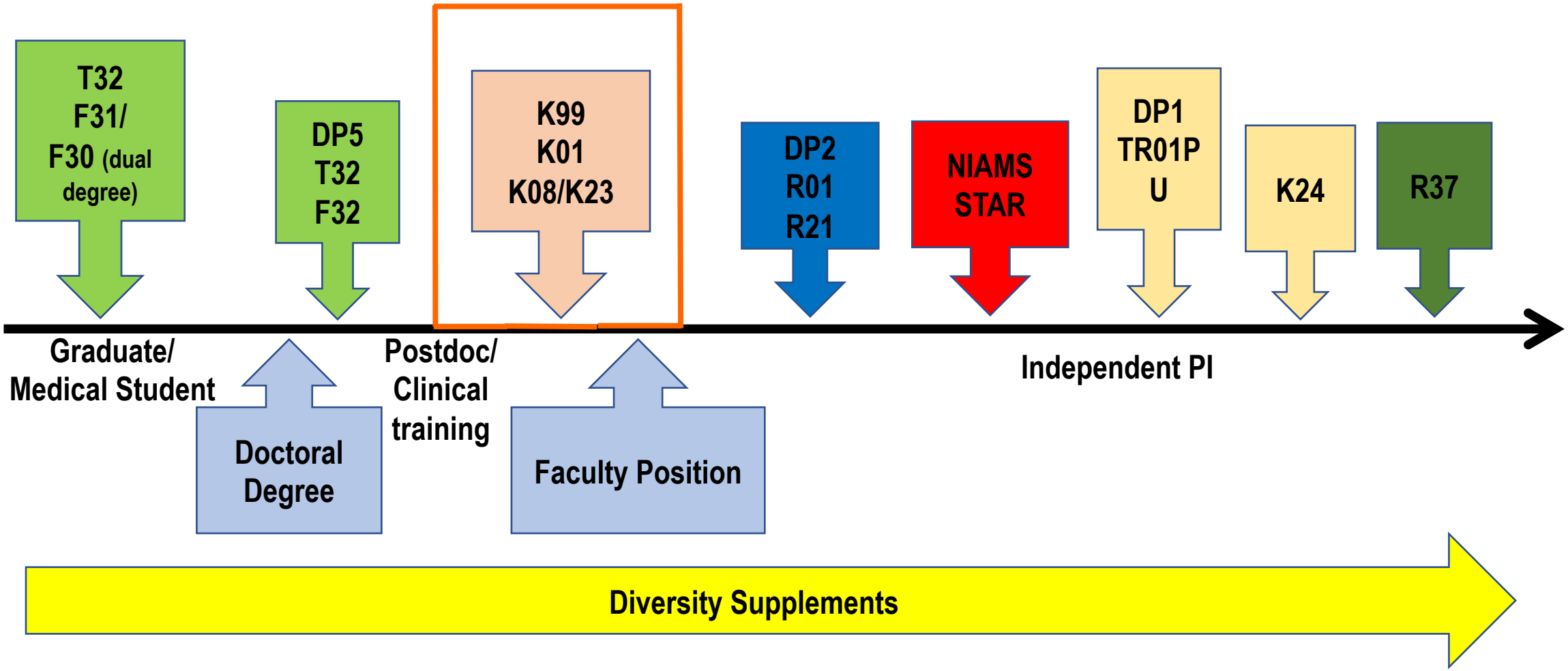
Early Career Tips for K Awards

Kristy M. Nicks, PhD
Program Director
Bone Biology, Metabolic Bone Disorders, and Osteoporosis
NIAMS
kristy.nicks@nih.gov
January 2024

National Institutes of Health

National Institute of Arthritis and Musculoskeletal and Skin Diseases

Grant Mechanisms Along Career Path



Can I Successfully Get a K Award?

- **Think ahead!**
  - **You must have an exit strategy.**
  - **Write grants as early as possible.**
    - **It will help you launch next steps**
    - **Improves grant writing skills – the more you do it, the better you'll get.**

- **Find the balance between independence and isolation**
  - **You need to collaborate.**
    - **You'll need help as a junior PI. But you also need to stand on your own.**

What Are "K" Awards?

