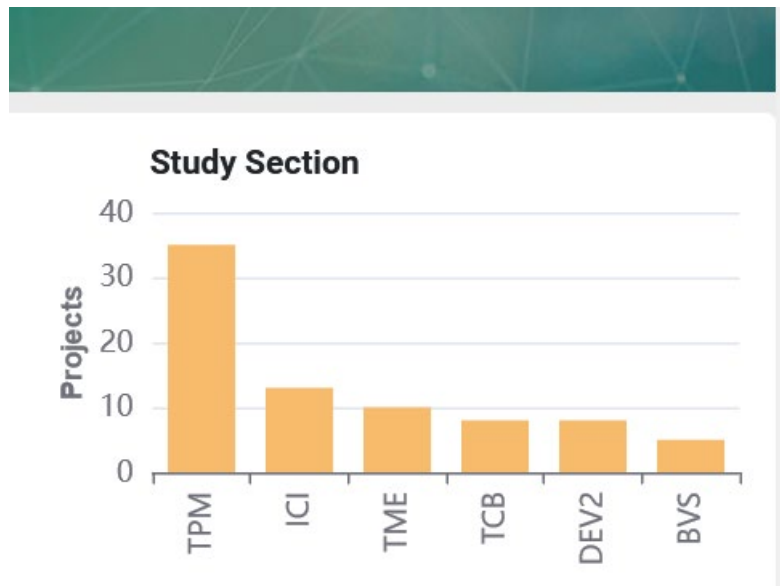
- [Biochemistry and Bio-related Chemistry](#)
- [Pharmacological and Physiological Sciences](#)

# NIH Tools to Find Relevant Study Sections

1. Results from Matchmaker in RePORTER

2. Assisted Referral Tool (ART) by the NIH Center for Scientific Review (CSR)

<https://art.csr.nih.gov/ART/selection.jsp>



Center for  
Scientific Review

Assisted Referral Tool (ART)

Please make a selection:

Recommend study sections directly

You will be given a list of the best matching of the 175 active SRG panels.

Recommend SBIR/STTR Special Emphasis Panels

If you are applying for a SBIR/STTR grant, select this option.

NIH will determine Study Section assignment after application submission.

# PART II

## Helpful Considerations When Choosing Which Funding Opportunity to Apply to:

**Recognize the value of funding trends, success rates  
and sample applications, where available.**

Zhongzhen Nie, Ph.D.  
Branch Chief, NIGMS  
[zhongzhen.nie@nih.gov](mailto:zhongzhen.nie@nih.gov)

# Where Can I Find NIGMS Funding Trends

NIGMS Feedback Loop Blog at:

<https://loop.nigms.nih.gov/tag/feedback-loop/>

Search for: “funding trend,” “MIRA,” “R15,” etc.

## SEARCH RESULTS FOR: FUNDING TREND

APRIL 20, 2022 BY SABRINA EPOU AND JON LORSCH

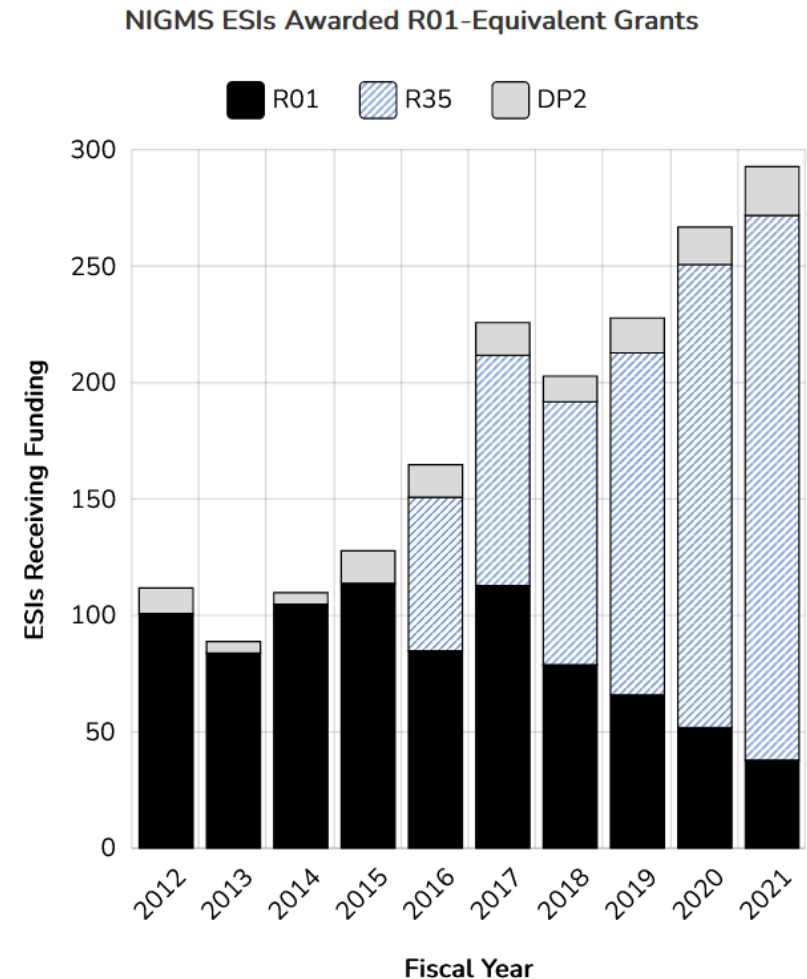
Application and Funding Trends in Fiscal Year 2021

