

National Endowment for the Arts

Funding Opportunities in Music & Health Research

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Office of Research & Analysis

nearesearchgrants@arts.gov

NEA Funding Opportunities

Grants for Arts Projects

Deadlines: annually in February and July

Grants of \$10,000 to \$100,000 for art projects

Challenge America grants

Deadline: annually in April

Grants of \$10,000 to small and mid-size organizations to reach underserved populations

Our Town grants

Deadline: annually in August

Grants of \$25,000 to \$200,000 for creative placemaking projects

Research Grants in the Arts

Deadline: annually in March

Grants of \$10,000 to \$100,000 for research projects that focus on the value and the impact of the arts

NEA Research Labs cooperative agreements

Deadline: annually in March

Cooperative agreements of up to \$150,000 for transdisciplinary research partnerships

All Program Staff Contact Information:

<https://www.arts.gov/grants/grants-for-arts-projects/contacts>

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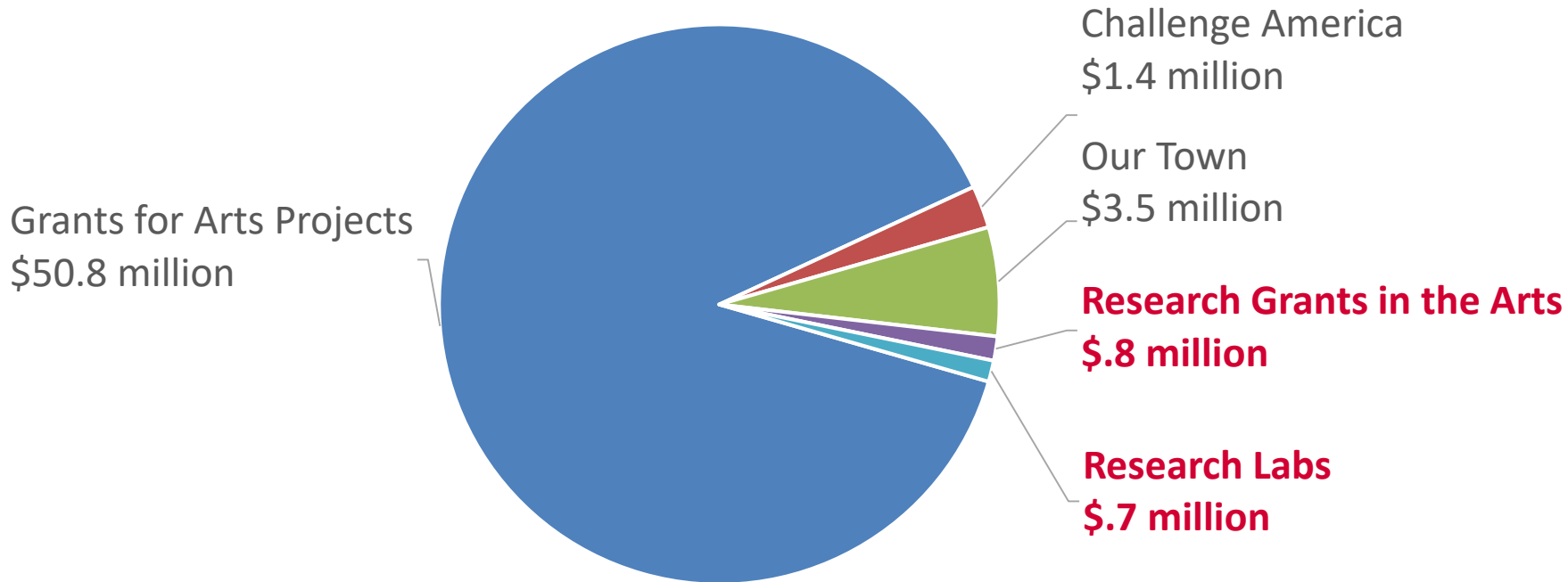
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FY20 NEA Funding (all numbers are approximations)



Office of Research & Analysis

The National Endowment for the Arts Office of Research & Analysis conducts and supports research on the value and impact of the arts.

Overarching research questions

- What factors affect the health and vitality of **arts participation** and **arts/cultural assets**?
- What are the **direct and/or indirect benefits** of the arts for **individuals** and/or **communities**?

BENEFITS OF HEALING ARTS

NEUROLOGICAL

- Improves cognition and memory
- Improves brain function
- Improves impulse control and concentration

EMOTIONAL

- Reduces depression and anxiety
- Improves communication and interpersonal skills
- Helps confront difficult emotions like frustration, grief, and anger

PHYSICAL

- Improves sleep
- Promotes physical rehabilitation
- Shorter time in hospital
- Provides a non-invasive and low-cost treatment option



\$877.8 B

contributed to the U.S. economy in 2017

4.5% OF GDP

69.5%

growth in GDP contribution from arts and cultural production between 1998 and 2016.



1998

2017

AN EXPORT POWERHOUSE

The U.S. arts and cultural sector runs a trade surplus (\$29.7 billion in 2017) that has generally been growing since 2006.

ARTS EDUCATION AND ACADEMIC ACHIEVEMENT

NEA research shows that arts education helps students succeed throughout their academic careers and their lives.

Arts education is associated with many positive, long-term academic, social, and workforce benefits.



Creative thinking



Civic Engagement



Problem solving

Arts-Related Research Fields



NEA Research Funding Opportunities

Research Grants in the Arts

Research Grants in the Arts funds research that investigates the value and/or impact of the arts, either as individual components of the U.S. arts ecology or as they interact with each other and/or with other domains of American life.

NEA Research Labs cooperative agreements

NEA Research Labs funds transdisciplinary research teams grounded in the social and behavioral sciences, yielding empirical insights about the arts for the benefit of arts and non-arts sectors alike.

Research Project/Study Areas

- Factors that enhance or inhibit arts participation or arts/cultural assets
- Detailed characteristics of arts participation or arts/cultural assets, and their interrelationships
- Individual-level outcomes of arts participation
- Societal or community-level outcomes of arts/cultural assets

Eligible applicants are:

- Nonprofit, tax-exempt 501c3 organizations,
- Units of state or local government, or
- Federally recognized tribal communities or tribes
- This may include, but is not limited to, colleges and universities

Applicants must have:

- Completed 3 years of operating history prior to the deadline
- Must be in compliance with reporting requirements for previous awards

Application Limits

- Ability to apply more than once
- Can apply to other grant categories

Award Information

- Grants generally will range from \$10,000 to \$100,000
- No grants will be made below \$10,000
- All grants require a 1 to 1 nonfederal cost share (cash and/or in-kind, third party contributions)

Example Research Grants in the Arts Projects

To support a randomized controlled trial examining the arts' ability to improve health, resilience, and well-being in individuals with chronic health conditions. *Cleveland Clinic*

To support a study of the underlying mechanisms by which music may improve motor function in adults with Parkinson's disease. *Iowa State University*

To support a randomized controlled study examining the impact of music education on behavioral and neurophysiological pathways for academic performance. *Play on Philly*

NEA Research Labs

Transdisciplinary partnerships
in one of three areas:

- The Arts, Health, and Social/Emotional Well-Being
- The Arts, Creativity, Cognition, and Learning
- The Arts, Entrepreneurship, and Innovation



<https://www.arts.gov/initiatives/nea-research-labs>

Each NEA Research Lab must include these activities:

1. Design and publish an evidence-based research agenda
2. Plan and implement a keystone study, or a series of studies
3. Produce at least one research report for each research study
4. Provide ad hoc analyses or fulfill information requests concerning the NEA Research Lab's research agenda
5. Disseminate study findings, research products, data, tools, or services to other researchers, arts practitioners, and the general public

Arts Endowment Project Director responsibilities

- Work with the Lab to refine the details and schedule of all project components throughout the period of performance
- Make recommendations on, review, and/or approve various aspects of the program throughout the period of performance

Eligibility

- US institution of higher education
- Nonprofit tax exempt 501c3 US organization with a three-year history of commissioning and conducting research in the behavioral or social sciences, and communicating research findings and policy implications through reports and/or convenings
- Has not received an NEA Research Lab award in the past

Application Requirements

- Partnership with a nonprofit arts organization
- Two or more research specialties represented on the project team
- Must be in compliance with reporting requirements for previous awards

Application Limits

- Ability to apply more than once
- Can apply to other grant categories

Award Information

- Up to \$150,000
- All applications require a 1 to 1 nonfederal cost share
- Cost share may be any combination of cash and/or in-kind, third-party contributions

Period of Performance

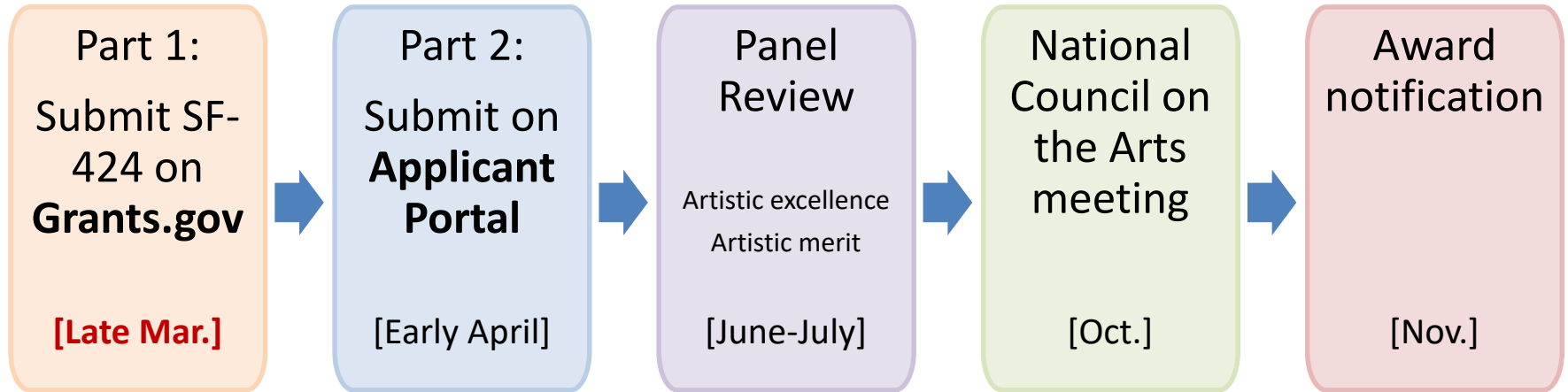
- 12-24 months

Subsequent Awards

- Up to 4 times
- May turn into grants

How to Apply

Application to Award Timeline



How to Apply

- Read the guidelines and Part 2 instructions
- Applicant Resources on our website
- Work with your partners
- Check in with your office of sponsored programs or development office
- Remember the review criteria
- Start early!
- If you don't succeed, talk to us
- Panel service opportunities
- Contact us with questions nearesearchgrants@arts.gov