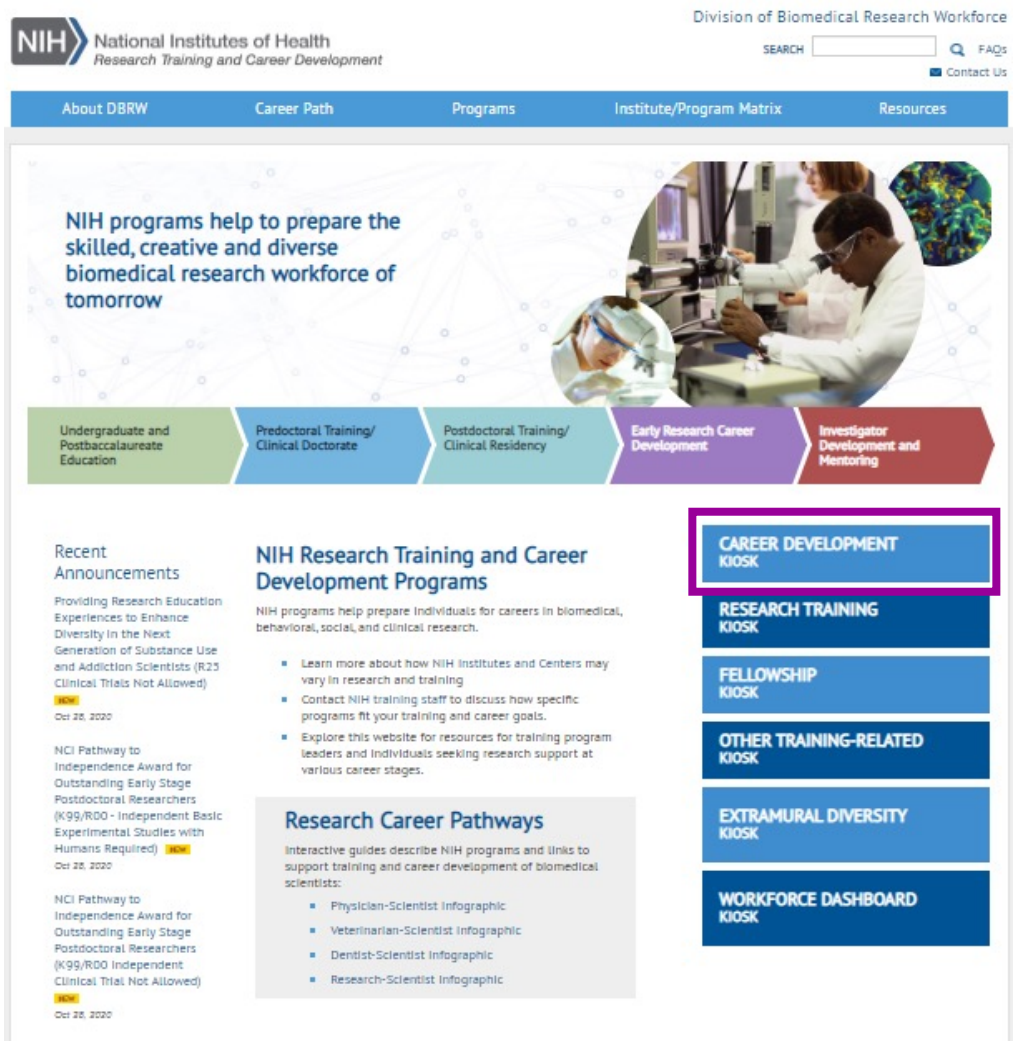
- **Purpose:** Awards to provide scholars with **protected time** to conduct research and career development activities leading to **independence** in the biomedical, behavioral, or clinical sciences.

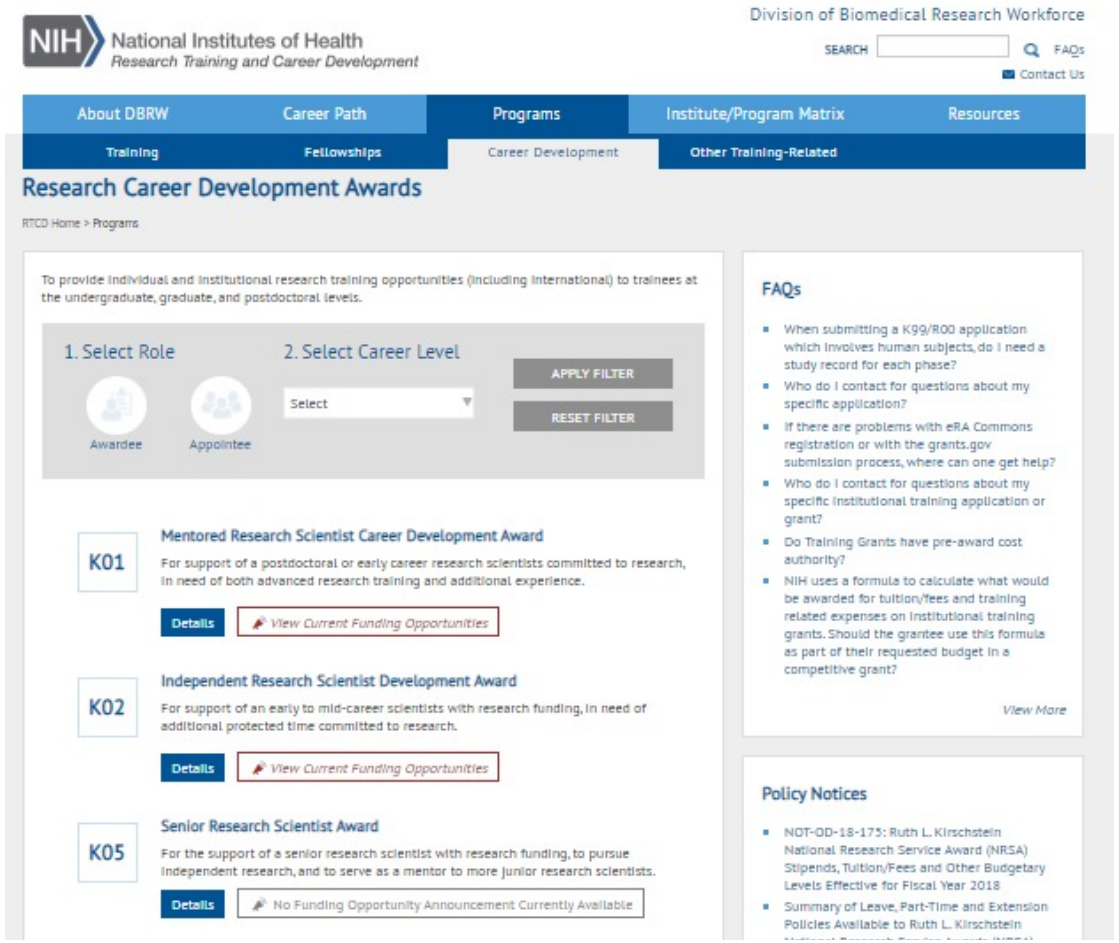
- **Types of Awards:** Multiple "K" Award types **(mentored, non-mentored, institutional)** designed for different scientific/educational backgrounds and career stages.
  - **Mentored** – For **early-stage investigators** needing mentored research training

- **NIAMS specific K information:**
  - **https://www.niams.nih.gov/grants-funding/funding-opportunities/activity-codes#awards**