MARCH 31, 2021 BY EMERALD NGUYEN AND JON LORSCH

Application and Funding Trends in Fiscal Year 2020

MARCH 5, 2020 BY LISA HECHTMAN AND JON LORSCH

Application and Funding Trends in Fiscal Year 2019

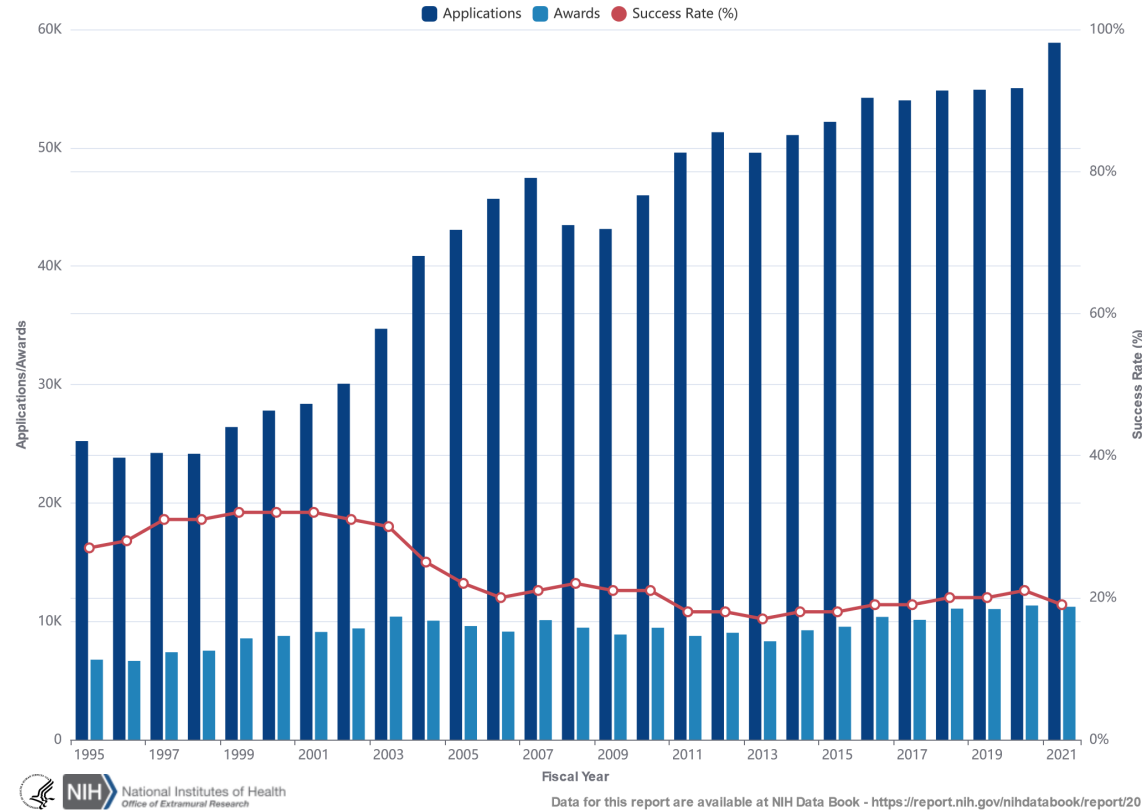


# Where Can I Find the Success Rate for Each IC?

NIH RePORT: *Research Portfolio Online Reporting Tools* <https://report.nih.gov/>



Research Project Grants: Competing Applications, Awards, and Success Rates



# Where Can I Find Sample Applications

- Scientists in your field: PhD advisor, postdoc mentor, collaborators, other funded PIs
- NIH websites. Search “sample grant applications” from IC pages
  - [NIAID](#) – R01, R03, R21, R15, R21/R33, K08, K01, F31, G11, U01
  - [NCI, Division of Cancer Control and Population Sciences](#) – R01, R03, R21, R37
  - [NHGRI](#) – R01, R21, R03
  - [NIA](#) – K99/R00
  - [NIA](#) – SBIR/STTR
  - [NIDCD](#) – R01