Research Grants in the Arts

NEA Research Labs

| | | |
|------------------------------|--|---|
| Deadline | March, annually | March, annually |
| Award Type | Grant | Cooperative agreement |
| Eligibility | 501c3 non-profit organizations, units of state or local government, federally recognized tribes/tribal communities. Three-year history of operations. May include colleges and universities. | U.S institutions of higher education, or 501c3 non-profit organizations with a three-year history of conducting and communicating research and have not received a Labs award before. |
| Award Amounts | \$10,000-\$100,000 award, with 1:1 match | Up to \$150,000 award, with 1:1 match |
| Project Type | Discrete Research Study or Studies | Research Agendas (keystone research study or studies + strong emphasis on other research-adjacent activities) |
| Project Staff | One or more key personnel | At least two personnel from different research specialties |
| Partnerships | No requirements | At least one nonprofit arts partner |
| Application Limits | Can apply more than once | Can apply more than once, but cannot receive more than one new award across the lifetime of the Labs initiative. |
| Period of Performance | Up to three years, no option for non-competitive renewal | Initial 12-24 month award, with option for up to 4 subsequent non-competitive renewal awards |

Contact: nearesearchgrants@arts.gov

Apply: www.arts.gov/grants/research-awards

GETTING IN TUNE WITH NIH FUNDING

Tom Cheever¹, Bob Riddle¹, Laura Thomas²

¹National Institute of Neurological Disorders and Stroke

²National Institute of Environmental Health Sciences

July 29, 2021

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riddler@nih.gov

laura.thomas@nih.gov

TODAY'S GOALS



Give a brief overview of how of the NIH solicits, reviews and awards research application



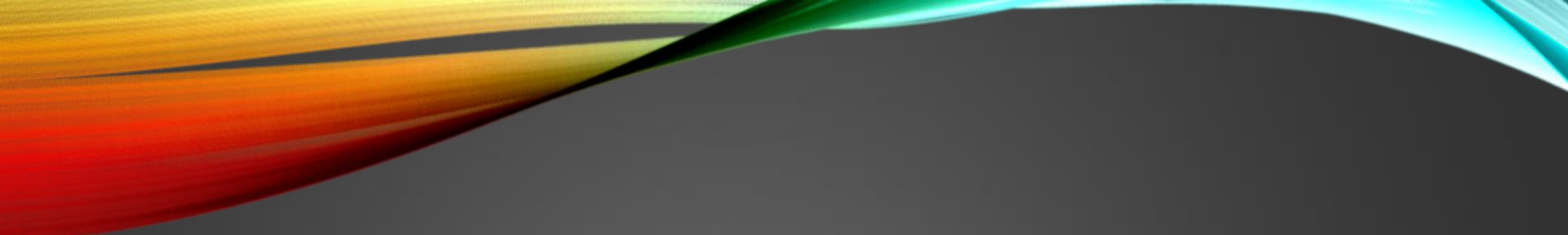
Discuss strategies for a successful application



- Provide an insider's guide to study sections

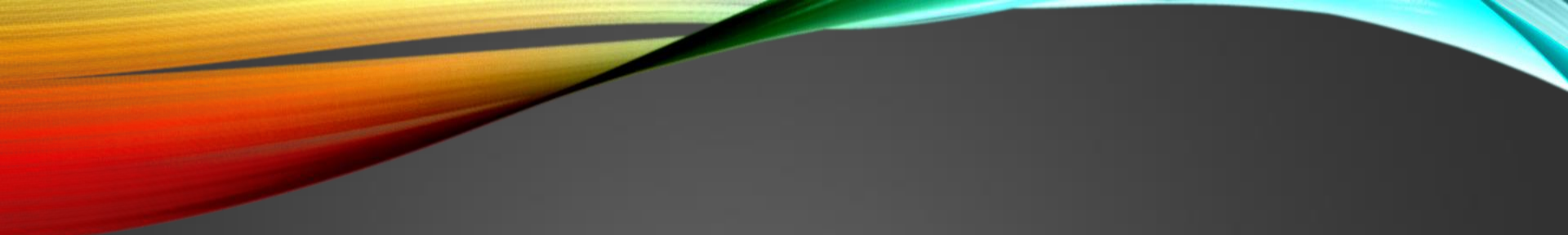


- Highlight resources and opportunities for music and health researchers



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.

- Successful applications are most often research-based and hypothesis-driven:
 - **Basic research** can be focused on fundamental processes or disease-based
 - **Applied research** can be translation and/or clinical
- Many **proposals using human subjects** are defined as being clinical trials by the NIH



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A FEW THINGS TO REMEMBER ABOUT THE NIH

27 Institutes &
Centers (IC)
have different
missions &
priorities

Each IC has a
different budget
and pay plan

The Office of the
Director (OD)
oversees and
funds many
trans-NIH
programs (e.g.
Common Fund)

Many Trans-NIH
workgroups
coordinate
special areas of
research (Sound
Health/Music
and Health)



THE SUCCESSFUL GRANT APPLICATION

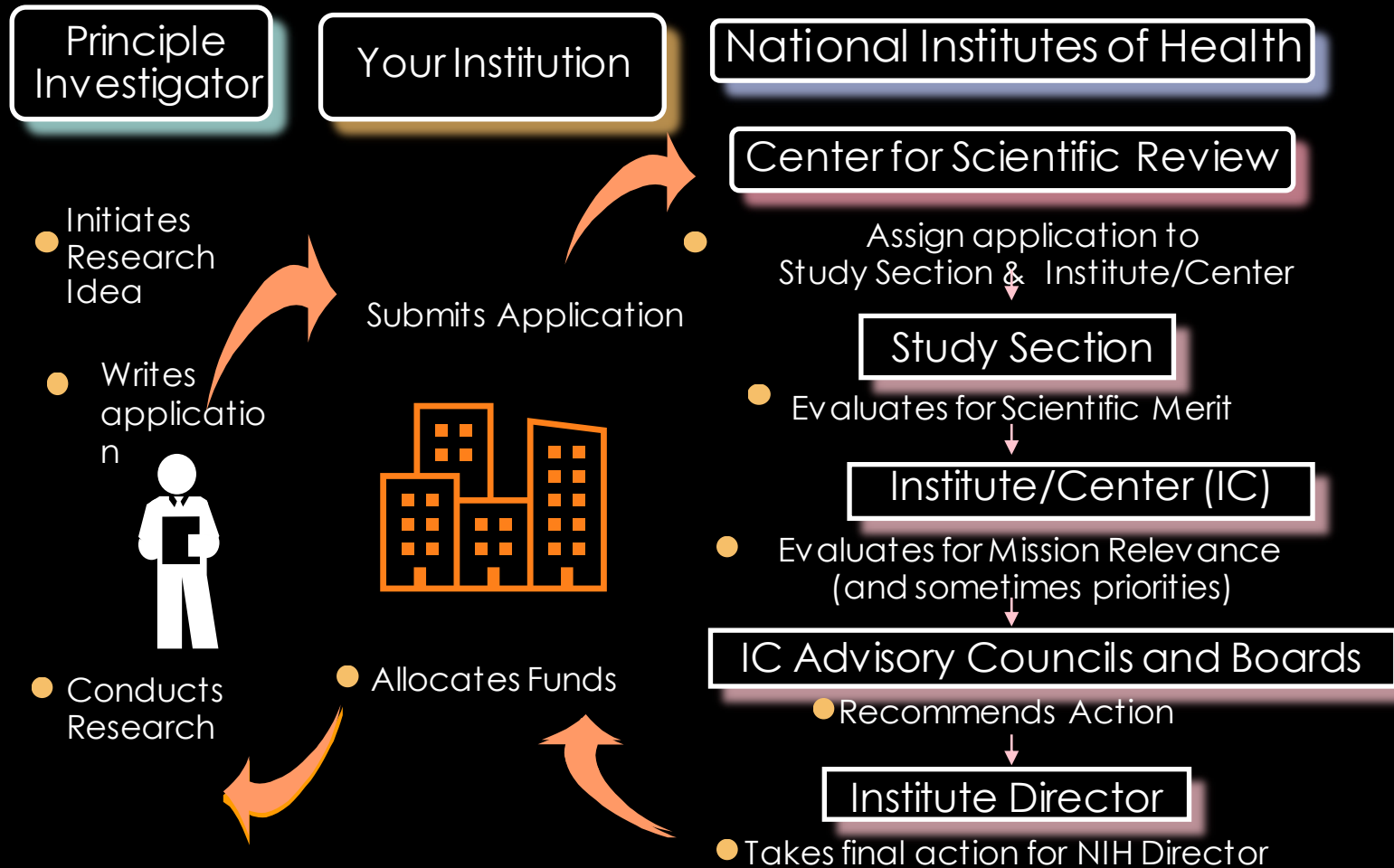
- Significantly advances our understanding in an important area of biomedical science
- Novel, potentially impactful research
- Hypothesis-driven
- Specific aims well-defined and conceptually linked
- Experimental design is clear, logical and rigorous
- The rigor of the prior research drive the hypothesis
- Expertise and feasibility is appropriate and documented
- Budget is reasonable and justified



THE UNSUCCESSFUL GRANT APPLICATION

- Lack of new or original ideas
- Diffuse, superficial, or unfocused research plan (poorly written)
- Lack of knowledge of published relevant work
- Lack of experience in the essential methodology
- Lack of statistical expertise/poor study design
- Uncertainty concerning future directions

AN APPLICATION'S JOURNEY



R SERIES

R01—"primary research"

- 4-5 years
- Based on prior research
- Significance, innovation and approaches key
- Not all institutes allow clinical research

R21—"exploratory"

- Two years, 275K total
- Preliminary data not required
- Innovation stressed
- Not all institutes allow clinical research

• R61/R33 "phased"

- Up to 5 years total
- R61: supports innovative exploratory and development research activities
- R33: builds on results of the R61
- Milestone driven
- not all institutes allow clinical research



THREE KEY NIH CONTACTS

- **Program Director (PD) or Program Officer (PO)**
 - assist applicants, develop initiatives, review progress reports, approve funding
- **Scientific Review Officer (SRO)**
 - organizes review of applications (study sections), write summary statements
- **Grants Management Specialist (GMS)**
 - Works with institutions and finalized awards
 - Assures compliance with regulations of grants, recipe of documents

HOW (AND WHEN) MIGHT CONTACTING A PROGRAM DIRECTOR BE HELPFUL?

Prior to submission:

- Mission relevance to specific IC
- discuss research plan
- special initiatives

After Review:

- Discuss summary statement
- Discuss likelihood of funding



FUNDING DECISIONS

- **Funding** fundamentals:
 - ICs fund grants to a given level based on a percentile (pay line) and/or based on strategic plans and priorities
 - FOAs may fund differently from the pay line but often have similar success rates
 - Early-Stage Investigators (ESIs)-often have a better pay line for R01s
 - Researcher initiated-awards constitute most of the research funded by the NIH

NIH & IC WEBPAGES ARE THE BEST SOURCES FOR INFORMATION & GUIDANCE (...NIH.GOV)

The screenshot shows the NIH NINDS website. At the top left is the NIH logo and the text "National Institute of Neurological Disorders and Stroke". At the top right is a search bar labeled "Search NINDS" and a link "En Espa". Below the header is a navigation menu with "Disorders", "Funding", "Current Research", "News & Events", and "About NINDS". A large red banner features the text "COVID-19" and four links: "Get the latest funding, research, and public health information from NINDS", "Get the latest research information from NIH | Español", "Get the latest public health information from HHS", and "Get the latest public health information from CDC". Below the banner is a section titled "Find NINDS Funding Opportuni" with the text "Search for a NINDS grant funding opportunity specif apply to one of the broad NIH parent announcement" and a right-pointing arrow. To the right of this section is a "Search Disorders" sidebar with a search input field containing "Disorder" and a search button. Below the input field is a link "Search Alphabetically | View All" and an alphabetical index grid.