NIH Research Training Website

https://researchtraining.nih.gov/





Research Career Development Awards

Career Dev Award	Purpose	Eligibility	Career Level
K01 Mentored Research Scientist	To provide support and protected time for intensive, supervised career development experience in biomedical sciences leading to research independence.	US citizen or permanent resident; research or clinical doctoral degree	Postdoc / Residency Early career
K99/R00 Pathway to Independence	To facilitate timely transition of outstanding postdoctoral researchers or clinician-scientists from mentored research positions to independent, tenure-track or equivalent faculty positions, and to provide independent NIH research support during this transition to independence.	US citizen or non-citizen; research or clinical doctoral degree; ≤4 years post-doc research experience (time of application)	Postdoc / Residency Early career
K99/R00 MOSAIC Pathway to Independence (reviewed by NIGMS)	To facilitate a timely transition of promising postdoctoral researchers **from diverse backgrounds** from their mentored, postdoctoral research positions to independent, tenure-track or equivalent research-intensive faculty positions.	US citizen or permanent resident; research or clinical doctoral degree; ≤4 years post-doc research experience (time of application)	Postdoc / Residency Early career

Research Career Development Awards cont.

Career Dev Award	Purpose	Eligibility	Career Level
K08 Mentored Clinical Research Scientist	Same as above, plus: To prepare **clinically** trained individuals for careers that have a significant impact on health-related research needs of the Nation.	US citizen or permanent resident, with **clinical** doctoral degree	Postdoc / Residency Early career
K23 Mentored Patient-Oriented Research	To support supervised career development and research of those with **clinical** doctoral degree, with potential to develop into productive, clinical investigators; commitment to focus their research endeavors on patient-oriented research	US citizen or permanent resident, with **clinical** doctoral degree; **completed clinical training**	Postdoc / Residency Early career

Each K award stipulates **75% effort**; varies from **3** to **5** years, except **K99** is **2** & **R00** is **3** years

FY2022 Success Rates: NIAMS Training/Career Development Grants

Mechanism	Applications Reviewed	Number Awarded	Success Rate
Career			
K01	29	7	24.1%
K08	27	14	51.9%
K23	31	12	38.7%
K24	7	5	71.4%
K25	3	1	33.3%
K99	39	12	30.8%
Training			
F30	9	2	22.2%
F31	114	22	19.3%
F32	28	6	21.4%
T32	14	9	64.3%

General Application Preparedness Tips

Determine mission relevance

- If you are uncertain, contact IC program directors

Read FOA carefully – follow instructions

In your application:

- Present an **organized, compelling** write-up
- Communicate clearly & thoroughly – **Never make any assumptions**
- Focus on perfecting the abstract & specific aims
- Refer to literature accurately and thoroughly
- State rationale of proposed investigation
- Include well-designed tables and figures
- Include potential pitfalls & alternative approaches
- Request appropriate budget

Get feedback from investigators familiar with NIH applications

- Your application should be marked up!
- Don't be discouraged; ask for advice from trusted colleagues, mentors, and your NIH Program Directors

Good grantsmanship always goes a long way!

- Allow time for editing & proof reading

Start Early with Electronic Submission Process

- Gather application components (i.e., biosketches, external letters)
- Ask for institutional support for various components
- Send in supplemental materials that are allowed by the FOA (check with SRO

What's In a "K" Awards? (Peer Reviewed Criteria)

- **Candidate**
  - Biosketch, Personal Statement
- **Career Development Plan/Career Goals & Objectives**
  - Mentor's statement
- **Research Plan**
  - Rigor and Reproducibility, Sex as a Biological Variable
- **Mentor(s), Co-Mentor(s), Consultant(s),Collaborator(s)**
  - Biosketches need to be specific on mentoring and candidate's career potentials, not a copy/paste from their R01 applications
- **Candidate's Environment & Institutional Commitment**
  - Appropriate office and laboratory space, equipment, and other resources and facilities

NIH Guidelines & Review Criteria:
https://grants.nih.gov/grants/policy/review_templates.htm

General Tips for K Awards

Assess your career situation and needs.

- Is there an added value to receiving this award? Why not pursue research training through other mechanisms?

Convince the reviewers that you are on track for independence.

- How will this work open up an avenue of research for you that will be distinct from your mentor's research?

As you write, always keep in mind the impact on your career development plans and progression.

Your research and career development objectives must match.

Make sure your idea is **not too broad.**

- Your hypothesis must be provable during your 3 to 5 year award.

Avoid an "over-ambitious" project or one that looks like an R01 grant!

Mentoring 101

Ideally, your mentor(s) should be **well-funded** (NIH funding is preferred), and funding from the K is supplemental to his/her research funds.

Mentors should be **enthusiastic about YOU!!!**

- **Provide details about the mentoring component**, including specific plans for developing your career, how often you will meet.
- **Formal mentoring committees** to monitor the progress of the applicant are often helpful.

Letters from scientists at the applicant institution are OK, but **outside letters from established scientists** carry more weight.

Seek a panel of mentors who **complement your need**

- Research, clinical, life-balance, peer-to-peer, expertise, grant-writing

Respect mentor's time, come prepared, follow-up

Review and speak with **prior mentees**

Seek input and feedback frequently, and EARLY

Remote mentors – devise a concrete plan to meet/talk, both reiterate plan and expectation in grant

- Skype, meet at meetings, visiting lab, visiting professorship

Strong mentors will help connect you to resources, people

Tables are a helpful display (who, when, what, how)

Integrate into Career Development Plan

Review Criteria for K99

- Mentor(s), Co-Mentor(s), Consultant(s), Collaborator(s):
  - Does the mentor describe an acceptable plan for **clear separation of the candidate's research and research career from the mentor's research,** including identifying the components of the research plan that the K99 candidate may take to an independent research position?

