NIH 101:
HARC Panel J core curriculum

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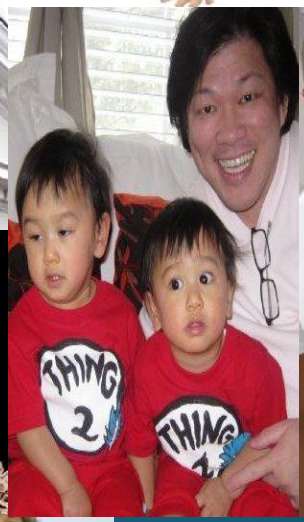
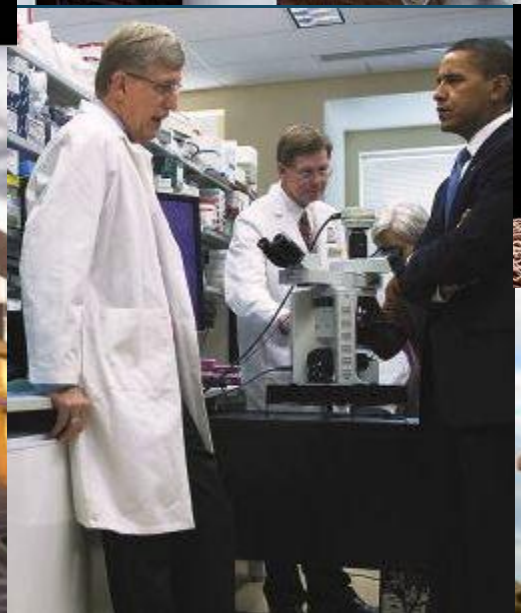
The nation's medical research agency

http://www.nih.gov/institutes-nih





NIH's goals

http://www.nih.gov/about-nih/what-we-do/mission-goals

To foster

- fundamental creative discoveries,
- innovative research strategies,
- their applications as a basis for ultimately protecting and improving health

To develop, maintain, renew

- scientific human and physical resources that will ensure the Nation's capability to prevent disease;

To expand

- the knowledge base in medical and associated sciences in order to enhance the Nation's economic well-being,
- to ensure a continued high return on public investment in research;

To exemplify and promote

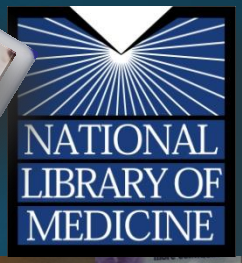
- the highest level of scientific integrity, public accountability, and social responsibility in the conduct of science.

Core NIH components

- Extramural research: Support research of non-Federal scientists in universities, medical schools, hospitals, and research institutions throughout United States and overseas
- Intramural research: Conduct research in NIH's own labs, hospital
- Training programs: For future, current research investigators
- Communication: Foster communication of science and health medical information



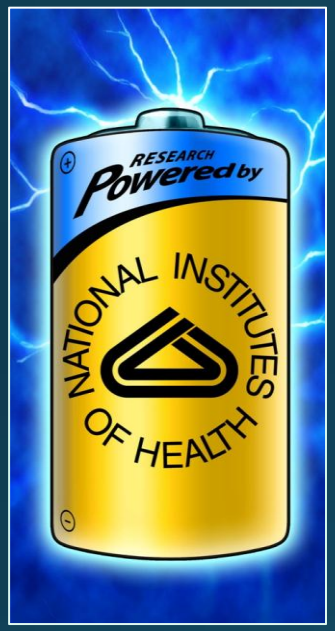


Main NIH support mechanisms

- (Large) Research projects (R01)
- **Small projects(R03)**
- Exploratory/development (R21, R33, R21/R33)
- **Academic research enhancement award (AREA, R15)**
- Requests for applications (RFAs)
- Contracts
- Small business/Tech-Transfer (R41, R42, R43, R44)
- **Individual fellowships (F30, F31, F32, F33, etc.)**
- Shared instrumentation (S10)
- Resource projects(P40, P41, R24, R26, R28)
- Program projects (P01)
- **Career development (K01, K02, K05, K07, K08, K23, K24, etc.)**
- Centers (P30, P50, P60)
- Conferences (R13)
- Institutional training (T32, T35)
- Minority access to research careers (MARC, F34, F36, T34)
- Minority biomedical support (S06)