National Institute of Neurological Disorders and Stroke

Search NINDS En Espa

Disorders ▾ Funding ▾ Current Research ▾ News & Events ▾ About NINDS ▾

COVID-19

[Get the latest funding, research, and public health information from NINDS](#)
[Get the latest research information from NIH | Español](#)
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Search Disorders

Search by Disorder

Search Alphabetically | [View All](#)

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| A | B | C | D | E | F | G | H | I |
| J | K | L | M | N | O | P | Q | R |
| S | T | U | V | W | X | Y | Z | |

What Is The NIH Currently Funding?

reporter.nih.gov

The screenshot shows the NIH RePORTER website homepage. The browser address bar displays "reporter.nih.gov". The navigation bar includes the NIH logo, "RePORT" and "RePORTER" links, and "FAQs", "API", and "Sign In" options. The main content area features a "Quick Search" section with a search input field containing "Search RePORTER" and a "Search" button. Below the input field, it says "Enter just about anything to find NIH projects and funding information: text, PI names, project numbers, fiscal year, agency". To the right, a "Welcome to the new NIH RePORTER" message states: "Rebuilt from the ground up, leveraging the latest technologies, to bring you an enhanced experience. Faster performance, mobile ready, and an intuitive, all-new Quick Search brings the power of NIH RePORTER to your fingertips." A "Feedback" button is located at the bottom of this message box.

reporter.nih.gov

Apps ESC WAIT iREPORT Vbrick Rev™ RTMS Home | NINDS Intra... PMM QVR ESC WAIT I2P RePORTER Other bookmarks

NIH RePORT RePORTER

FAQs API Sign In

Quick Search

Search RePORTER Search

Enter just about anything to find NIH projects and funding information:
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Feedback

What ICs Might Fund My Research and What Study Section Might Review My Application (and What Program Directors Might Be Good To Email)?

reporter.nih.gov/matchmaker

Matchmaker

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

15,000 characters left

Similar Projects
 Similar Program Officials

Matchmaker: Information on Research, Reviews and IC Interests

Matchmaker Results

Top 500 Projects

Export

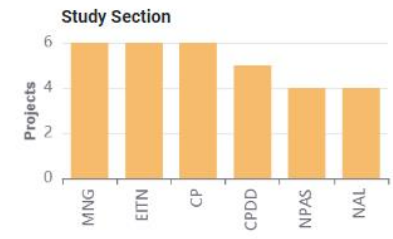
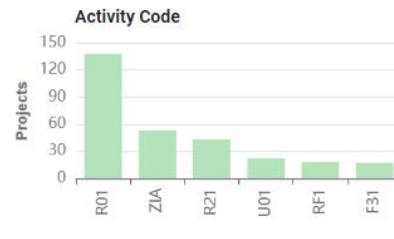
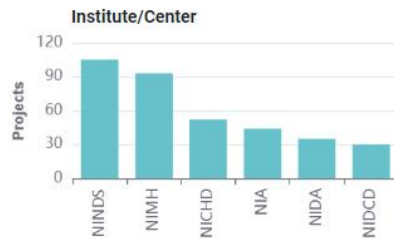
Search

Projects

Program Officials

Filters

- Active Projects
- > Fiscal Years
- > Agencies
- > Activity Codes
- > Program Officials
- > Study Sections



| T Act Project | Year | Sub | Principal Investigator(s)/ Project Leader(s) | Organization | Fiscal Year | Admin IC | Funding IC | FY Total Cost by IC | Similar Projects | Match |
|--|------|-----|--|-------------------------------------|-------------|----------|------------|---------------------|----------------------|-------|
| Large-scale nested studies of the impact of music on brain and behavioral development | | | | | | | | | | |
| 5R01AA028411-02 | | | IVERSEN, JOHN REHNER | UNIVERSITY OF CALIFORNIA, SAN DIEGO | 2020 | NIAAA | NIAAA | \$236,375 | View | 370 |
| The effects of film music on neural activity in higher-order brain areas and comprehension for the film narrative | | | | | | | | | | |
| 1F99NS118740-01 | | | WILLIAMS, JAMAL A | PRINCETON UNIVERSITY | 2020 | NINDS | NINDS | \$46,520 | View | 370 |
| Effects of Music Based Intervention (MBI) on Neurodevelopment and Pain Response in Preterm Infants | | | | | | | | | | |
| 5R61AT010712-02 | | | WANG, SONYA GRACE | UNIVERSITY OF MINNESOTA | 2020 | NCCIH | NCCIH | \$150,001 | View | |

Thank you for your feedback!

Finding Funding Opportunities and Study Sections

Goals: How to find the “right” funding opportunity and “right” audience (study section) for your application

Finding Funding Opportunities

- Every application submitted to the NIH is submitted under a **Funding Opportunity Announcement (FOA)**
 - Several flavors of FOAs – PA, PAR, PAS, RFA
- The FOA has all kinds of important information like: which NIH ICs are participating, receipt dates, budgets, instructions and review criteria, NIH program officer contacts, and more
- **How to find FOAs:**
 - NIH IC Websites
 - Google (but watch out for expired FOAs)
 - *Hint:* The first set of numbers in FOA designations is the year (e.g. PA-**18**-111 was issued in 20**18**)
 - NIH Guide to Grants and Contracts

<https://grants.nih.gov/funding/searchguide/index.html>

Why does this matter?

- **Non-responsive applications to an FOA can lead to withdrawal prior to review**
- **Submitting an application to an FOA without a participating IC with mission aligned to your application can lead to withdrawal prior to review or low funding likelihood**
- **Having an idea of who will be reading your application can help you write to the audience**
 - Contacting a program officer at a relevant NIH IC is often a good place to start

Funding Opportunity Announcements

- **Every grant mechanism (e.g. R01, F32, etc) has it's own FOA, often several**
- **“Parent” FOAs**
 - For investigator initiated topics
 - Most commonly used type of FOA (Parent R01, Parent F32, etc)
 - **Often reviewed by the Center for Scientific Review (CSR)**
- **Other FOAs**
 - For NIH-solicited applications, generally on specific topics
 - Examples: Certain kinds of Clinical Trials, Centers, Regenerative Medicine, Pain, ***Music and Health***
 - Often (but not always) reviewed by the ICs themselves
 - Your chances are not necessarily better (or worse) with these kind of announcements - *it all depends*. Reach out to scientific contacts listed.

How to Read an FOA

Key Dates

| | |
|--------------------------------------|---|
| Posted Date | December 23, 2020 |
| Open Date (Earliest Submission Date) | January 05, 2021 |
| Letter of Intent Due Date(s) | January 5, 2021 |
| Application Due Date(s) | February 5, 2021, February 5, 2022, February 5, 2023 All applications are due by 5:00 PM local time of applicant organization. All types of non-AIDS applications allowed for this funding opportunity announcement are due on the listed date(s). Applicants are encouraged to apply early to allow adequate time to make any corrections to errors found in the application during the submission process by the due date. |
| AIDS Application Due Date(s) | Not Applicable. |
| Scientific Merit Review | June 2021, June 2022, June 2023 |
| Advisory Council Review | October 2021, October 2022, October 2023 |
| Earliest Start Date | October 2021, October 2022, October 2023 |
| Expiration Date | February 06, 2023 |
| Due Dates for E.O. 12372 | Not Applicable |

Required Application Instructions

It is critical that applicants follow the instructions in the Research (R) Instructions in the [SF424 \(R&R\) Application Guide](#), except where instructed to do otherwise (in this FOA or in a Notice from [NIH Guide for Grants and Contracts](#)).

Conformance to all requirements (both in the Application Guide and the FOA) is required and strictly enforced. Applicants must read and follow all application instructions in the Application Guide as well as any program-specific instructions noted in [Section IV](#). When the program-specific instructions deviate from those in the Application Guide, follow the program-specific instructions.

Applications that do not comply with these instructions may be delayed or not accepted for review.

There are several options available to submit your application through [Grants.gov](#) to NIH and Department of Health and Human Services partners. You must use one of these submission options to access the application forms for this opportunity.

1. Use the NIH ASSIST system to prepare, submit and track your application online.

[Apply Online Using ASSIST](#)

2. Use an institutional system-to-system (S2S) solution to prepare and submit your application to [Grants.gov](#) and [eRA Commons](#) to track your application. Check with your institutional officials regarding availability.
3. Use [Grants.gov](#) Workspace to prepare and submit your application and [eRA Commons](#) to track your application.

How to Read an FOA

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- Part 2. Full Text of Announcement
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 - Section III. Eligibility Information
 - Section IV. Application and Submission Information
 - Section V. Application Review Information
 - Section VI. Award Administration Information
 - Section VII. Agency Contacts
 - Section VIII. Other Information

Part 2. Full Text of Announcement

Section I. Funding Opportunity Description

Background

Music has a unique and remarkable ability to ameliorate the symptoms of a broad range of disorders that occur throughout the lifespan, deliver palliative care during serious advanced illness, improve recovery from a variety of neurological disorders, and improve health throughout all our lives. Music can clearly act as an effective medicine, but its means of action are poorly understood.

Recent scientific advances provide us with opportunities to understand the mechanisms through which music acts, and to develop new music interventions for a variety of human conditions. In 2016, the NIH, John F. Kennedy Center for the Performing Arts (KC), and National Endowment for the Arts (NEA) formed a collaborative partnership ([Sound Health](#)) with the goal of understanding the healing abilities of music and use them more effectively and broadly.

In 2017, the NIH organized a workshop to examine the ability of music to improve human health ([Music and the Brain](#)) and subsequently developed a set of priorities to foster both basic and applied music-based research. In 2019 the NIH issued three RFAs (using R01, R21 or R61/R33 mechanisms) encouraging research aimed at understanding the processing of music in the brain and use that information to improve public health. Many proposals were submitted, and a broad range of grants were ultimately awarded via a trans-IC, NIH Office of the Director and National Endowment for the Arts coordinated effort.

The large number of submissions to the three FY19 initiatives demonstrated that music-related neuroscience research and music therapy have tremendous potential for new and innovative approaches. This FOA and the companion FOA for R21 applications will convene a single study section once a year to review both R01 and R21 applications focused on the best uses of music to improve health and treat a variety of disorders.

This Program Announcement with special Review (PAR) will accept R01 applications and is intended to support studies with a strong scientific foundation and potentially strong impact on advancing the science of music and health. All proposed projects must be within the mission and interests of the participating institutes, offices and agencies. A companion R21 PAR will be issued which encompasses a similar therapeutic focus but will emphasize exploratory projects which may be more high risk and high payoff. Additionally, [PAR-20-266](#) utilizes a phased R61/R33 mechanism to support research that can best be facilitated through milestone-driven awards on music and health geared towards music intervention.