**Sample applications are NOT representative of the forms and instructions you should follow, as these change with time.**

**Sample applications are IC-specific and do not necessarily apply to all ICs or all funding opportunities.**

**Sample applications do not represent ALL types or formats of successful NIH applications. Mimicking them does not ensure success.**



# Contacting a Program Officer (PO)

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- Contact relevant POs listed on FOAs, IC websites, or in NIH RePORTER Matchmaker
  - Most POs prefer to be contacted by email rather than a “cold call”
  - It is okay to email again if you do not hear back initially
- Share your **Specific Aims/brief project description** in advance
  - Helps PO assess “mission-relevance” and fit with FOA
- Initiate contact early in the application process
- You may end up contacting several POs (contact one person at a time) before deciding where to submit

# PART III

## Highlights of NIGMS MIRA, NIH AREA & SuRE and NIGMS Training Grants:

Learn the basic elements of these funding opportunities.

Zhongzhen Nie, Ph.D.  
Branch Chief, NIGMS  
[zhongzhen.nie@nih.gov](mailto:zhongzhen.nie@nih.gov)

# The NIGMS MIRA Program (R35)

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- Maximizing Investigators' Research Award
- The NIGMS MIRA Program is intended to provide support for research within [the NIGMS mission](#) in the laboratory of investigators at Domestic/US institutions
- Within the scope of the MIRA, investigators will have the freedom to explore new avenues of inquiry that arise during the course of their research, as long as they remain within the mission of NIGMS
- Key application information
  - 6-page research strategy
  - **no Specific Aims Page in the application**
- There are two FOAs
  - Early-Stage Investigators
  - Established and New Investigators

# NIGMS Early Stage Investigator (ESI) MIRA

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- [PAR-20-117](#)
- NIH defines ESI as PIs that have completed their terminal research degree or end of post-graduate clinical training, whichever date is later, within the past 10 years and who have not previously competed successfully as PD/PI for a substantial NIH independent research award
- ESI MIRA and ESI [R01-equivalent](#) applications with meritorious scores will be prioritized for funding
- No preliminary data required/expected
- Budget request: \$250K/year for 5 years
- Concurrent submission of an R01 application allowed
- See the NIGMS MIRA webpage for details, including FAQs

NIGMS MIRA webpage - <https://www.nigms.nih.gov/Research/mechanisms/MIRA/Pages/default.aspx>

# NIGMS Established & New Investigator MIRA

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- [PAR-22-180](#)
- NIH defines New Investigators (NI) as those who have not previously competed successfully for substantial, independent funding from NIH
- Established Investigators (EI) are currently funded with at least one NIGMS single-PI R01-equivalent award
- Budgets for NIs will generally be \$250K/year. EI budgets vary more.
- A PD/PI may not have a MIRA application and another research grant application (e.g., R01, R15, R21) within NIGMS' mission pending review at the same time, with some exceptions
- See the NIGMS MIRA webpage for details, including FAQs

NIGMS MIRA webpage - <https://www.nigms.nih.gov/Research/mechanisms/MIRA/Pages/default.aspx>

# Research Enhancement Award (R15)

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- 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 have not been major recipients of NIH support.
  - Domestic/US institutions only
  - The institution or components cannot have received support from the **NIH totaling more than \$6M/year in 4 of the last 7 fiscal years** (except C06, S10, and Gs)
  - PI may not be PI of an active NIH research grant at time of award
- \$300K Direct Costs across 3 years
- The R15 activity code supports two programs: AREA & REAP
  - Academic Research Enhancement Award (**AREA**) for Undergraduate-Focused Institutions
  - Research Enhancement Award Program (**REAP**) for Health Professional Schools and Graduate Schools. **NIGMS does not participate in REAP.**

<https://grants.nih.gov/grants/funding/r15.htm>

# Support for Research Excellence (SuRE; R16)

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- Replacement of the SCORE program
- To develop and sustain research excellence of faculty at institutions that **receive limited NIH research support and serve students from groups underrepresented in biomedical research.**
  - Domestic/US institutions only
  - <\$6M/year total NIH Research Project Grant (RPG) funding in the past 2 years
  - ≥25% Pell-supported undergrads
  - Or the health professional school was founded to educate students from underrepresented groups
- Research strategy must have a Student Involvement Plan

<https://www.nigms.nih.gov/about/overview/Pages/SuRE.aspx>

# SuRE and SuRE First (R16)

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## SuRE First Award - [PAR-21-173](#)

- Full-time tenure-track (equivalent) or tenured faculty, that has not been PI on **any externally-funded**, peer-reviewed research grant.
- \$125K direct costs/year, up to 4 years