Funding opportunity search engines



OBSSR's funding opportunities

- http://obssr.od.nih.gov/funding_opportunities/foas/foas.aspx

***NIH Guide to Grants and Contracts* search**

- http://grants.nih.gov/grants/guide/index.html

Grants.gov search page

- http://www.grants.gov/search/basic.do

PCORI funding opportunities

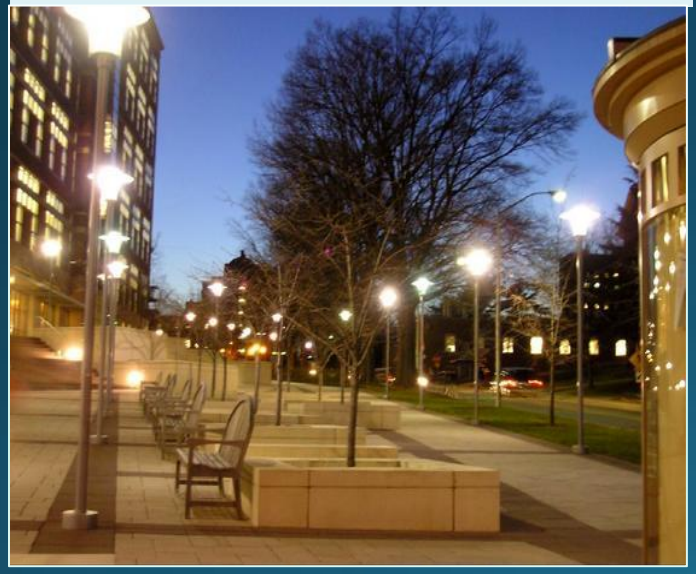
- http://www.pcori.org/funding-opportunities/

NIH Career "Wizard"

https://researchtraining.nih.gov/career-path

Science Wizard

NIH-based fellowships



NIH post-baccalaureates (IRTA)