Tips, Tips, and More Tips (Summary)

DO

- Start **MONTHS** in advance
- Write a clear, simple, and compelling story
- Emphasize innovation and impact
- Have a clear Career Development Plan
- Align mentor plan early
- Focus on Approach (best correlation with impact score)
- Your homework publications/ current state of science
- Have Biosketches/ letters specify specific role/ resources of co-investigators
- Leverage resources (Institutional, etc) as much as possible
- Use a picture to convey conceptual model for mechanism & integration of aims/ theoretical framework

DON'T

- Be overambitious
- Blow off Human Subject Protections (refer to IRB approval)
- Use small font, margins or fit extra stuff in the appendix, etc.
  - **Follow instructions (SF424 details)**
- Be sloppy (typos)
- Be shy in asking to see successful K awards
- Try to play the system, let the system work for you
- Don't fit your research into an FOA
- BE AFRAID TO CALL PO!!!!

NIH and NIAMS-Specific Resources

NIH RePORTer

https://projectreporter.nih.gov/reporter.cfm

NIH New and Early Stage Investigator Policies

https://grants.nih.gov/policy/early-investigators/index.htm

Assisted Referral Tool

https://art.csr.nih.gov/ART/

NIH 2023 Virtual Grant Conference

https://grants.nih.gov/2022-2023-virtual-conference/presentations.html

Early Career Reviewer Program

https://public.csr.nih.gov/ForReviewers/BecomeAReviewer/

NIAMS Website

https://www.niams.nih.gov/

NIAMS Council Open Session Webcast

https://videocast.nih.gov

NIAMS e-Alerts and Monthly Funding Newsletter

https://nih.us9.list-manage.com/subscribe?u=8dae3049bd1a60cbe9be5ee3e&id=70a9f59099

NIAMS Current Funding Opportunities

https://www.niams.nih.gov/grants-funding/funding-opportunities

NIAMS Policies and Guidance

https://www.niams.nih.gov/grants-funding/nih-policies-and-guidance

NIH Advisory Council to the Director

ACD Working Group on Re-envisioning NIH-Supported Postdoctoral Training

- **See the Dec. 14-15, 2023, meeting for the most recent report for recommendations**

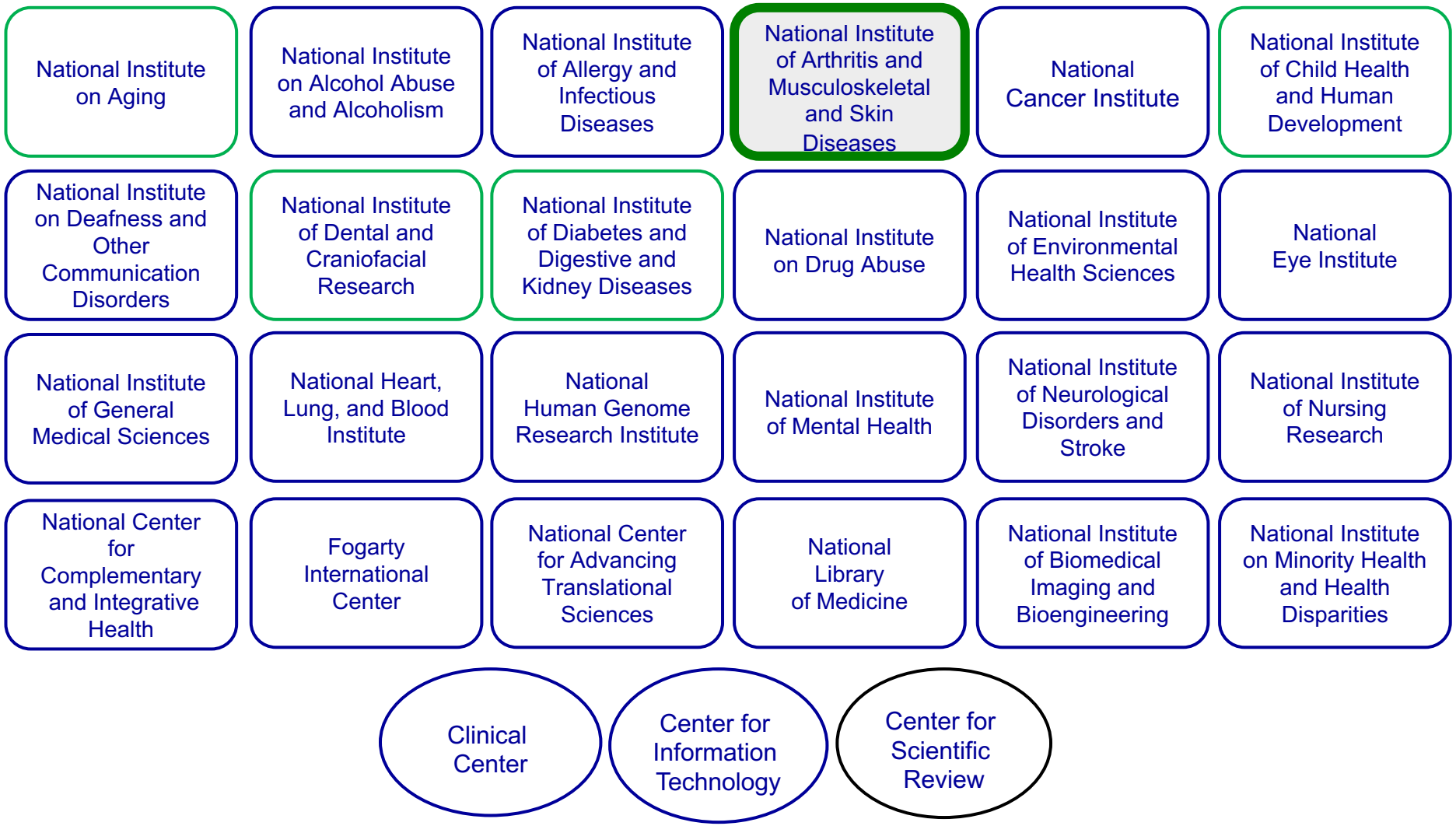
  https://www.acd.od.nih.gov/meetings.html