## SuRE – [PAR-21-169](#)

- Institutions with <20 active SuRE, SC1, SC3 awards
- Full-time tenure-track (equivalent) or tenured faculty, that is not a PI on an **active NIH RPG** (unless in the last year of SCORE/SuRE/SuRE-First)
- \$100K direct costs/year, up to 4 years



# NIGMS Training Programs to Promote Diversity

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- NIGMS supports several cross-disciplinary undergraduate and predoctoral institutional training programs to promote diversity in the biomedical research enterprise through the National Research Service Award (NRSA) program (“T” activity codes)
- For Domestic/US institutions
- These awards are made to the institution to **support cohorts of trainees for 1-3 years each** with research training & research experiences career development & support a portion of tuition/fees and stipends
- Some of these programs have only one application due date per year
- Awards are typically for five years, after which applicants may be able to seek renewal

# Overview of NIGMS Institutional Training Grants

| Program                          | Career stage   | Focus                                       | Activity code |
|----------------------------------|--|---|---------------|
| Bridges to the Baccalaureate     | Community College to Early Bachelor's  | Broad disciplines<br>Diverse trainee cohort | T34           |
| U-RISE & MARC                    | Sophomore or Junior to Senior  | Broad disciplines<br>Diverse trainee cohort | T34           |
| PREP                             | Postbaccalaureate  | Broad disciplines<br>Diverse trainee cohort | R25           |
| Bridges to the Doctorate         | Masters Degree to Early Doctorate (PhD)  | Broad disciplines<br>Diverse trainee cohort | T32           |
| G-RISE & IMSD                    | Early Doctorate (PhD)  | Broad disciplines<br>Diverse trainee cohort | T32           |
| Basic Biomedical Predoctoral     | Early Doctorate (PhD)  | 12 broad areas of basic biomedical sciences | T32           |
| Medical Science Training Program | Clinical Doctorate-PhD dual degree program (e.g. MD, DO, DVM, DDS, PharmD-PhD) |   | T32           |

<https://www.nigms.nih.gov/training/Pages/Home.aspx>

# PART IV

## Writing Specific Aims/Project Descriptions:

**Become familiar with potential ways to organize a Specific Aims Page or Project Description.**

Behrouz Davani, Ph.D.  
Branch Chief, NCI  
[behrouz.davani@nih.gov](mailto:behrouz.davani@nih.gov)

# The Specific Aims Page: A Master Plan for the Research Application

- A vital part of many NIH research grant applications
  - **Reminder: NIGMS MIRA applications do not have a Specific Aims page**
- Often the basis of the first impression the reviewers will have
- Should capture an essence of your entire application



**Disclaimer:** This presentation includes examples and tips that do not apply to every successful Specific Aims page or grant application. There are multiple effective formats, all of which are not shown here. Attempting to use any of these formats does not ensure success.

# Specific Aims - PHS 398 Research Plan Form

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## Specific Aims Page Content

- 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 have 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).

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

# One of Many Effective Structures for Specific Aims Page or Project Description

□ Introductory paragraph



Introduction/background/known knowledge



Gap in Knowledge



Long-term Goals



Objective



Central Hypothesis



Specific Aims



Expected Outcomes

□ Rationale paragraph

□ Specific aims paragraph

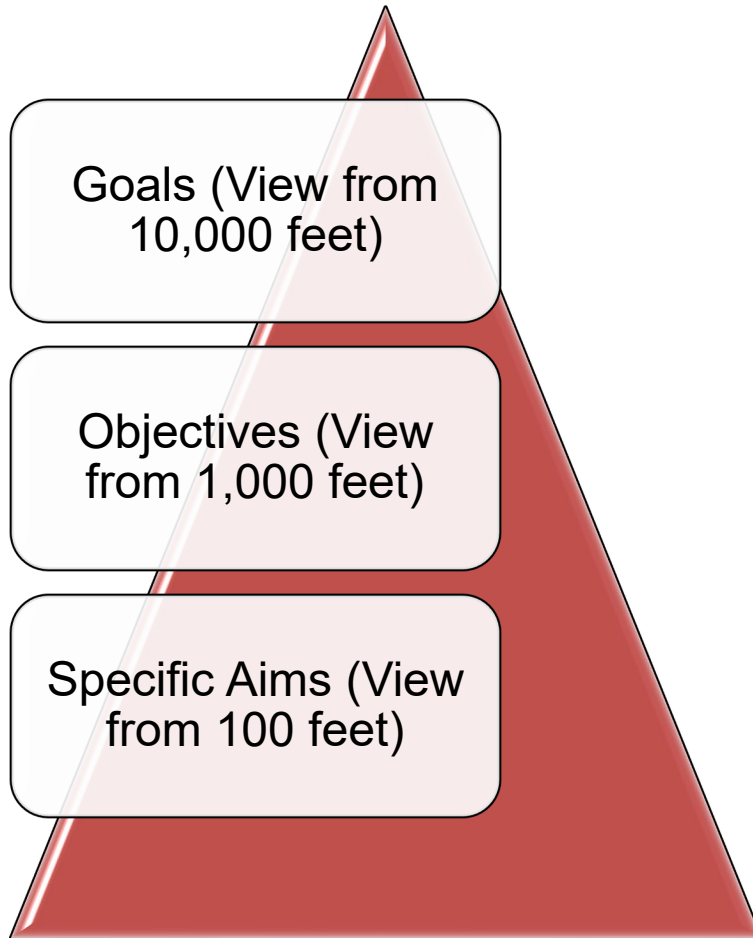
□ Overall impact paragraph  
(Pay-off paragraph)