Scope of Research

This PAR proposes to build upon basic and applied research demonstrating the novel benefits of music on improving health. It utilizes the R01 mechanism and special annual review panel. All proposed projects should have the potential to enhance human health and well-being in healthy individuals and/or improve the health of individuals with many relevant diseases and disorders. All proposed projects must be within the mission and interests of the participating institutes, offices and agencies.

Applications using animal models and/or human subjects are both within the scope of this PAR. Applications that propose multidisciplinary research and collaborative studies involving musicians, music therapists, biomedical, behavioral, and/or social scientists are encouraged. All projects should be rigorously designed, reproducible and within the mission of the participating institutes, centers and offices.

IC and NIH Office Interest Areas and Specific Requirements:

The Trans-NIH Music and Health Working group has identified many areas of interests for their individual ICs and believe that coordinated reviews will be the best means to benefit their missions. Because applications will be assigned to participating ICs before review, it is important that applicants are able to link their proposed studies to the mission and specific

How to Read an FOA

Section V. Application Review Information

1. Criteria

Only the review criteria described below will be considered in the review process. Applications submitted to the NIH in support of the [NIH mission](#) are evaluated for scientific and technical merit through the NIH peer review system.

In addition, for applications involving clinical trials:

A proposed Clinical Trial application may include study design, methods, and intervention that are not by themselves innovative but address important questions or unmet needs. Additionally, the results of the clinical trial may indicate that further clinical development of the intervention is unwarranted or lead to new avenues of scientific investigation.

Overall Impact

Reviewers will provide an overall impact score to reflect their assessment of the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved, in consideration of the following review criteria and additional review criteria (as applicable for the project proposed).



Scored Review Criteria

Reviewers will consider each of the review criteria below in the determination of scientific merit, and give a separate score for each. An application does not need to be strong in all categories to be judged likely to have major scientific impact. For example, a project that by its nature is not innovative may be essential to advance a field.

Significance

Does the project address an important problem or a critical barrier to progress in the field? Is the prior research that serves as the key support for the proposed project rigorous? If the aims of the project are achieved, how will scientific knowledge, technical capability, and/or clinical practice be improved? How will successful completion of the aims change the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field?

If the aims of the study are achieved, will the results of the proposed study substantially and fundamentally increase our understanding of the science of music as it pertains to improving human health? How will the project: 1) increase our understanding of music's ability to positively affect health outcomes, 2) inform interventions to enhance normal function and/or development, and/or 3) enhance its use to better treat disorders and disease?

In addition, for applications involving clinical trials

Are the scientific rationale and need for a clinical trial to test the proposed hypothesis or intervention well supported by preliminary data, clinical and/or preclinical studies, or information in the literature or knowledge of biological mechanisms? For trials focusing on clinical or public health endpoints, is this clinical trial necessary for testing the safety, efficacy or effectiveness of an intervention that could lead to a change in clinical practice, community behaviors or health care policy? For trials focusing on mechanistic, behavioral, physiological, biochemical, or other biomedical endpoints, is this trial needed to advance scientific understanding?

Investigator(s)

Are the PD(s)/PI(s), collaborators, and other researchers well suited to the project? If Early Stage Investigators or those in the early stages of independent careers, do they have appropriate experience and training? If established, have they demonstrated an ongoing record of accomplishments that have advanced their field(s)? If the project is collaborative or multi-PD/PI, do the investigators have complementary and integrated expertise; are their leadership approach, governance and organizational structure appropriate for the project?

If needed, does the proposed research team include the appropriate interdisciplinary expertise for the proposed experiments and aims? Does the team have adequate expertise to understand and potentially treat the specified condition? Are partnerships and collaborations among basic researchers, technological development researchers, music intervention experts, and/or other clinical researchers appropriate and clearly laid out, understanding that a long history of collaboration between these investigators might not always exist considering the scientific focus of this funding announcement?

In addition, for applications involving clinical trials

With regard to the proposed leadership for the project, do the PD/PI(s) and key personnel have the expertise, experience, and ability to organize, manage and implement the proposed clinical trial and meet milestones and timelines? Do they have appropriate expertise in study coordination, data management and statistics? For a multicenter trial, is the organizational structure appropriate and does the application identify a core of potential center investigators and staffing for a coordinating center?

How to Read an FOA

Section VII. Agency Contacts

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

Application Submission Contacts

eRA Service Desk (Questions regarding ASSIST, eRA Commons, application errors and warnings, documenting system problems that threaten submission by the due date, and post-submission issues)

Finding Help Online: <http://grants.nih.gov/support/> (preferred method of contact)

Telephone: 301-402-7469 or 866-504-9552 (Toll Free)

General Grants Information (Questions regarding application instructions, application processes, and NIH grant resources)

Email: GrantsInfo@nih.gov (preferred method of contact)

Telephone: 301-945-7573

Grants.gov Customer Support (Questions regarding Grants.gov registration and Workspace)

Contact Center Telephone: 800-518-4726

Email: support@grants.gov



Scientific/Research Contact(s)

NINDS

Robert Riddle, PhD

National Institute of Neurological Disorders and Stroke (NINDS)

Telephone: 301-496-5745

Email: riddler@ninds.nih.gov

NEI

Cheri Wiggs

National Eye Institute (NEI)

Phone: (301) 451-2020

E-mail: wiggsc@mail.nih.gov

Karen Robinsonsmith

National Eye Institute (NEI)

Phone: (301) 451-2020

E-mail: kyr@nei.nih.gov

NIA

Coryse St. Hillaire-Clarke, Ph.D.

National Institute on Aging (NIA)

Telephone: 301-827-6944

Email: sthillaireclacn@mail.nih.gov

Lisa Onken, Ph.D.

National Institute on Aging (NIA)

Telephone: 301-496-3136

Email: lisa.onken@nih.gov

NIAAA

Benjamin Xu, Ph.D.

National Institute of Alcohol Abuse and Alcoholism (NIAAA)

Phone: 301-443-6545

Email: benxu1@mail.nih.gov

Finding the Right Study Section

- ~200 standing study sections in CSR
- Many *ad hoc* Special Emphasis Panels or “SEPs” as well
- Also study sections convened by ICs
- Look in section V.2 of the FOA to see if the panel will be convened by CSR or an IC
- If CSR, can get some ideas from the CSR “Assisted Referral Tool”

Assisted Referral Tool (ART)

- art.csr.nih.gov/ART/selection.jsp

NIH Center for Scientific Review

Assisted Referral Tool (ART)

[Help](#) | [Disclaimer](#) | [User Guide](#)

ART Home >> SRG Animal Usage?

Enter application text and hit the Submit button to get a list of relevant study sections in two groups, "Strong" and "Possible". Within a group, study sections are listed alphabetically by the SRG acronym

Title

Enter your application text here. Entering both Abstract and Specific Aims is recommended. Section subheaders and delimiters (e.g. 'Abstract') will be ignored. At least 10 scientific concepts from the RCDC Thesaurus must be detected for ART to submit your job.

Terms will be weighted by frequency of appearance in the text above. The process is automated and confidential. ART does not track or store submitted text. For more information consult the [User Guide](#).

NIH National Institutes of Health
Turning Discovery Into Health

USA.gov

Assisted Referral Tool



Center for
Scientific Review

Assisted Referral Tool (ART) [Help](#) | [Disclaimer](#) | [User Guide](#)

[ART Home](#) >> [SRG](#) >> Report

Animal Usage?

Enter application text and hit the Submit button to get a list of relevant study sections in two groups, "Strong" and "Possible". Within a group, study sections are listed alphabetically by the SRG acronym

Title

The rate of the primary acid modification reaction of 1,4-dihyronicotinamide adenine dinucleotide (NADH) and 1,4-dihydro-3-acetylpyridine adenine dinucleotide (APADH) and their analogues has been studied over a wide pH range (pH 1-7) with a variety of general acid catalysts. The rate depends on [H⁺] at moderate pH and becomes independent of [H⁺] at low pH. This behavior is attributed to substrate protonation at the carbonyl group (pK of NADH = 0.6). The reaction is general acid catalyzed; large solvent deuterium isotope effects are observed for the general acid and lyonium ion terms. Most buffers cause a linear rate increase with increasing buffer concentration, but certain buffers cause a hyperbolic rate increase. The nonlinear buffer effects are due to complexation of the buffer with the substrate, rather than to a change in rate-limiting step. The rate-limiting step is a proton transfer from the general acid species to the C5 position of the substrate. Anomerization is not a necessary first step in the case of the primary acid modification

Terms will be weighted by frequency of appearance in the text above. The process is automated and confidential. ART does not track or store submitted text. For more information consult the [User Guide](#).

[Report erroneous classification \(NIH only\)](#)

| Relevance | SRG | IRG | Membership | Name |
|-----------|------|------|------------|---|
| Strong | DDNS | MDCN | Roster | Drug Discovery for the Nervous System Study Section |
| Strong | MSFA | BCMB | Roster | Macromolecular Structure and Function A Study Section |
| Strong | SBCA | BCMB | Roster | Synthetic and Biological Chemistry A Study Section |
| Strong | SBCB | BCMB | Roster | Synthetic and Biological Chemistry B Study Section |
| Possible | BBM | BCMB | Roster | Biochemistry and Biophysics of Membranes Study Section |
| Possible | DMP | OTC | Roster | Drug Discovery and Molecular Pharmacology Study Section |
| Possible | | IMST | Roster | Enabling Bioanalytical and Imaging Technologies Study Section |
| Possible | EITN | | Roster | Emerging Imaging Technologies in Neuroscience |
| Possible | NTRC | MDCN | Roster | Neurotransmitters, Receptors, and Calcium Signaling Study Section |

Start Writing!

Goals: Funding Opportunities, Instructions,
General Guidance

Application Instructions

- Instructions in any notice (like a NOSI) supersede FOA instructions which supersede the standard NIH application instructions
- Standard NIH Application Instructions (called SF424 R&R) fill in the rest

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

How to Apply - Application Guide

Important:
Access forms through the funding opportunity announcement.

Use the application instructions found on this page along with the guidance in the funding opportunity announcement to submit grant applications to NIH, the Centers for Disease Control and Prevention, the Food and Drug Administration, and the Agency for Healthcare Research and Quality.

Prepare to Apply

- Systems and Roles
- Register
- Understand Funding Opportunities
- Types of Applications
- Submission Options
- Obtain Software

Write Application

- Write Your Application
- Develop Your Budget
- Format Attachments
- Rules for Text Fields
- Page Limits
- Data Tables
- Reference Letters
- Biosketches

Submit

- Submit, Track, and View
- How We Check for Completeness
- Changed/Corrected Applications



Application Form Instructions

Need help selecting the right instructions?