- **Workgroup Homepage**

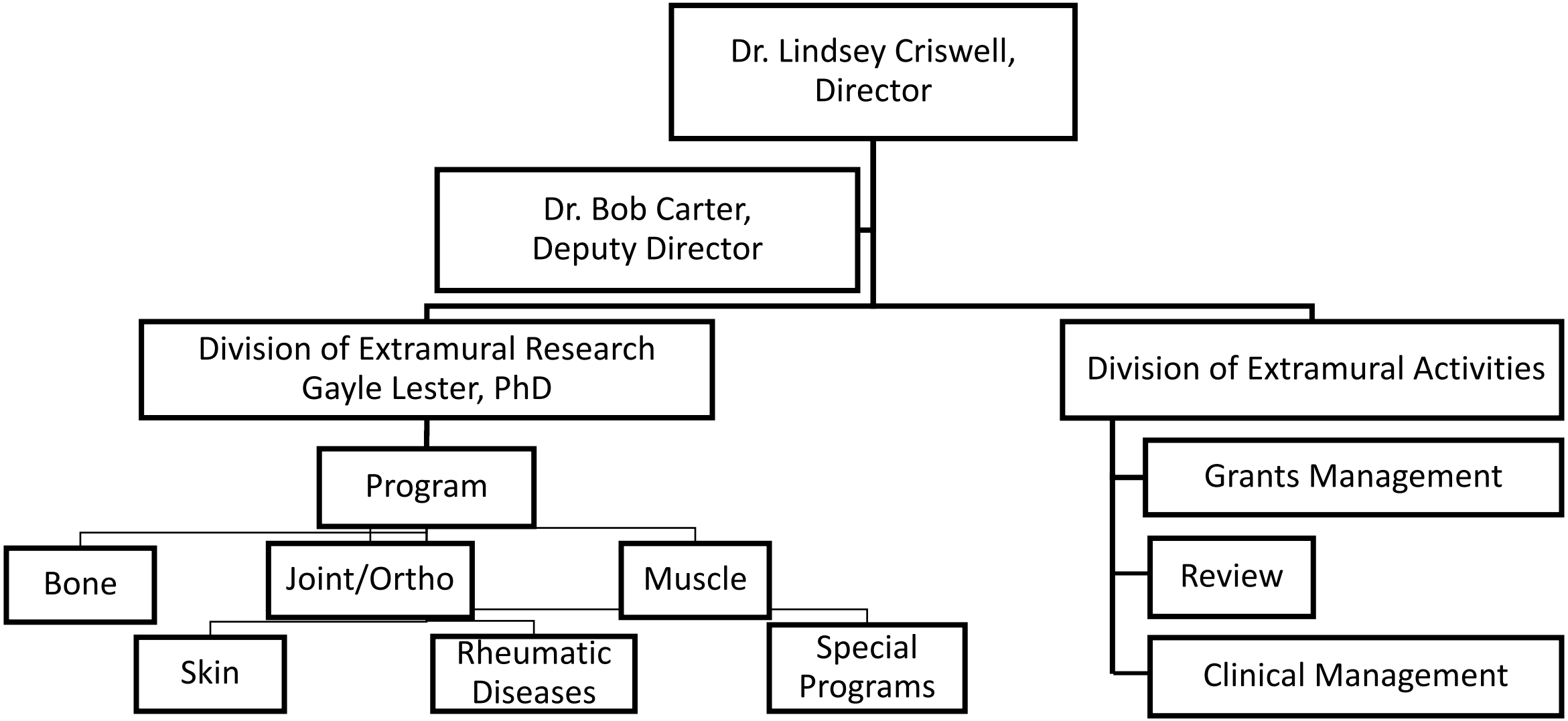
  https://www.acd.od.nih.gov/working-groups/postdocs.html