| Possible Components  | Issues Briefly Addressed   |
|--|--|
| Introductory Paragraph   | <ul style="list-style-type: none"> <li>• Educates reviewer by summarizing important knowledge</li> </ul>   |
| Significant problem, solving problem aligned with mission of sponsor         | <ul style="list-style-type: none"> <li>• Identifies knowledge gap or critical need</li> <li>• Identifies problem created by need that you plan to solve</li> </ul>   |
| Rationale Paragraph: What, Why, Who  | <ul style="list-style-type: none"> <li>• Overall project goal addresses identified knowledge gap</li> </ul>  |
| Presents solution to the problem that successfully addresses identified need | <ul style="list-style-type: none"> <li>• Presents central hypothesis or statement of need</li> <li>• Explains why you are pursuing this project</li> <li>• Describes unique qualifications and research environment</li> </ul>   |
| Specific Aims  | <ul style="list-style-type: none"> <li>• Aims logically flow to tell the story of the proposed study</li> <li>• Aims consistent with central hypothesis and support overall project goal</li> <li>• Aims related, but not dependent on the success of another aim</li> </ul> |
| Overall Impact Paragraph   | <ul style="list-style-type: none"> <li>• Statement of innovation, novelty</li> <li>• Specific expectations to be fulfilled by project</li> <li>• Positive impact of the findings from proposal, specific future steps/next study</li> </ul>                                  |

# Go from the very big picture...to the very detailed level

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**SPECIFIC AIMS**

Colorectal cancer (CRC) screening is effective in preventing or detecting cancer at an early stage. Yet, the patient populations served by community health centers (CHCs) are screened at lower rates than the general population [1-3]. Poor screening rates in CHCs, in turn, contribute to cancer health disparities for minority, low-income, and uninsured patients. It is a patient's decision to undergo cancer screening that is an influential factor in a patient's decision to undergo cancer screening. Organizational policies and processes, such as the presence of office systems (i.e., electronic medical records and communication systems) to ensure that every eligible patient is offered screening, are also important. In CHCs, collaborative, systems-based approaches, the prevailing model for implementing systems-based changes in CHCs, have produced encouraging results, but participation places heavy demands on CHCs that are chronically overburdened and under-resourced. Given the substantial increase in patient volume expected when mandatory insurance provisions take effect, an urgent need exists for evidence-based approaches to implementing office-system changes that take into account the resource, staffing, and time constraints that CHCs face. Until this need is met, CRC screening rates will likely remain low in CHCs, putting thousands of people at unnecessary risk for CRC.

Background and Need

Our long-term goal is to increase CRC screening rates in CHCs and in doing so, reduce disparities in cancer outcomes. We will test the feasibility of an evidence-informed strategy for implementing office-system changes that promote CRC screening. The strategy combines an office-systems toolkit (adapted from the National Colorectal Cancer Roundtable [8]) and an outreach specialist to provide training and technical assistance. Our rationale for the project, supported by preliminary data, is that CHCs want to increase screening rates, but need simple, evidence-based tools that—with training and technical assistance—they can implement and maintain with the time and resources that they have. The strategy we propose is evidence-based and needs to be feasibility tested in CHCs. Our research team has the necessary expertise and access to at least 4 CHCs with 14 clinic sites that are willing to participate (see *Letters of Support*).

Long-Term Goal

Goals, Objective, and Rationale

We will test the feasibility of the proposed implementation strategy by pursuing the following specific aims:

**Aim 1: Assess the extent of implementation of office-system changes that promote CRC screening, using the CRC toolkit and outreach specialist.** Through key informant interviews and provider surveys, and guided by an organizational model of innovation implementation, we will examine the number and type of office-system tools that CHCs implement, perceived ease or difficulty of implementing office-system tools, amount and type of outreach support, and usefulness of outreach support, and organizational factors predictive of implementation.