https://www.training.nih.gov/programs/postbac_irta

NIH-based fellowships

https://www.training.nih.gov/

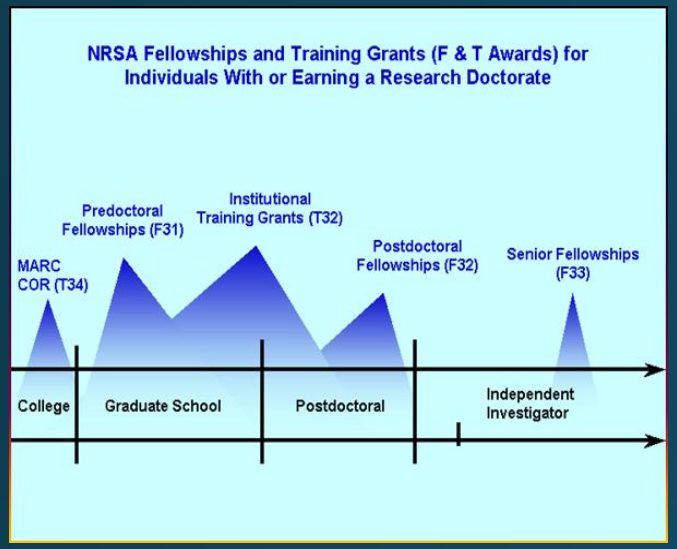
NCI health communication internships

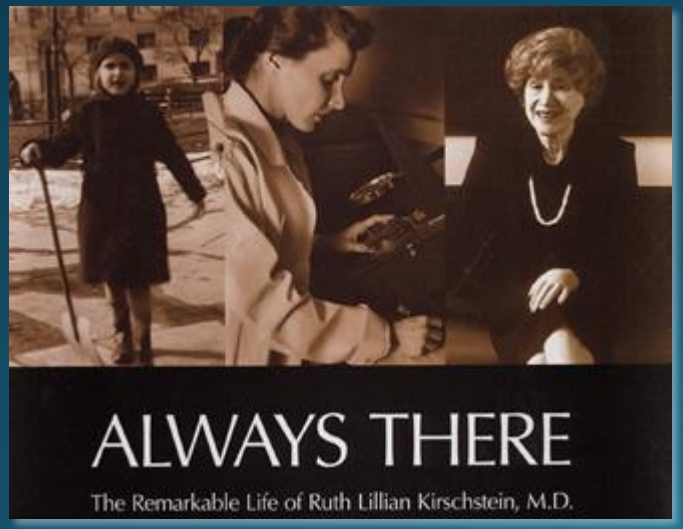
https://hcip.nci.nih.gov/hcip/

NCI cancer prevention fellowships

http://cpfp.nci.nih.gov/index.shtml

F = Individual Fellowships





Pre-doctoral

- Kirschstein NRSA F31, Diversity F31, or dual-degree F30
- Conduct dissertation + pursue training goals
- Requires a sponsor (mentor)
- Offers stipend, tuition support, research funds

Post-doctoral

- Kirschstein NRSA F32
- Conduct study + pursue early postdoc training goals
- Requires a sponsor (mentor)
- Up to 3 years of stipend, tuition support, research funds

T = Training Programs

T32 institutional training programs

- Institutions apply for a T32 training program grant
- You apply to the institution (not NIH) for a training slot
- Training slots provide stipend + limited research/travel funds

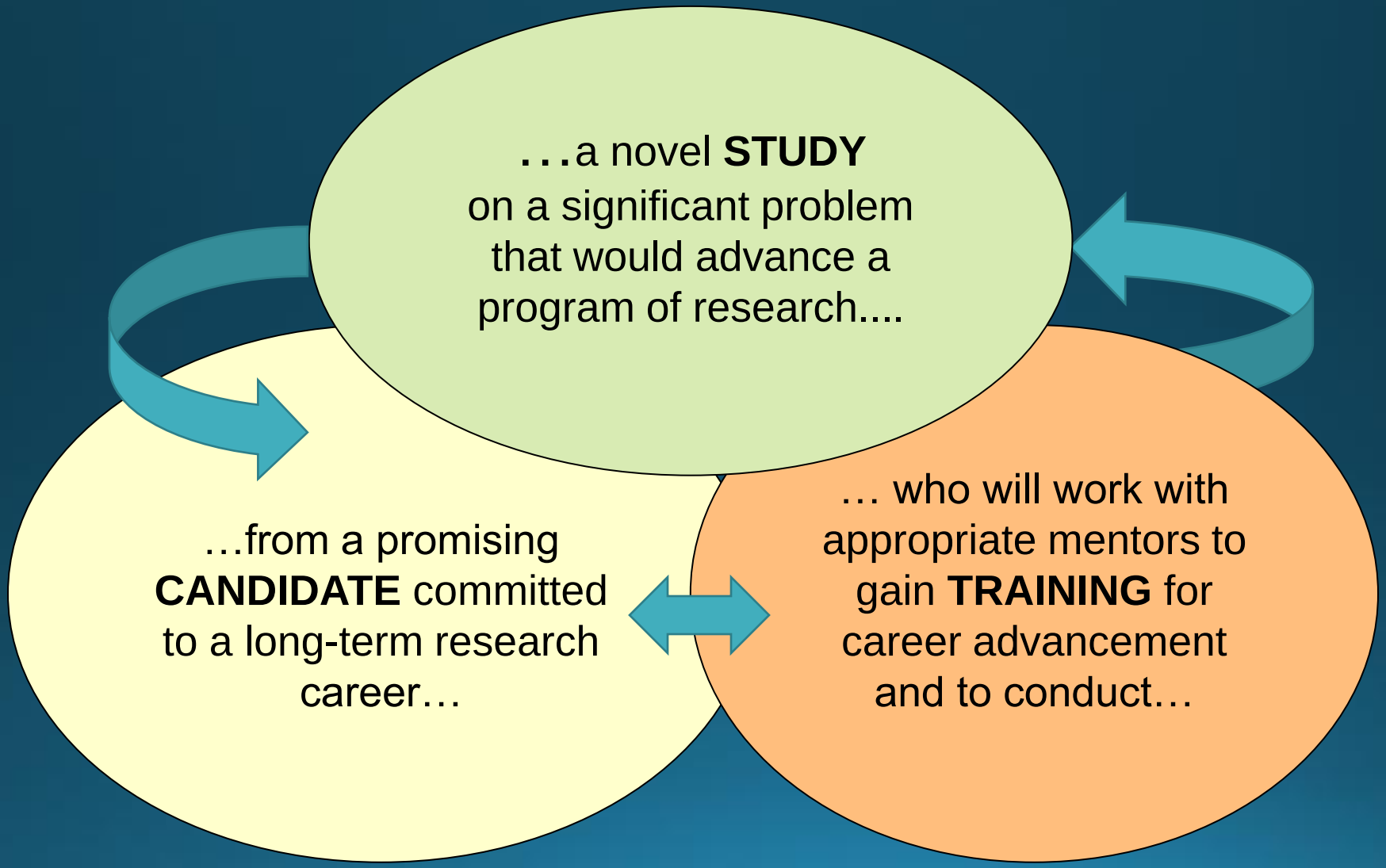
Foci of institutional training programs vary