Application Instructions

Description

SF424 (R&R) - Version E

G General Instructions

Comprehensive guidance for research, training, fellowship, career development, multi-project, and small business applications

HTML / PDF

Filtered Application Instructions

R Research Instructions

Guidance for research only

PDF

K Career Development Instructions

Guidance for career development only

PDF

T Training Instructions

Guidance for training only

PDF

F Fellowship Instructions

Guidance for fellowship only

PDF

Related Resources

Due Dates and Policies

- Due Dates
- Submission Policies
- Dealing with System Issues

After Submission

- Receipt and Referral
- Peer Review
- Pre-award Process
- Post-award Monitoring and Reporting

Resources

- **?** FAQs – Applying Electronically
- Application Submission Presentations
- Annotated Form Sets
- News - Items of Interest

Human Subjects or Clinical Trials?

- **Conducting NIH-defined Human Subjects Research?**
 - Use NIH Human Subjects Questionnaire found here: <https://humansubjects.nih.gov/questionnaire>
- **Conducting an NIH-defined Clinical Trial?**
 - Some information here: <https://grants.nih.gov/policy/clinical-trials/definition.htm>
 - *Highly recommend* talking to a program officer if you have questions
 - **Critical for applying to an appropriate FOA in *many* cases**
 - One way to think about it – is the intent of your study to change something biological in a person up or down?

General Guidance

- **Start as early as possible**
- **Have mentors, peers, colleagues critique the full proposal**
 - Crucial for seeing if what's in your head is what's in the application
- **Write for the reviewers as your audience, *not for yourself***
 - Aim for easy reading – well organized, easy to follow, avoid jargon
 - Important consideration: Not every reviewer will be an expert in all parts of your application
 - Pictures/diagrams and a perfect specific aims page go a long way when reviewers are scrolling through applications at the review meeting
 - Follow application instructions, use captions, have clear labels, don't give reviewers anything to pick on

Don't Forget to Include:

- **Discussion of expected outcomes, potential pitfalls, alternative approaches**
- **Discussion of Rigor and Reproducibility**
 - Including discussion of scientific premise, power analyses where applicable, statistical analysis plans, blinding where relevant, etc
 - <https://grants.nih.gov/reproducibility/index.htm>
- **Discussion of relevant biological variables including sex**
 - Doesn't necessarily mean you need to be powered for both sexes (unless you're doing sex differences research)
 - [https://grants.nih.gov/grants/peer/guidelines_general/SABV Decision Tree for Reviewers.pdf](https://grants.nih.gov/grants/peer/guidelines_general/SABV_Decision_Tree_for_Reviewers.pdf)
- **Data and Resource Sharing Plan, Authentication of Key Research Resources Plan**
 - Generating a new animal model or reagent? Generating genomic data?
 - <https://grants.nih.gov/policy/sharing.htm>

References

<https://grants.nih.gov/grants/Rigor-and-Reproducibility-Chart-508.pdf>

- Vertebrate Animals?
 - <https://olaw.nih.gov/guidance/vertebrate-animal-section.htm>
- Human Subjects?
 - Follow application instructions and additional help below:
 - <https://grants.nih.gov/policy/humansubjects.htm>
 - <https://grants.nih.gov/policy/clinical-trials/new-human-subject-clinical-trial-info-form.htm>

Enhancing Reproducibility in NIH Applications: Resource Chart

NIH Grants Policy Website: <http://grants.nih.gov/reproducibility/index.htm>

NIH Website: <https://www.nih.gov/research-training/rigor-reproducibility>

| 4 AREAS OF FOCUS | WHAT DOES IT MEAN? | WHERE SHOULD IT BE INCLUDED IN THE APPLICATION? |
|------------------------------------|---|---|
| Rigor of the Prior Research | <p>A careful assessment of the rigor of the prior research that serves as the key support for a proposed project will help applicants identify any weaknesses or gaps in the line of research.</p> <p>Describe the strengths and weaknesses in the rigor of the prior research (both published and unpublished) that serves as the key support for the proposed project.</p> <p>Describe plans to address weaknesses in the rigor of the prior research that serves as the key support for the proposed project</p> <p><i>*See related FAQs, blog post</i></p> | <p>Research Strategy</p> <ul style="list-style-type: none"> ➤ Significance ➤ Approach |
| Scientific Rigor (Design) | <p>Scientific rigor is the strict application of the scientific method to ensure robust and unbiased experimental design, methodology, analysis, interpretation and reporting of results.</p> <p>Emphasize how the experimental design and methods proposed will achieve robust and unbiased results.</p> <p><i>*See related FAQs, blog post, examples from pilots</i></p> | <p>Research Strategy</p> <ul style="list-style-type: none"> ➤ Approach |
| Biological Variables | <p>Biological variables, such as sex, age, weight, and underlying health conditions, are often critical factors affecting health or disease. In particular, sex is a biological variable that is frequently ignored in animal study designs and analyses, leading to an incomplete understanding of potential sex-based differences in basic biological function, disease processes and treatment response.</p> <p>Explain how relevant biological variables, such as the ones noted above, are factored into research designs, analyses, and reporting in vertebrate animal and human studies. Strong justification from the scientific literature, preliminary data or other relevant considerations must be provided for applications proposing to study only one sex.</p> <p><i>*See related FAQs, blog posts, article</i></p> | <p>Research Strategy</p> <ul style="list-style-type: none"> ➤ Approach |
| Authentication | <p>Key biological and/or chemical resources include, but are not limited to, cell lines, specialty chemicals, antibodies and other biologics.</p> <p>Briefly describe methods to ensure the identity and validity of key biological and/or chemical resources used in the proposed studies. These resources may or may not have been generated with NIH funds and:</p> <ul style="list-style-type: none"> • may differ from laboratory to laboratory or over time; • may have qualities and/or qualifications that could influence the research data; • are integral to the proposed research. <p>The authentication plan should state in one page or less how you will authenticate key resources, including the frequency, as needed for your research. Note: Do not include authentication data in your plan.</p> <p><i>*See related FAQs, blog post, examples</i></p> | <p>Other Research Plan Section</p> <ul style="list-style-type: none"> ➤ Include as an attachment ➤ <u>Do not include</u> in the Research Strategy. |

****This chart is based on general instructions for research grant applications submitted for January 25, 2019 due dates and beyond. It should only be used as a guide. For all applications, please read the applicable Funding Opportunity Announcement (FOA) & Application Guide for specific instructions.**



National Institute of Environmental Health Sciences

Your Environment. Your Health.

Understanding the NIH Grant Peer Review Process

July 29, 2021

Laura Thomas, Ph.D.

laura.thomas@nih.gov

Scientific Review Officer

Division of Extramural Research and Training

National Institute of Environmental Health Sciences

Review Outline:

1. How your application is reviewed.
2. What happens at a review/study section meeting?
3. How to read your Summary Statement.
4. What makes a competitive grant application?
5. Resources.



How is your Application Reviewed?

Check the Funding Opportunity Announcement (FOA)!!

Section V. Application Review Information

1. Criteria

Only the review criteria described below will be considered in the review process. As part of the [NIH mission](#), all applications submitted to the NIH in support of biomedical and behavioral research are evaluated for scientific and technical merit through the NIH peer review system.

For this particular announcement, note the following: Reviewers should evaluate the candidate's potential for obtaining a tenure-track or equivalent faculty position and developing an independent research program that will make important contributions to the field. Reviewers should consider in their evaluation the likely value of the proposed K99 phase research and career development in facilitating transition to research independence, and the feasibility of the proposed research project as a vehicle for developing a successful, independent research program after transition to the R00 award phase.

Overall Impact

Reviewers should provide their assessment of the likelihood that the proposed career development and research plan will enhance the candidate's potential for a productive, independent scientific research career in a health-related field, taking into consideration the criteria below in determining the overall impact score.

Scored Review Criteria

Reviewers will consider each of the review criteria below in the determination of scientific merit, and give a separate score for each. An application does not need to be strong in all categories to be judged likely to have major scientific impact.

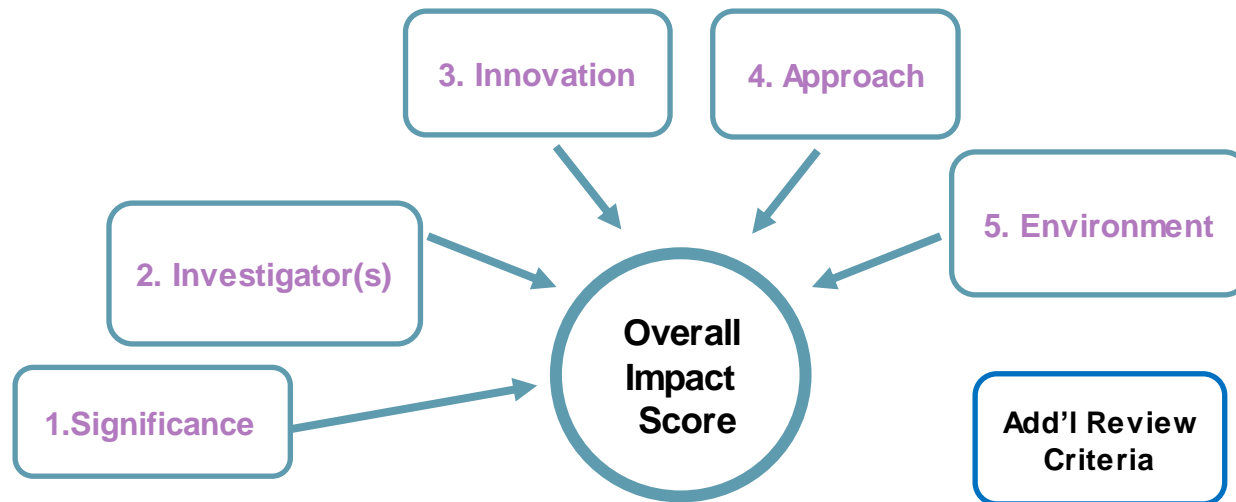
Candidate

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

Main Review Criteria

- **Overall Impact:**

- Assessment of the likelihood for the **scientific project** to exert a sustained, powerful influence on the research field, in consideration of the **5 Scored Review Criteria** and **Additional Review Criteria**, if relevant.