thank you

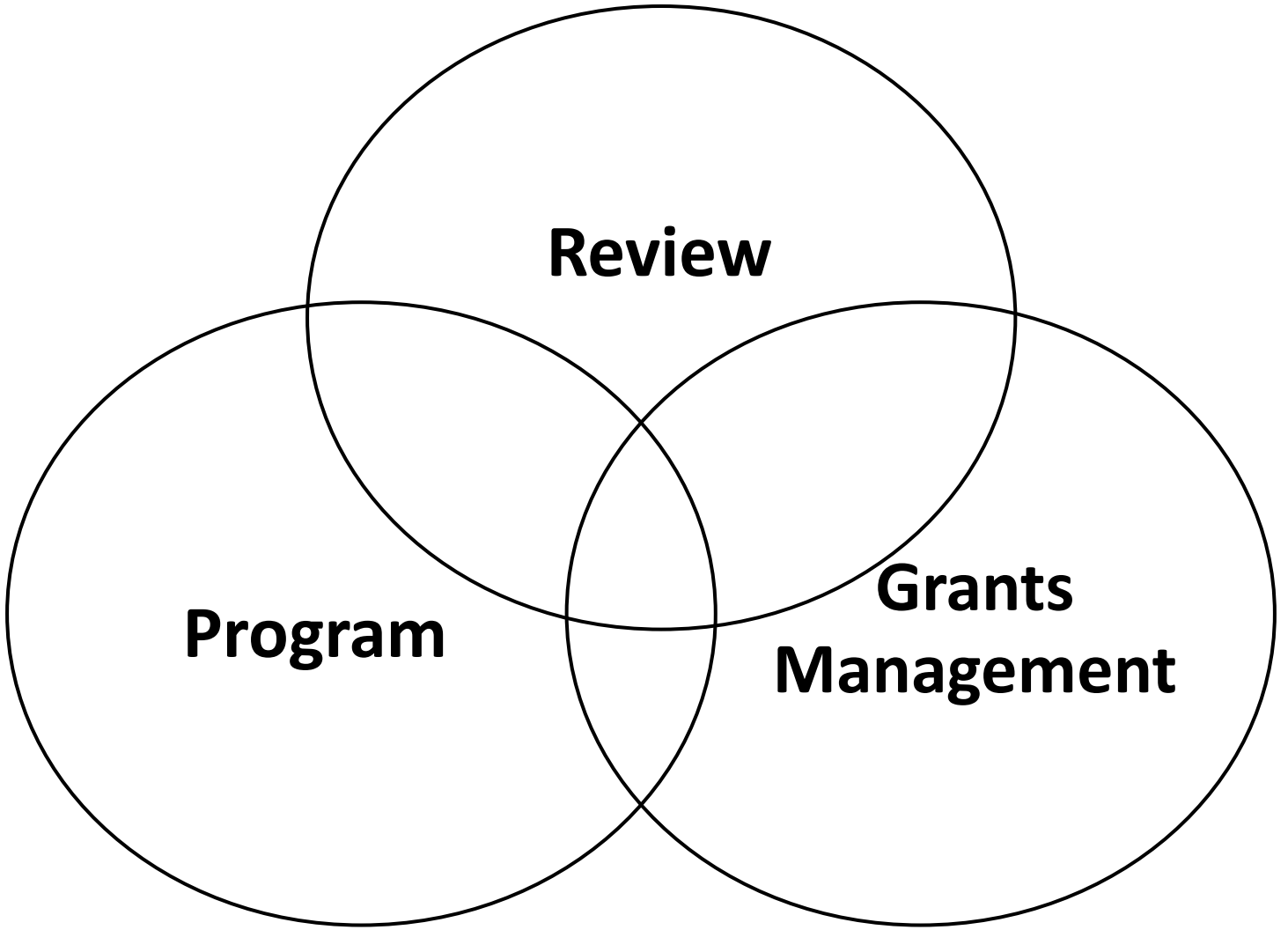
NIH Institutes and Centers



NIAMS Extramural Organization



The NIH Extramural Team



Application Questions … Who Should You Contact?

Program Officer/Director

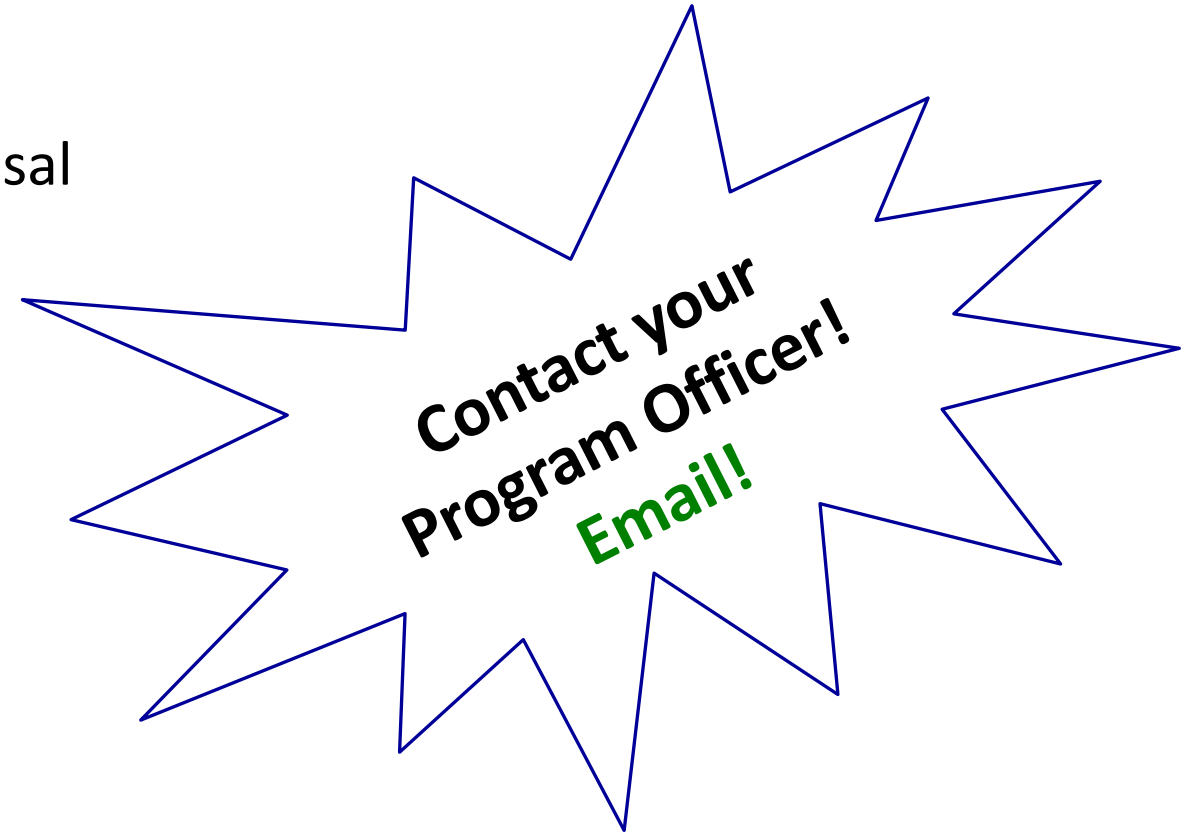
- Scientific and technical aspects of your proposal
  - Mission relevance
  - Programmatic merit
- Discuss Summary Statement

Scientific Review Officer

- Questions about peer review

Grants Management Specialist

- Fiscal and policy aspects of your proposal



Program Officer/Director:
Principal liaison between extramural investigators & NIH

When Should You Contact Your Program Officer?