- Pre- or post-doctoral
- Specific chronic illnesses, populations, disciplinary approaches
- Mix of mentorship, internship, coursework

How to find them?

- Search online
- Ask peers, mentors
- **Network within an SBM SIG**

Core concept for K awards
(and training awards in general)



K = Career Development

Scope/intent

- Mentored training to conduct a research project and lift the applicant to the next phase of an independent research career (e.g., to an R01 proposal)

Requirements

- All Ks are post-doctoral
- Early-career Ks must NOT have been a R01 PI
- Applicant must hold a full-time appointment
- Almost all Ks require US citizenship or permanent residence
- Award ≤ 5 years of salary (minimum 75% effort) + research funds

Ask the Wizard to find the K for you!

https://researchtraining.nih.gov/programs/career-development, e.g.,

✓ K01 for applicants w/research degrees (e.g., social psychology Ph.D)
✓ K23 for applicants w/clinical degrees (e.g., MD, clinical Ph.D.)

Career awards (K series)

K01: Mentored research scientist development
K02: Independent scientist
K05: Established/senior scientist
K07: Academic career award (multi-stage)
K08: Mentored ***clinical*** scientist
K18: Mid/senior career development
K22: Career transition
K23: Mentored ***patient-oriented*** research development
K25: Mentored ***quantitative*** research development
K99/R00: Pathway to independence

Training awards (T series)

T32: Institutional Research Training Grants, e.g.,

- ✓ Predoctoral training in neurosciences
- ✓ Promote diversity
- ✓ Obstetric/pediatric pharmacoepidemiology

T34: Undergraduate Student Training in Academic Research (U-STAR)

T35: Short-term Institutional Research Training Grants

T90: New Interdisciplinary Research Workforce

https://researchtraining.nih.gov/programs/training-grants

R03: Small grant

Limited funding

Short time period

- 1-2 years, $50K/ year

Examples

- ✓ Secondary analysis of existing data
- ✓ Small, self-contained research projects
- ✓ Pilot/feasibility studies
- ✓ Develop new methodology, technology

R13: Conferences

★ Requires advance permission to submit!

"Organized, formal meeting[s] where persons assemble to coordinate, exchange, and disseminate information or to explore or clarify a defined subject, problem, or area of knowledge."