3 Aims to Test Hypothesis

**Aim 2: Estimate the costs of implementing office-system changes, using the CRC toolkit and outreach specialist.** Through activity logs, we will estimate the cost of implementing changes to the CRC screening process, the resources used during the project, and the net benefit of the new system to the CHC. We will also estimate the revenues of the CRC screening process pre-implementation to the CHC.

**Aim 3: Conduct a limited test of the office-system changes implemented, using the CRC toolkit and outreach specialist.** We will measure changes in documented provider recommendation for screening and documented screening results through chart audits at baseline and post-implementation.

This project is innovative in that it attempts to shift the current paradigm for making systems-based changes that promote cancer screening in CHCs from the collaborative approach to one that promises greater feasibility given resource constraints of CHCs. Through the R21 funding mechanism, the expected outcomes of the project will provide information on what type of support they needed, what type of support they needed, and what changes using this approach. Aim 1 will inform the development of a larger-scale trial. In addition to advancing implementation science, the project is expected to have a positive impact on the health of minority and underserved populations by helping CHCs improve their CRC screening rates.

Final Summary Paragraph

Specific Aims Page Example #1 R21, NCI

# Example 1: Goal, Objective & Rationale (R21)

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Our **long-term goal** is to improve CRC screening rates in Community Health Centers (CHCs) and in doing so, reduce disparities in cancer outcomes. The **objective** of this R21 application is to test the feasibility of an evidence-informed strategy for implementing office-system changes in CHCs that promote CRC screening. The strategy combines an offices systems toolkit (adapted from the National Colorectal Cancer Roundtable [8]) and an outreach specialist to provide training and technical assistance. Our **rationale** for the project, supported by preliminary data, is that CHCs want to increase screening rates, but need simple, evidence-based tools that—with training and technical assistance—they can implement and maintain with the time and resources that they have. The strategy we propose is evidence-informed and promising [7, 9-16], but is novel in this setting and therefore needs to be feasibility tested in this challenging organizational context prior to larger-scale evaluation. Our research team has the **necessary breadth of expertise and experience** (see Biographical Sketches), and has access to at least 4 CHCs with 14 clinic sites that are willing to participate (see Letters of Support).

We will test the feasibility of the proposed implementation strategy by pursuing the following specific aims:

<https://cancercontrol.cancer.gov/is/funding/sample-grant-applications>

# Example 1: Overall Impact Paragraph (R21)

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This project is **innovative** in that it attempts to shift the current paradigm for making systems-based changes that promote cancer screening in CHCs from the collaborative approach to one that promises greater feasibility given resource constraints of CHCs. Consistent with the purpose of the R21 funding mechanism, the **expected outcomes** of the project will provide a solid basis for a larger-scale trial of the implementation strategy. Results from Aims 1 and 2 will indicate which office-system tools the CHCs were able to implement, how much and what type of support they needed, and how much staff time and resources it took to implement office-system changes using this approach. Aim 3 will generate effect-size estimates to inform the development of a larger scale trial. In addition to **advancing implementation science**, the project is expected to have a **positive impact** on the health of minority and underserved populations by helping CHCs improve their CRC screening rates.

<https://cancercontrol.cancer.gov/is/funding/sample-grant-applications>

Specific  
Aims Page  
Example  
#2

R01, NIAID

## HYPOTHESIS AND SPECIFIC AIMS:

The transcription factor FOXP3 is critical for the regulation of numerous debilitating human immune-mediated diseases that together affect over 8.5 million people (1 in 31 U.S. residents). In IBD, FOXP3+ Treg dysfunction (1) and (2) chronic intestinal inflammation indicates aberrant *in vivo* FOXP3+ Tregulatory (Treg) cell function (1). Similarly, proinflammatory signals *in vitro* impair Treg function (2). Our lab was the first to characterize the essential role for the histone methyltransferase (HMT) EZH2 in the epigenetic regulation of FOXP3+ Treg function (3). Our extended work has further extended our observations indicating a key role for EZH2 in the regulation of FOXP3+ Treg function. However, the regulation and biological impact of the FOXP3-EZH2 pathway to IBD is unknown. This knowledge is important given the apparent loss of function of Treg cells in inflammation.