Before you submit your application

- Discuss application topics for relevance
- Discuss options for appropriate funding opportunities (FOAs)
- Guidance on submitting a large budget application (>$500K in direct cost per year)
- Guidance with application preparation

After you receive your Summary Statement

- Discuss summary statement and next steps
- Ask questions about NIH policies

During the award

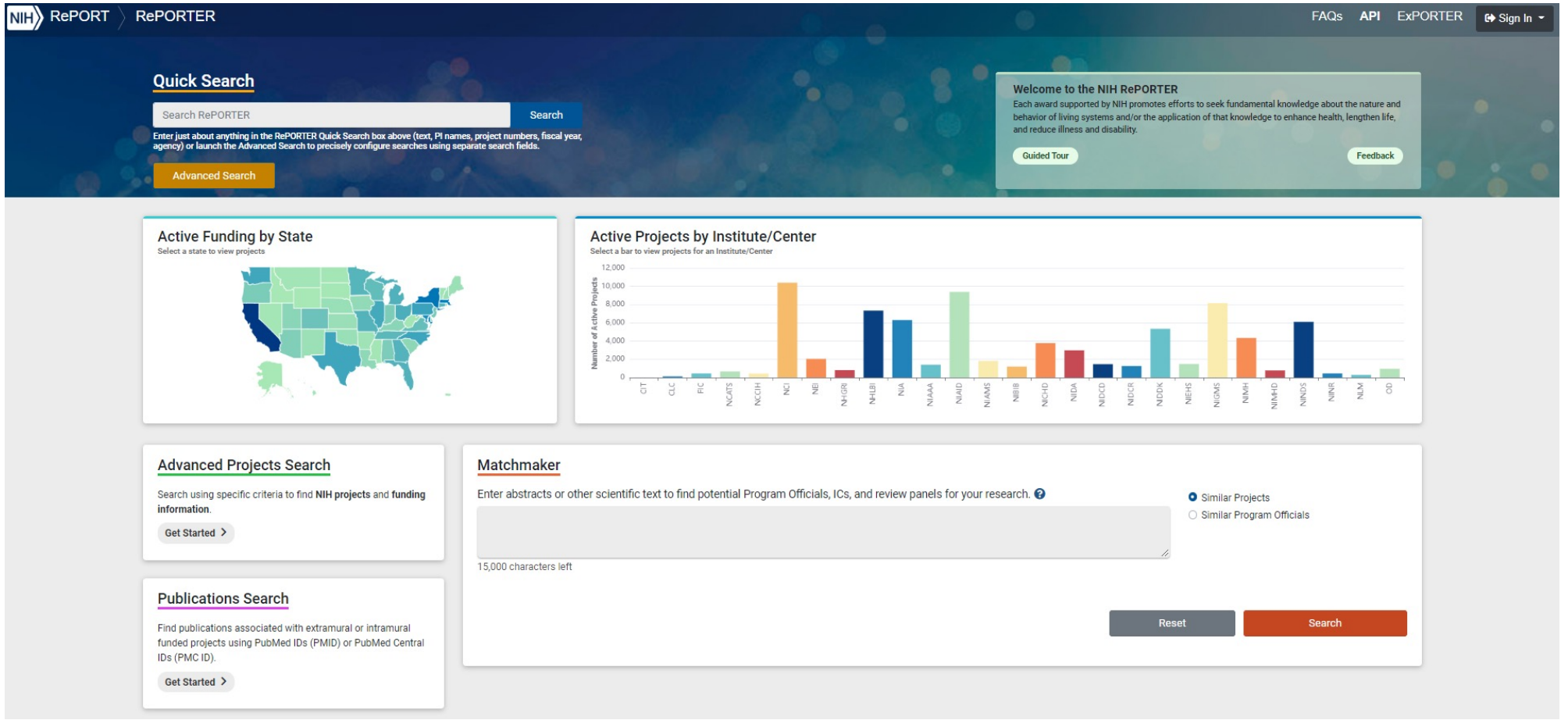
- Discuss natural disasters or other emergencies that may affect your research progress
- Discuss other supplement opportunities
- Questions about prior approvals for changes to your award (especially when there is change in scope)
- Discuss progress of funded award

After the Award

- Share upcoming publications related to your award
- If applicable, discuss preparing a competing renewal

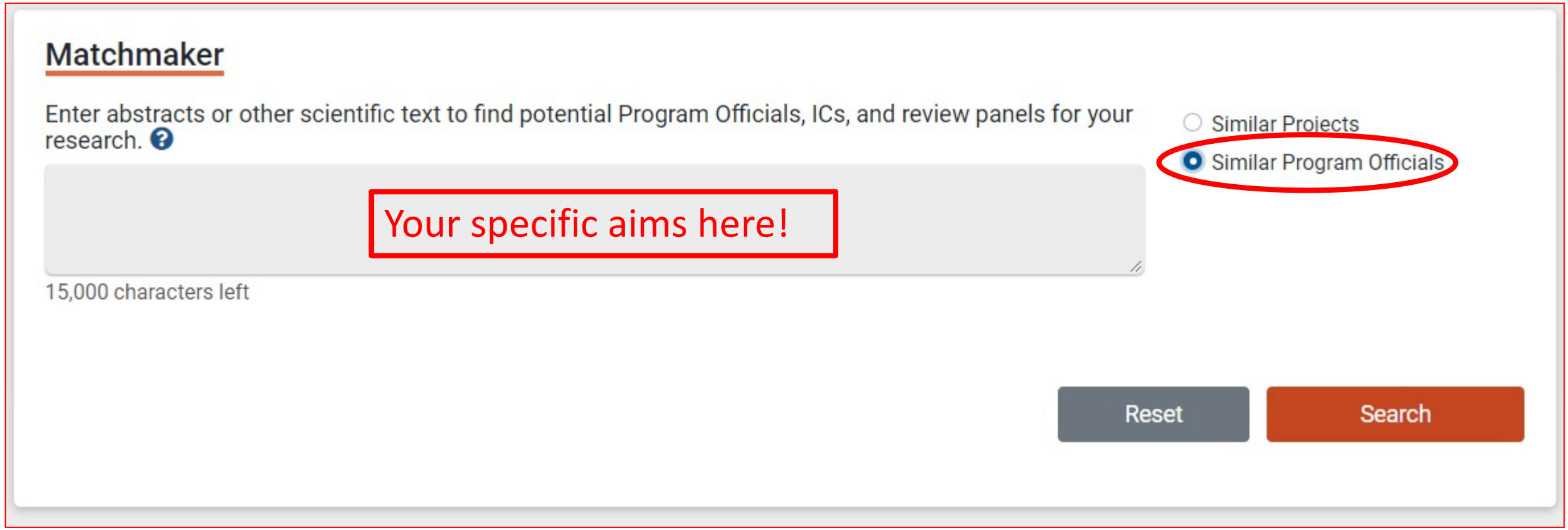
How Do Find Your Program Officer?