- grants.nih.gov/grants/funding/r13/index.htm

An Institute/Center decides,

- Whether to participate in R13s
- Topics
- Budget maximum
- Years of support

R15: AREA

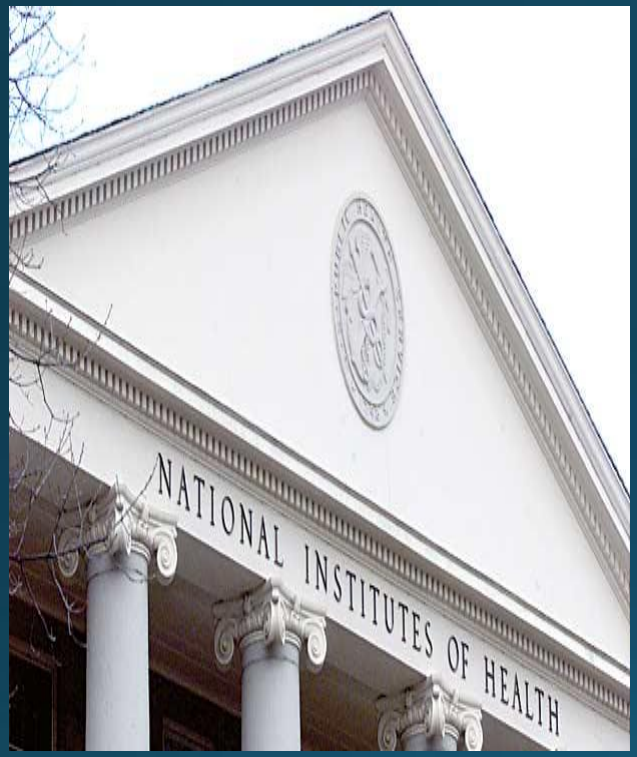
Academic Research Enhancement Awards for . . .

- Universities or academic units that haven't received major NIH research funds
- Health professional schools

Small research projects

- Must involve faculty AND students
- Requires balance among all three components:
  1. Faculty development
  2. Student training in research
  3. Research project

R21 application

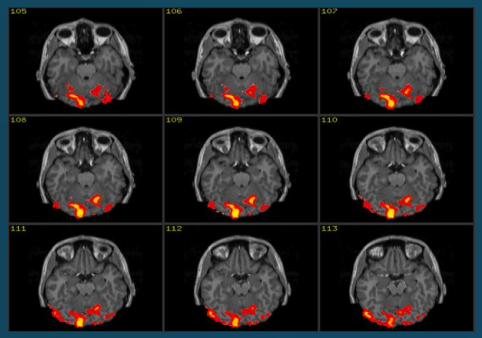


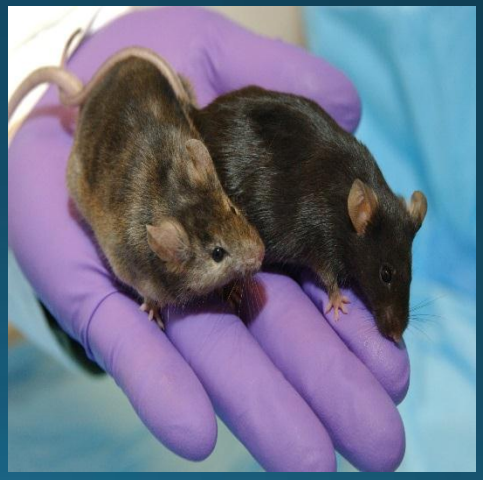
- 2 years, $275K total
- Exploratory/developmental
- High risk/high payoff
- Often anticipates a future R01
- Examples
  - ✓ Feasibility studies
  - ✓ Pilot projects
  - ✓ Unique/innovative use of existing methodology to explore new area

R01: Research grant

- 5-year maximum
  - ✓ e.g., Clinical trials, natural experiments
- **Renewable!**
  - ✓ Social-behavioral researchers submit these MUCH less often than other NIH grantees
- No specified budget limitations
  - ✓ Prior approval required for >$500,000 in any one year
- Often builds upon previous research
  - ✓ e.g., R21, related R01s, projects funded by others
- Involves complementary synergistic colleagues
- *Usually* requires prior NIH grant experience

Best practices? Tips? Tricks?





Specific aims

- Delineate them concisely.
- Include the (potential) impact of your research results.
  - ✓ In one page.
  - ✓ This means ***you***!
- Weave these aims/impact throughout your application.

Research strategy

- Write for four NIH review criteria:
  - Significance, Innovation, Approach, Environment
- Include your preliminary studies (if any) in the Approach section.
  - ✓ Progress reports (renewals, revisions) go there, too!
  - ✓ Your publications lists don't.