Our *long-term goal* is to dissect epigenetic mechanisms regulating Treg cellular differentiation and function in the setting of GI inflammatory diseases; as these discoveries will facilitate the development of novel therapies for IBD. Consequently, the *objective* of this grant is to characterize the role for the epigenetic regulator EZH2 in Treg suppressive function. These investigations are strongly supported by preliminary data demonstrating: 1) FOXP3 is required for Treg suppressive function; 2) IL6 signaling leads to phosphorylation of EZH2; 3) lymphocytes isolated from the intestine of IBD patients demonstrate activation of IL6-induced gene networks and loss of EZH2 HMT function; and 4) conditional knockout of EZH2 in FOXP3+ T cells leads to *in vivo* immune dysfunction. Based upon these compelling data we propose the **CENTRAL HYPOTHESIS** that **EZH2 loss of function disrupts the homeostasis of Treg cells, and the disruption of EZH2 function in the setting of active inflammation contributes to IBD**. Our rationale is that identification of the signaling pathways that regulate Treg suppressive function in the setting of intestinal inflammation will offer new therapeutic opportunities within the field of IBD. Our specific aims will test the following hypotheses:

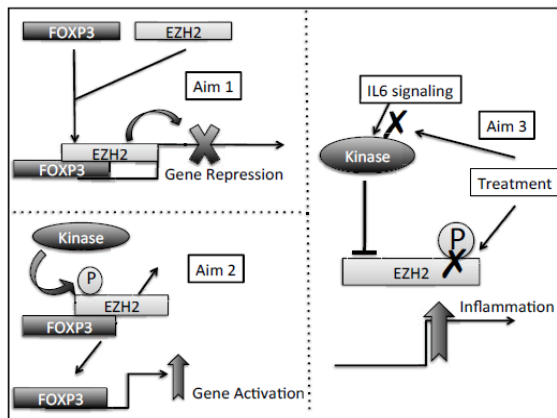


Figure 1: Conceptual framework. Through the mechanistic experiments designed in the following aims we will identify the role for FOXP3 in the recruitment of EZH2 to core target genes required for Treg function (Aim 1). We will define the signaling network responsible for phosphorylation of EZH2 and disrupted HMT function (Aim 2). Finally, we will perform pre-clinical studies of innovative therapy designed to generate Treg cells resistant to disruptive modifications in the setting of inflammation (Aim 3).

proinflammatory signaling networks, and FOXP3 gene regulation.

Background

Gap in Knowledge

Long-term Goal

Objectives

Central Hypothesis

3 Aims to  
Test  
Hypothesis

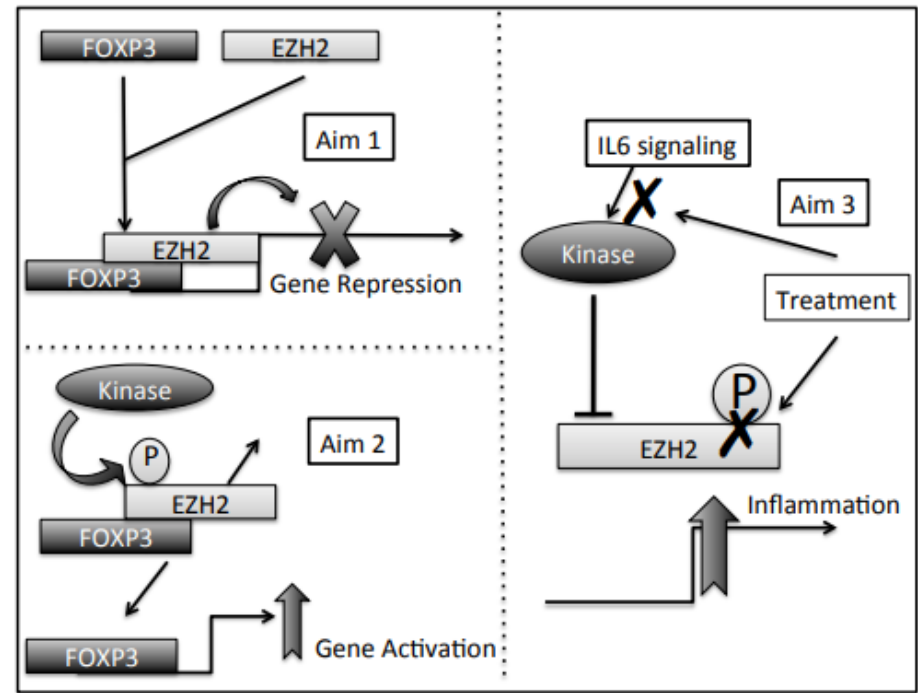
Final Summary  
Paragraph

You do not have  
to have 3 aims!

# Example 2: Specific Aims (R01)

## Figure 1: Conceptual framework.

Through the mechanistic experiments designed in the following aims we will **identify** the role for FOXP3 in the recruitment of EZH2 to core target genes required for Treg function (**Aim 1**). We will **define** the signaling network responsible for phosphorylation of EZH2 and disrupted HMT function (**Aim 2**). Finally, we will **perform** pre-clinical studies of innovative therapy designed to generate Treg cells resistant to disruptive modifications in the setting of inflammation (**Aim 3**).