- Use Matchmaker: https://reporter.nih.gov/matchmaker



How Do Find Your Program Officer cont.?

- Use Matchmaker: https://reporter.nih.gov/matchmaker



New Investigator and Early-Stage Investigator Definitions & Benefits

New Investigator (NI): NIH research grant applicant who has not yet competed successfully for a substantial (R01, U01) NIH research grant

Early-Stage Investigator (ESI): *Principal investigator* who has completed his/her terminal research degree or medical residency—whichever date is later—within past 10 years and has not yet received a substantial competing NIH research grant

- https://grants.nih.gov/policy/early-investigators/index.htm

Benefits:

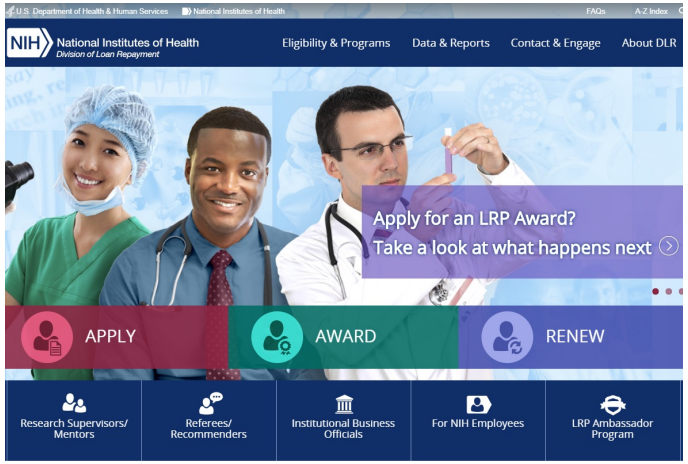
- NI/ESI – highlighted in system; clustered in review (CSR study sections)
- ESI – prioritized for funding/more generous payline (some ICs)
- NI – funding according to ICs' programmatic and strategic interests

Important Opportunities

Mechanism	Purpose	Requirements
Katz award	Supports an innovative project in an area of science that represents a change in research direction for an ESI and for which no preliminary data exist. **PAR-21-038 / PAR-21-039**	No preliminary data allowed. Change in direction. See FOAs for due dates.
DP2	Part of the High-Risk, High-Reward Research program, supports exceptionally ESIs who propose innovative, high-impact projects in the biomedical, behavioral or social sciences within the NIH mission. **RFA-RM-23-005**	No preliminary data required. Minimum of 25% research effort; $1.5 million in direct costs split into two multi-year segments
REWARD	Enhance the breadth and geographical location of research and research-related activities supported by NIH Provides support for the health-related research of scientists who are making a significant contribution to DEIA and who have no current NIH research project grant funding. **PAR-23-122**	Funding scientific research and activities, not expected to have extensive publications and preliminary data, have an institutional support letter describing institution DEIA efforts and commitment to the applicant
Mechanistic Ancillary Studies to Ongoing Clinical Projects (R01/R21)	Conduct time-sensitive mechanistic ancillary studies related to the NIAMS mission in conjunction with ongoing clinical projects (parent projects) **PAR-23-025 / PAR-23-026**	See FOAs for due dates. Requires letter of intent at least 30 days before submission date.

Loan Repayment Program

- Educational debt and covers resulting taxes
- Commits to perform NIH research: repays up to $50,000 per year of qualified research for 2 years, conducting research in one of these 6 areas:
  - Clinical Research
  - Pediatric Research
  - Contraception & Infertility Research
  - Health Disparities Research
  - Clinical Research for Individuals from Disadvantaged Backgrounds
  - Research in Emerging Areas Critical to Human Health (REACH)
    - Current and past NIAMS Diversity Supp., Parent F31-Diversity, MOSAIC recipients
    - Basic research in pain in NIAMS mission area
    - Data Science
    - Implementation and Dissemination



- Loan Repayment application guide: https://www.lrp.nih.gov/ and NIAMS contact: Melinda Nelson (nelsonm@exchange.nih.gov)

Important Notices

Family Friendly/Live Events Supplements:

- NOT-OD-23-031 Purpose - ensure continuity of research among recipients of mentored career development (K) awards by providing supplemental research support to help sustain the investigator's research during **critical life events**
  - childbirth, adoption, or primary caregiving responsibilities of an ailing spouse, child, partner, or member of the immediate family
  - https://www.niams.nih.gov/grants-funding/funding-opportunities/activity-codes#supp-programs

Family Friendly/Live Events Supplements:

- NOT-OD-23-032 Purpose - enhance the retention of investigators facing **critical life events** who are transitioning to the first renewal of their first independent research project grant award or to a second new NIH research project grant award
  - childbirth, adoption, or primary caregiving responsibilities of an ailing spouse, child, partner, or member of the immediate family
  - https://www.niams.nih.gov/grants-funding/funding-opportunities/activity-codes#supp-programs