Environment

- Your institution's facilities boilerplate goes here.
- Link your environment to project success!
  - E.g., intellectual rapport, level of current community engagement, long-standing collaborative arrangements.
- **ESIs,** explain yourselves!
  - ✓ Explain institution's investment in you.
  - ✓ Detail collegial support for your project.
  - ✓ Describe your project's logistical support.
- Delineate your biohazard containment protections.
  - E.g., blood, saliva, urine

Investigators

- Your degrees/institutions.
- Personal statement.
  - Explain why your experience and qualifications make you naturally the perfect person for the proposed role.
- Positions and honors.
  - Include current membership on any Federal committees.
- Limit your publications to 15.
  - Include NIH manuscript submission/PubMed Central numbers.
  - Exclude manuscripts in review.
- Include ongoing/completed research support for the past three years.

Investigators: Better together!

Plan research teams strategically, synergistically

- ✓ Early-career PIs should collaborate with more-experienced co-investigators
- ✓ Each collaborator (ideally) contributes unique expertise
- ✓ Involve collaborators before/as you write!

Ask mentors for (un)successful applications & summary statements

- Read and learn from documents and mentors!

Get feedback on your concepts/ideas/applications

- Use your mentors; talk with peers; help each other!
- Send research concepts to NIH program officers
  - ✓ When you crystalize your ideas but before you write your application
  - ✓ Program officers wish this practice happened more often
  - ✓ They feel badly when researchers call them only after receiving poor scores

Early Career Reviewer program

- To train and educate qualified scientists without significant prior review experience so that they may develop into critical and well trained reviewers
- To benefit faculty scientific careers by exposing them to an experience that will make them more competitive as applicants
- To enrich the existing pool of NIH reviewers by recruiting scientists from less research-intensive institutions

http://public.csr.nih.gov/ReviewerResources/BecomeAReviewer/Pages/Overview-of-ECR-program.aspx

Tutorials, resources

5 sets of Q&As for NIH applicants
http://public.csr.nih.gov/FAQsRelated/Pages/ForApplicants/ForApplicants.aspx

NIAID's All About Grants tutorials page
http://www.niaid.nih.gov/researchfunding/grant/pages/aag.aspx

NIH-OER on planning your application
http://grants.nih.gov/grants/planning_application.htm

NIH-OER on writing your application
http://grants.nih.gov/grants/writing_application.htm

Webinars: Meet the experts in NIH Peer Review
http://public.csr.nih.gov/Pages/csrwebinar.aspx

NIH-CSR peer review process videos
http://public.csr.nih.gov/aboutcsr/contactcsr/pages/contactorvisitcsrpages/nih-grant-review-process-youtube-videos.aspx

24 Centers and Institutes that help turn discovery into health

National Cancer Institute (NCI)

National Eye Institute (NEI)

National Heart, Lung, and Blood Institute (NHLBI)

National Human Genome Research Institute (NHGRI)

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

National Institute of Allergy and Infectious Diseases (NIAID)

National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)

National Institute of Biomedical Imaging and Bioengineering (NIBIB)

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Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)

National Institute on Deafness and Other Communication Disorders (NIDCD)

National Institute of Dental and Craniofacial Research (NIDCR)

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National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

24 Centers and Institutes that help turn discovery into health

- National Institute on Drug Abuse (NIDA)
- National Institute of Environmental Health Sciences (NIEHS)
- National Institute of General Medical Sciences (NIGMS)
- National Institute of Mental Health (NIMH)
- National Institute on Minority Health and Health Disparities (NIMHD)
- National Institute of Neurological Disorders and Stroke (NINDS)
- National Institute of Nursing Research (NINR)
- National Library of Medicine (NLM)
- Fogarty International Center (FIC)
- National Center for Complementary and Alternative Medicine (NCCAM)
- National Center for Advancing Translational Sciences (NCATS)
- NIH Clinical Center (CC)
- Center for Scientific Review (CSR)

NIH Director’s program coordination offices

- Division of Program Coordination, Planning, and Strategic Initiatives (DPCPSI)
- AIDS Research: Office of AIDS Research (OAR)
- Behavioral and Social Sciences: Office of Behavioral and Social Sciences Research (OBSSR)
- Disease Prevention: Office of Disease Prevention (ODP)
  - Dietary Supplements: Office of Dietary Supplements (ODS)
- Infrastructure: Office of Research Infrastructure Programs (ORIP)
- Women's Health: Office of Research on Women's Health (ORWH)

New to the process?

Let me connect you to the right NIH program director who can help you turn discovery into health!

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301-402-0116