From idea to award: Planning your first (or next) NIH grant submission

Brett Miller, PhD

NIH *Eunice Kennedy Shriver* National Institute of Child Health and Human Development

Goal and structure

- Background on the NIH and NICHD
- Understanding the application process
- Opportunities for funding for research, training, and mentorship

The National Institutes of Health

The Nation's Steward of Medical, Behavioral, and Social Sciences Research

"Science in pursuit of fundamental knowledge about the nature and behavior of living systems and the application of that knowledge to extend healthy life and reduce the burdens of illness and disability."

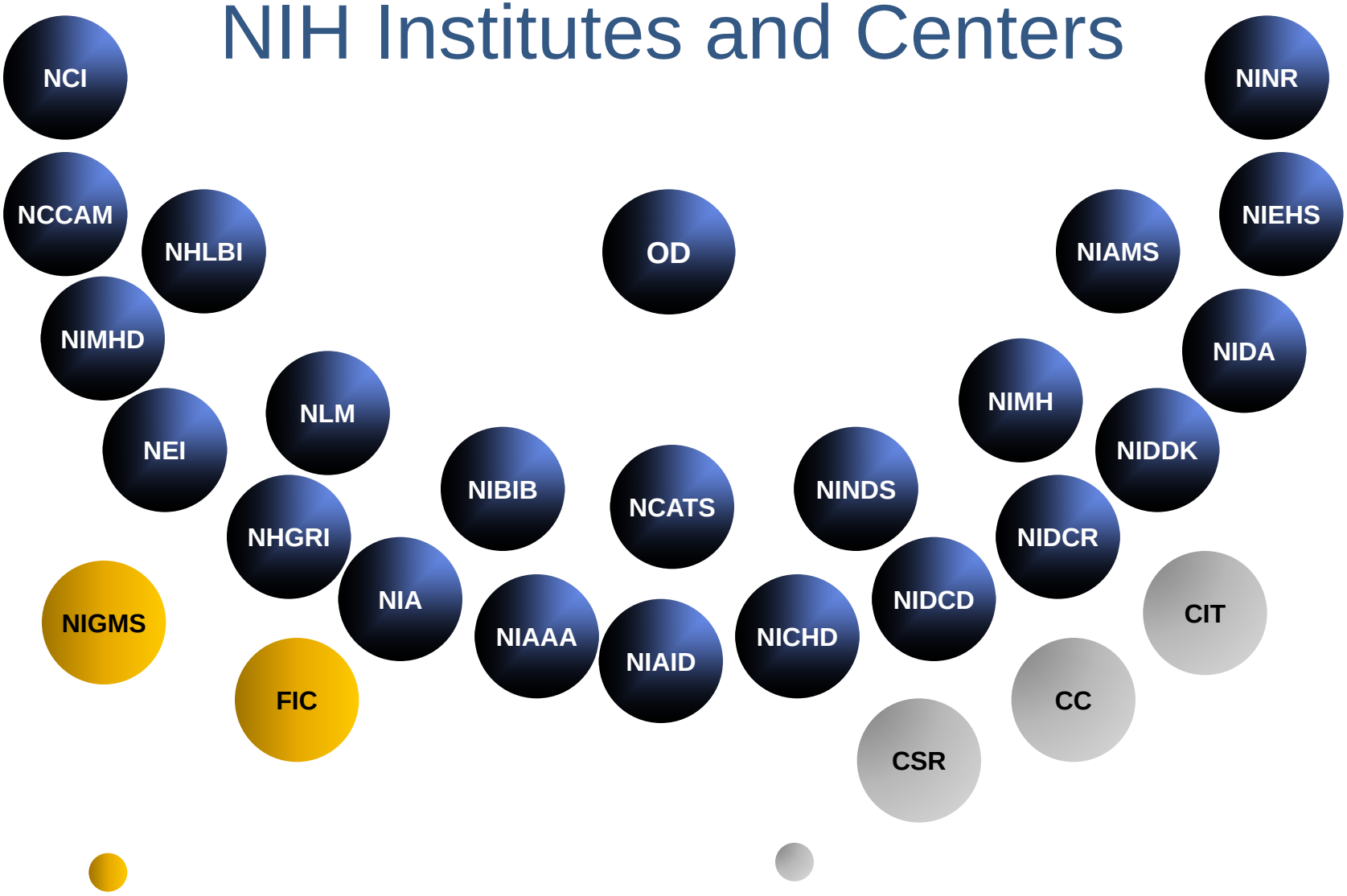
National Institutes of Health

World's largest supporter of biomedical, behavioral, and social science research and training.