<https://www.niaid.nih.gov/grants-contracts/sample-applications#r01>

# Specific Aims/Project Description: Overall Tips

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- Start by setting the context, funnel down to the problem, and solution
- Create a solid hypothesis with a strong scientific premise
- The aims should collectively test the central hypothesis or accomplish the objective
- Use 2-4 realistic aims over 2-to-5-year funding period, with the resources available
- Discuss your Specific Aims with colleagues
- Write, discuss, revise, write (repeat)
- Avoid “over-ambitious” or “incremental” aims
- Conclude with an impact statement or expected outcome
- Use italics, bold, underline to emphasize key points in the Specific Aims page (in moderation) and be consistent throughout the application
- Gain the reviewers’ confidence while convincing them that your proposal is important to support

# Common Weaknesses of Specific Aims/Project Description

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- Aim/Goal 1: Does A cause B?
  - It can be problematic if a major aim depends on specific outcomes of a prior aim
- Aim/Goal 2: To use models of process A to predict markers of condition B.
  - This aim/goal is descriptive. Suggested revision: To predict markers of condition B using models of process A and determine what role X plays in the progression of B
- Aim 3/Goal: We will measure levels of X in 1000 samples of Y to characterize the pattern of expression of X.
  - Some descriptive findings may be too detailed for a specific aims page or project description

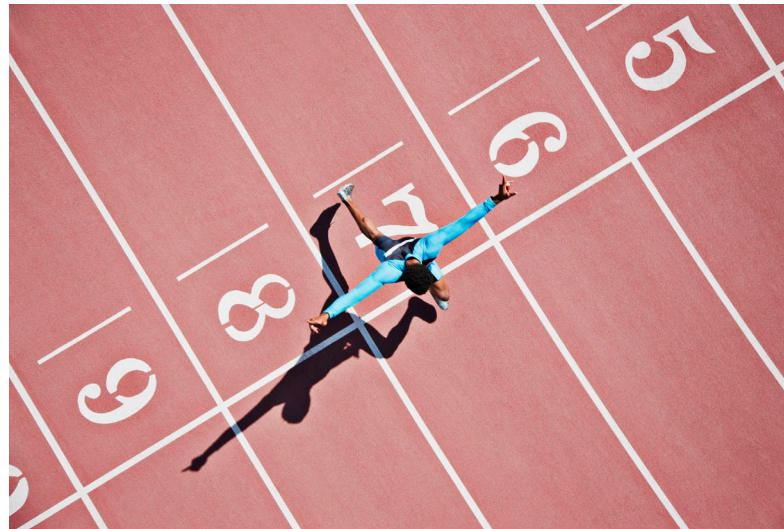
# Consider Word Choice

| Strong Verbs                                | Descriptive |
|---|-------------|
| Determine                                   | Describe    |
| Identify                                    | Compare     |
| Develop                                     | Correlate   |
| Evaluate                                    | Explore     |
| Define                                      | Investigate |
| Systematically adapt...                     | Study       |
| Assess the feasibility and acceptability... | Observe     |
| Dissect                                     |             |
| Implement                                   |             |



# Prepare for Success

**“Chance favors  
the prepared  
mind”**



Thank you!

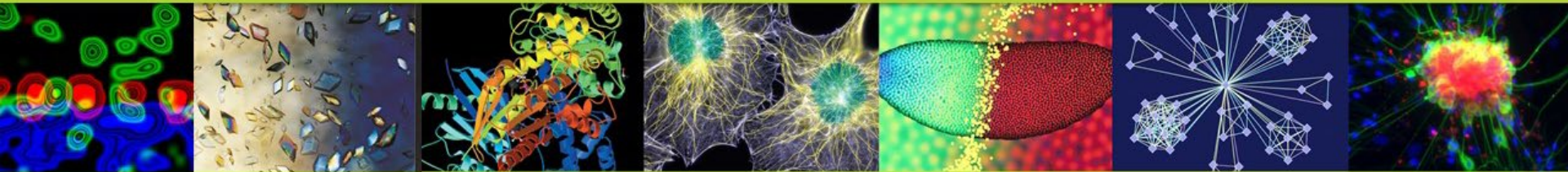
Final Webinar of this Series (#3)

Tuesday, November 1, 2022.

2:00-3:15pm Eastern Time (USA)

## Writing a Competitive Application

- How to make use of sample applications
- Getting feedback on your application drafts
- Structured writing practices
- The NIH Review process



# Open Virtual Office Hour

**Monday, October 3, 2022. 1-2pm ET**

No RSVP Needed. Up to 30 attendees at the most.

*We will send the link to the email used to log into this webinar.*



**If you have additional questions, please reach out!**

[zhongzhen.nie@nih.gov](mailto:zhongzhen.nie@nih.gov), [behrous.davani@nih.gov](mailto:behrous.davani@nih.gov), [sydella.blatch@nih.gov](mailto:sydella.blatch@nih.gov)