Budget
Select Agent Research

Resource Sharing Plans
Authentication of Key Bio or Chem Resources

Criterion Score Impact on Final Score

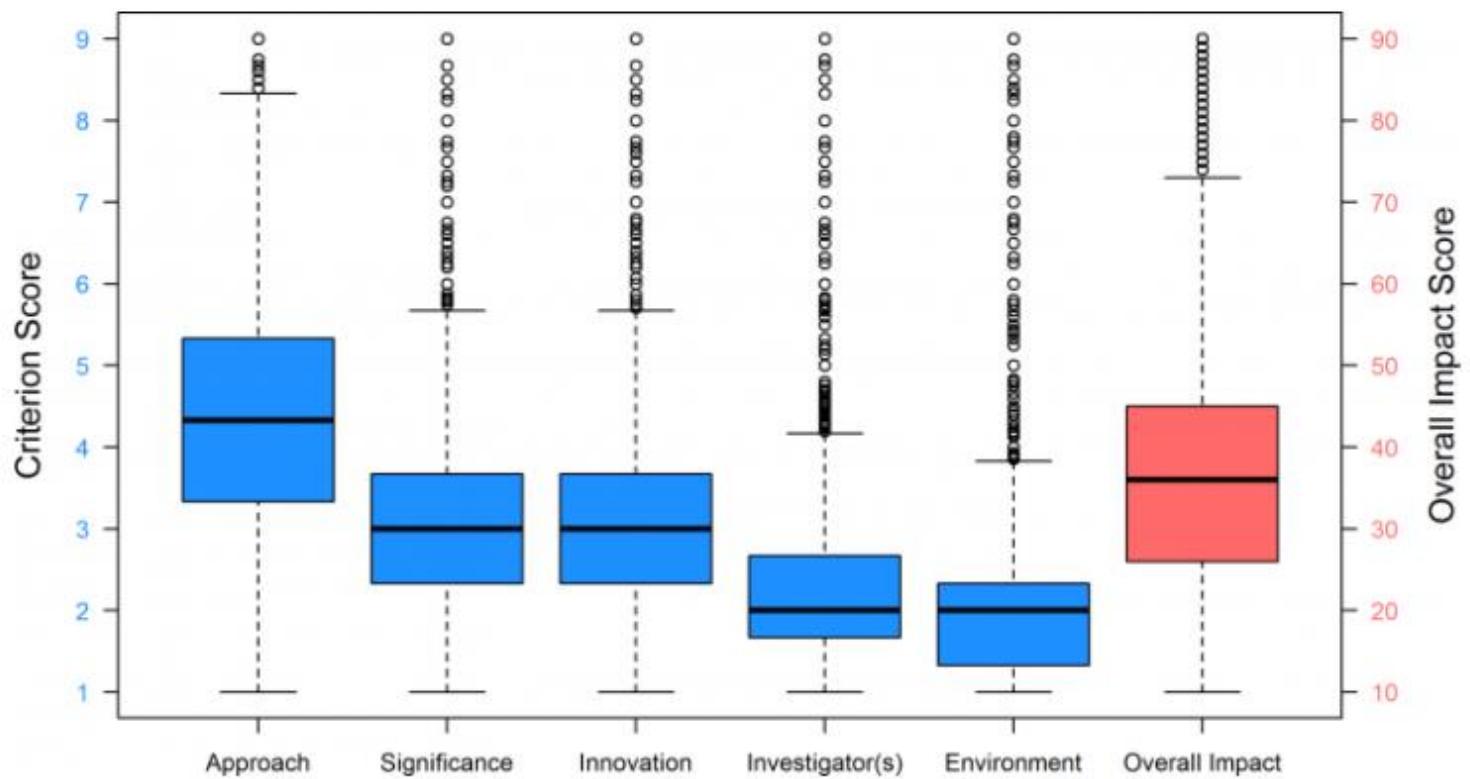


Figure 1 from “How Criterion Scores Predict the Overall Impact Score and Funding Outcomes for National Institutes of Health Peer-Reviewed Applications” by Eblen, et al.: Box Plot Distributions of Criterion and Overall Impact Scores for R01 Applications, FY 2010–2013.

Review Meetings

- Each standing study section has ~12-22 regular members, plus temporary reviewers from the scientific community.
- SEPs can be smaller or larger.
- Number of applications reviewed depends on number received and if all applications are being discussed.

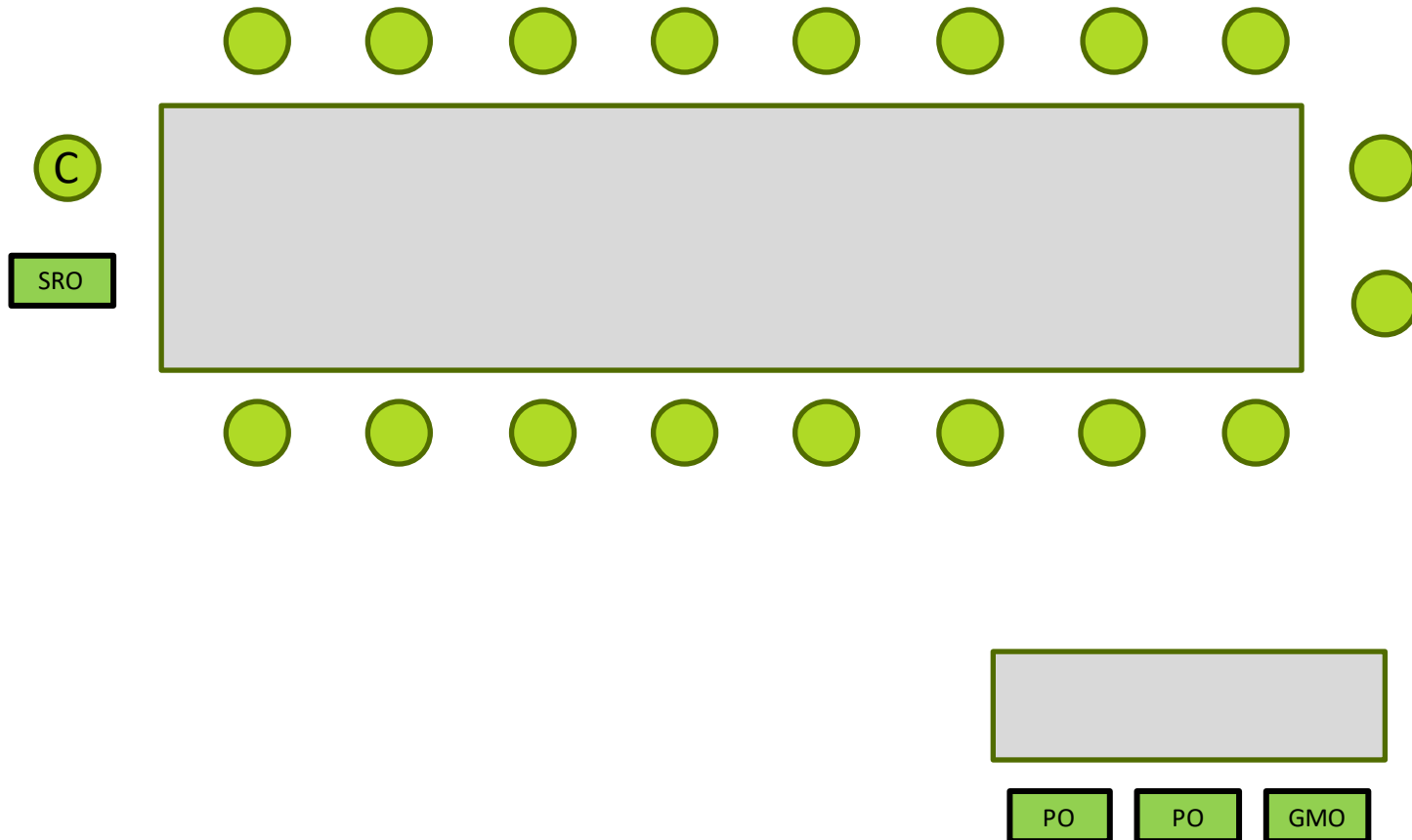
Meeting formats:

- 1) In person
- 2) Telephone
- 3) Online asynchronous
- 4) Zoom

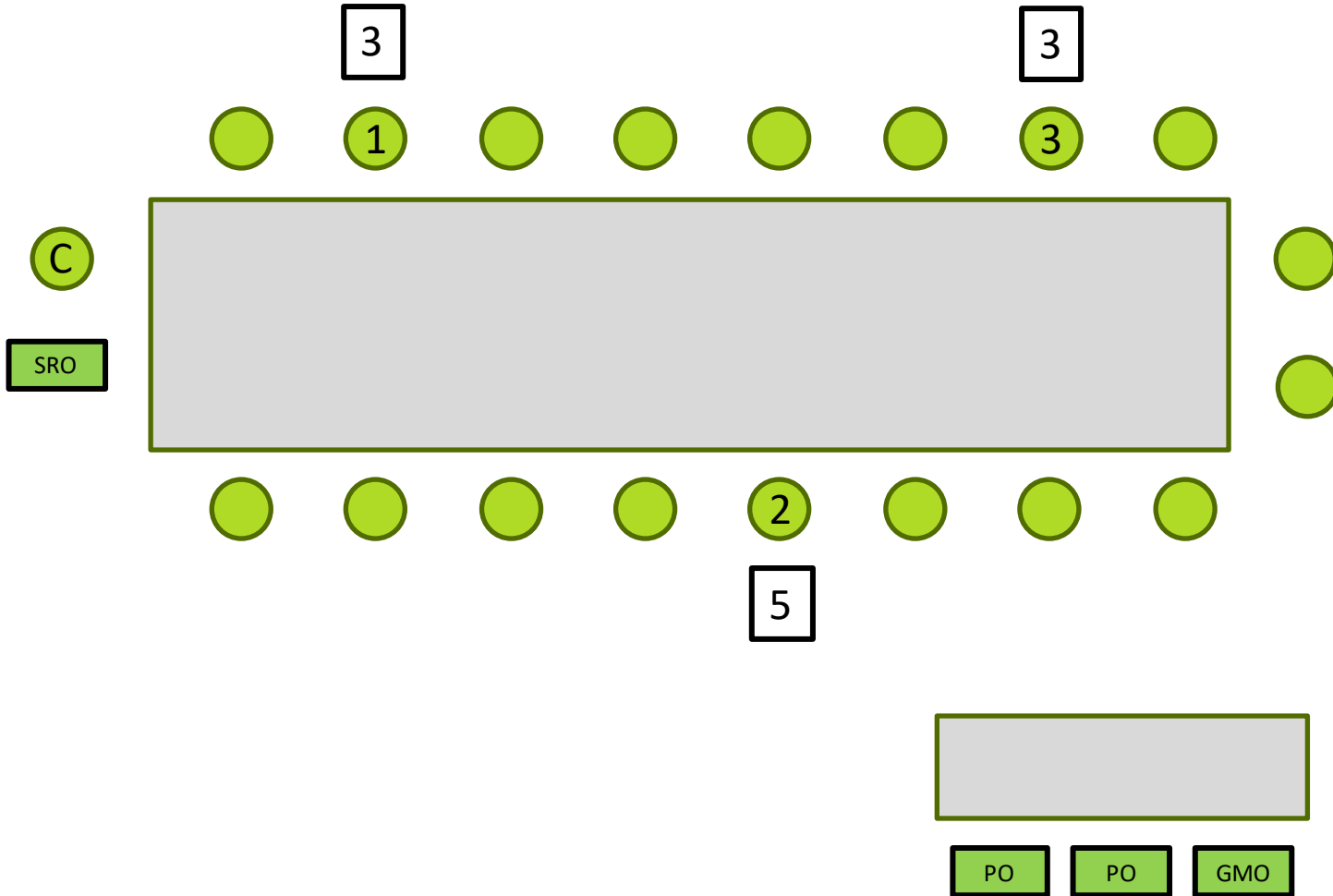


YouTube: “NIH Peer Review Revealed” for a mock study section

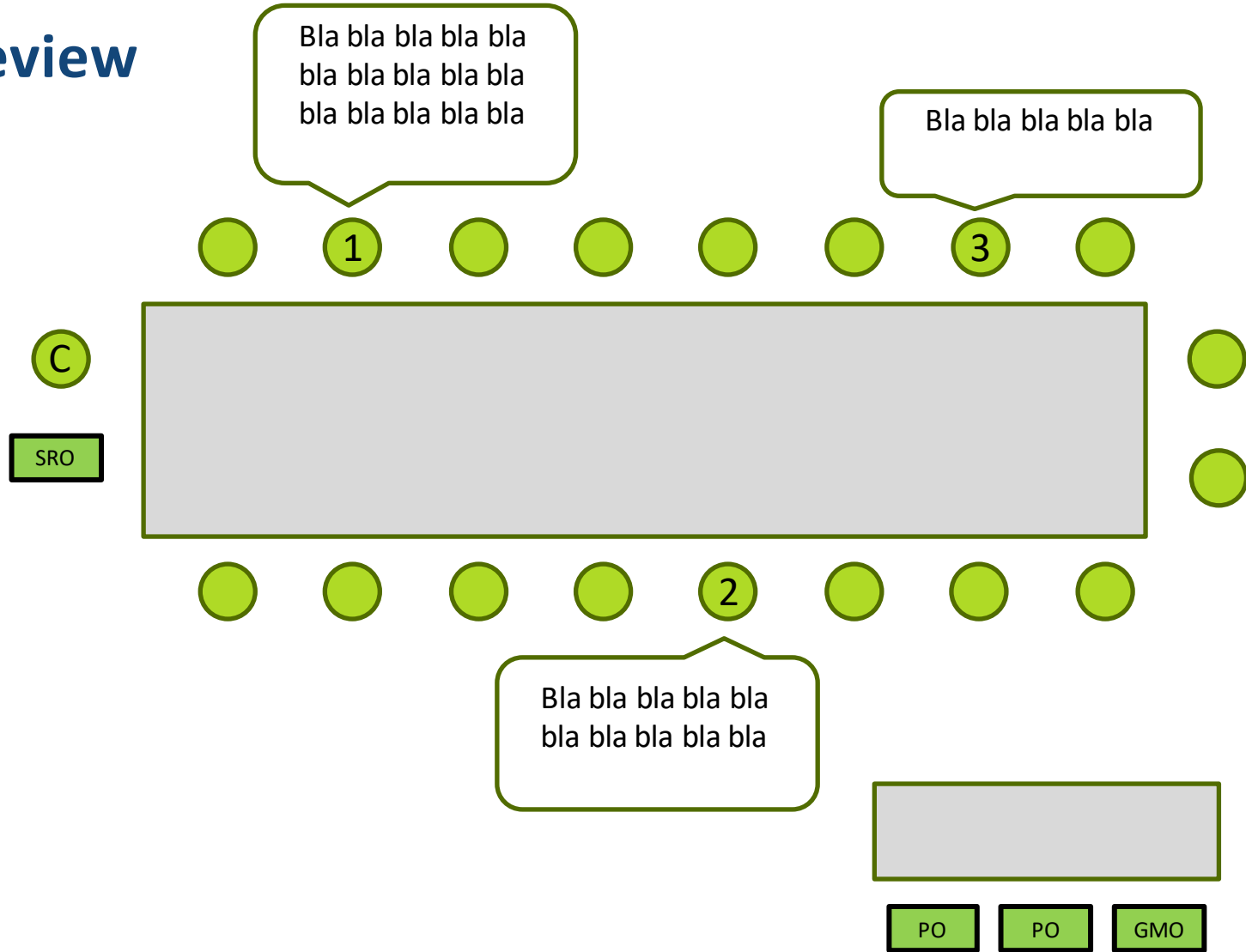
Typical Study Section



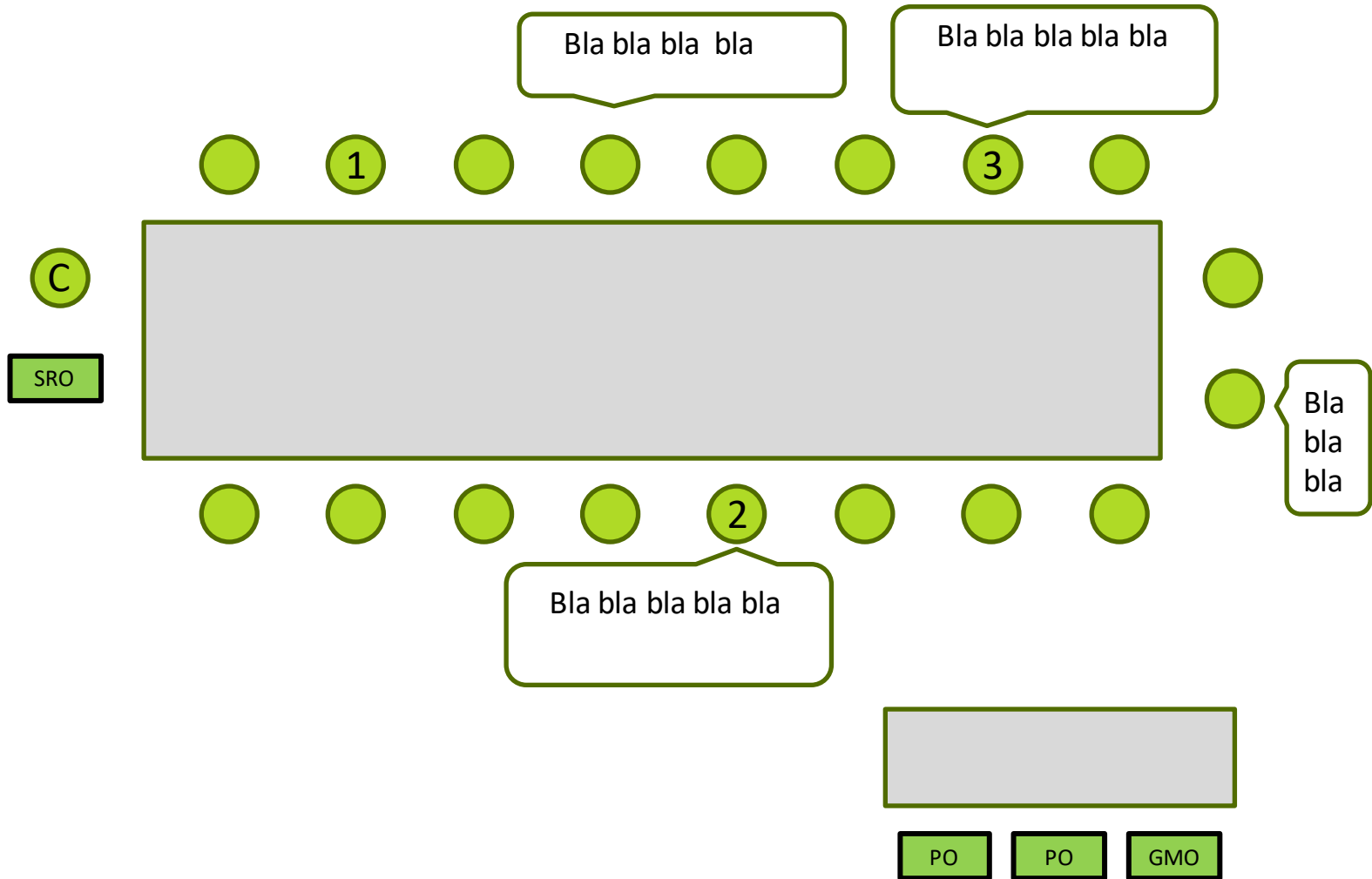
Initial Scoring



Review

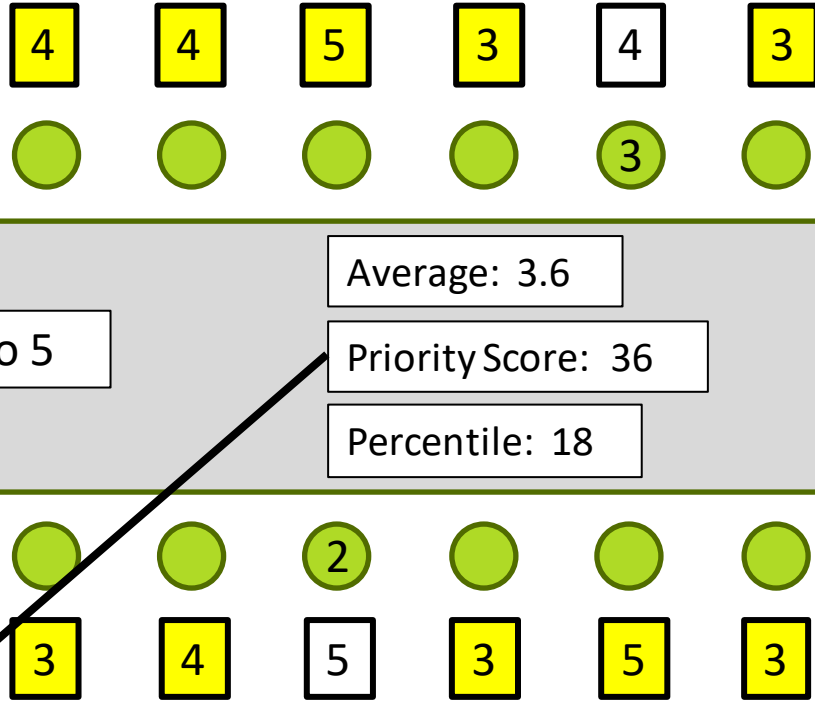


Discussion



Final

| Percentile | Score |
|------------|-------|
| 1 | 10 |
| 1 | 14 |
| 1 | 16 |
| 2 | 17 |
| 3 | 18 |
| 6 | 20 |
| 7 | 21 |
| 10 | 23 |
| 13 | 26 |
| 14 | 27 |
| 14 | 27 |
| 15 | 29 |
| 17 | 30 |
| 17 | 31 |
| 17 | 32 |
| 17 | 33 |
| 17 | 35 |
| 19 | 37 |
| 19 | 37 |
| 21 | 39 |
| 21 | 40 |
| 23 | 43 |
| 24 | 44 |
| 26 | 45 |



3 C
SRO

● 3
● 4

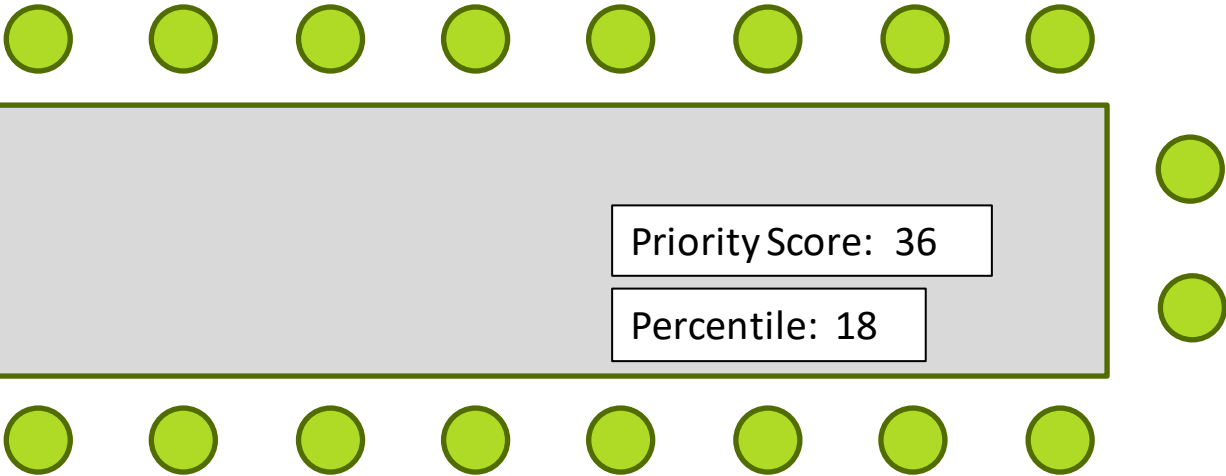
PO PO GMO



Summary Statement

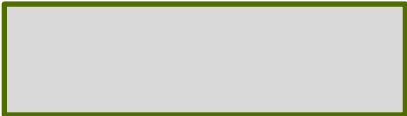
Rev 1: Write write write write
write write write write write
write write write write write

Rev 3: Write write write write
write write write write write
write write write write write



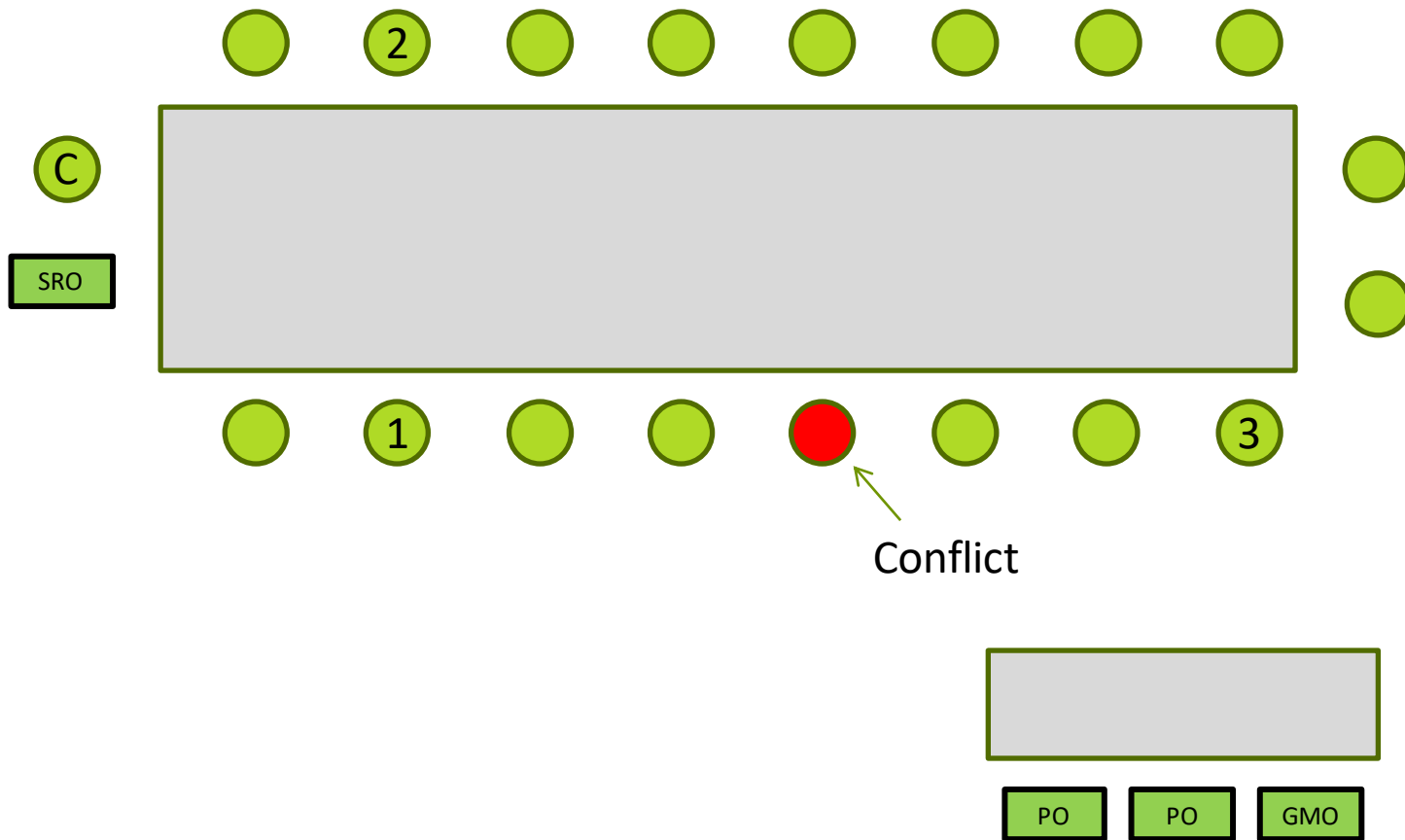
SRO Summary:
Write write
write write write
write write write
write write

Rev 2: Write write write write
write write write write write
write write write write write



PO PO GMO

Next Review



How to read your Summary Statement

- Scores for each review criterion (scale of 1-9)
- Critiques from assigned reviewers
- Administrative notes (if any)

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

- **If application is discussed you will also have:**
 - Overall impact/priority score and (sometimes) percentile ranking
 - Summary of review meeting discussion (written by Scientific Review Officer)
 - Budget recommendations

PROGRAM CONTACT:

[Redacted]

SUMMARY STATEMENT
(Privileged Communication)

Release Date: 02/27/2017
Revised Date:

Application Number: 1 R01 AI121500-01A1

Principal Investigator
GORDON, VERNITA

Applicant Organization: UNIVERSITY OF TEXAS, AUSTIN

Review Group: **BMBI**
Biomaterials and Biointerfaces Study Section

Meeting Date: 02/15/2017
Council: MAY 2017
Requested Start: 05/01/2017

RFA/PA: PAR16-242
PCC: M36

Project Title: Assessing the roles of biofilm structure and mechanics in pathogenic, persistent infections

SRG Action: Impact Score:15 Percentile:1

next Steps: visit http://grants.nih.gov/grants/next_steps.htm

Human Subjects: 10-No human subjects involved

Animal Subjects: 30-Vertebrate animals involved - no SRG concerns noted

Project Year
1
2
3
4

Direct Costs Requested

Estimated Total Cost

TOTAL





Resume and Summary of Discussion

1R01AI121500-01A1 Gordon, Vernita

NEW INVESTIGATOR

RESUME AND SUMMARY OF DISCUSSION: This application proposes to determine the mechanics and structure of biofilm infections of the opportunistic pathogen *Pseudomonas aeruginosa* in chronic wounds and how these physical properties impact disease course. The impact of these studies, if successful, will address the major physical factors controlling virulence, antibiotic resistance, and immune evasion in biofilm infections and is expected to give rise to new types of treatments and diagnostics for chronic biofilm infections that specifically target structure and mechanics. The strengths of the application are the dramatically improved focus; the supportive preliminary data; and the novel mechanism to treat biofilms. Concerns are that it will require a large amount of coordination between groups. Overall, the application receives much enthusiasm in the area of biofilm infections.

DESCRIPTION (provided by applicant): What spatial structure and mechanics develops in biofilm infections, and how such spatial structure and mechanics impact the persistence and virulence of biofilm infections, is not known. The long-term goal is to find diagnostic and treatment approaches that address the structure and mechanics of multicellular, three-dimensional biofilm infections within the host. The objective of this application is to determine the mechanics and structure of biofilm infections

Written Reviewer Critiques

CRITIQUE 1:

Significance: 2

Investigator(s): 1

Innovation: 1

Approach: 2

Environment: 1

Overall Impact: This application is to investigate the structural and physical properties of biofilms using a wide range of novel techniques developed by the team and how these properties affect infections, antibiotic resistance, resistance to immune invasion and virulence. The proposed study is very novel in several aspects including novel techniques used, different properties to be studied, new insights into biofilm development, etc. This application has been improved substantially from the previous applications and the team has made several progresses with published records to support the current study. A few concerns still exist including coordination of the research activities, unclear description of budgets, inconsistency in description of research activities and justification of animal to be used.

1. Significance:

Strengths

- It is novel to investigate the structural and physical properties of biofilms.
- Better understanding of such properties will likely lead to develop novel control strategies.

What makes a competitive grant application?

- How it will fill in the field (**Significance**). Why this research is needed now.
- Strong **Investigators** and collaborators that cover all areas of expertise needed to complete the research.
 - Publication records of achievement/expertise.
 - Evidence of collaboration.
 - If Multi-PI plan, clearly justified and delineated role for each PI.
- Clear, detailed, and justified (with preliminary data, background material/pubs) scientific approach (**Approach**).
 - Use most if not all allotted page limits. But use it wisely, make it easy on the eyes, etc.
 - Specific Aims on one page. (Specific Aim 1, Specific Aim 2....).
 - Be mechanistic, not descriptive.
 - Be realistic for the time period/mechanism of the grant (not over/under ambitious).
 - Write for a broader audience than you might expect, whole review panel are not experts.
- New methods, population, application, etc. (**Innovation**)
- Appropriate laboratory space/equipment (**Environment**)
 - Appropriate Letters of Support from all involved parties.

NIH Resources

All About Grants podcast:

<https://grants.nih.gov/news/virtual-learning/podcasts.htm>

NIH Grants YouTube Channel:

<https://www.youtube.com/user/nihgrants>

NIAID Sample Grant Applications and Summary Statements:

<https://www.niaid.nih.gov/grants-contracts/apply-grant>

Center for Scientific Review:

<https://public.csr.nih.gov/ForApplicant>

Office of Extramural Research:

https://grants.nih.gov/grants/about_grants.htm

If Your Application is not Funded...

- Very few get funded on their first attempt
- One chance for a resubmission of this application, but **unlimited* chances for an idea
- Talk to your Program Officer, they likely listened to the review if application was discussed and can help interpret the summary statement
- Revise and resubmit? Odds are generally better when you resubmit vs. send in as a new application (*but it depends*)
- Respect reviewer critiques. Acknowledge their efforts, and address critiques as best you can in Introduction
- Keep other potential funding sources in mind as well

Tips for Resubmission

- Very few get funded on their first attempt
- One chance for a resubmission of this application, but **unlimited* chances for an idea
- Respect differences in scientific opinion
- Resubmit when you have addressed all concerns
- Craft the introduction
- Update references

Music and Health Links/Resources

- NIH Sound Health Page
 - <https://www.nih.gov/research-training/medical-research-initiatives/sound-health>
- Currently Active Music and Health FOAs
 - <https://grants.nih.gov/grants/guide/pa-files/par-21-100.html>
 - <https://grants.nih.gov/grants/guide/pa-files/par-21-099.html>
 - <https://grants.nih.gov/grants/guide/pa-files/PAR-20-266.html>
- Sound Health Network Page(s)
 - <https://soundhealth.ucsf.edu/funding-opportunities>