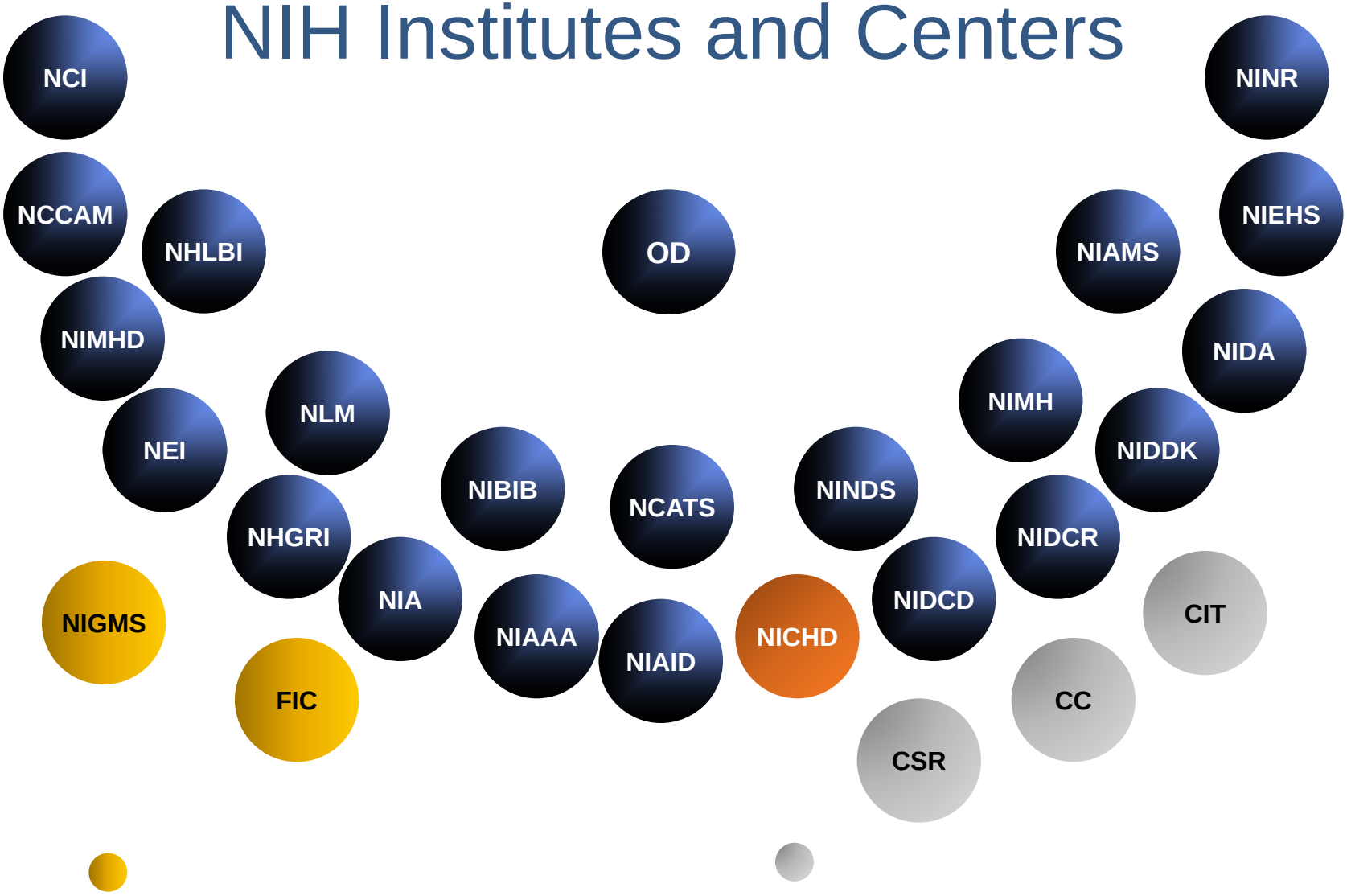
~$30 Billion budget (FY2015)

27 Institutes and Centers

NIH Institutes and Centers



NIH Institutes and Centers



NIH from another viewpoint

- This is my personal favorite

YOU HAVE AN IDEA OR PLAN

Now what?

First: Know your organizational audience

- In contrast to other funders, NIH views these problems through the lens of a public health organization
  - Your application will need to reflect this.
  - **Your mentor and/or program officer can help you with this**
- Pay attention to the different missions of ICs within NIH to help find the right home and ensure fit

Will NIH Fund My Research?

- Opportunities for funding at NIH are diverse, but you should check with a Program Officer (PO) **before** submitting a grant application
  - This allows you to ensure fit with NIH and a specific program at an IC
  - Recognize that many grant applications are not in response to a specific Request for Applications (RFA) - They are “unsolicited applications”.
  - An NIH Program Officer may direct you to another funding source as appropriate

Things to consider (ideally) before contacting someone at NIH

- Applicants should consider at least these factors:
  - Career stage (e.g., graduate student, postdoc, Asst. Professor)
  - Publication record --- It's not simply the number of pubs!
  - Pilot data --- type, quality, and how pertinent to your planned project
  - Mentorship needs (if relevant)
  - Rough estimates of the actual costs of doing the necessary training / mentorship or conducting the research
  - Realistic view of timeline
    - It typically at least 9 months from application date to funding (generally 1.5-2 years)

Why these items for consideration?

- Functionally it is a needs assessment
- Allow for more efficient early communication with program staff
- Generally transferrable to other funding agencies if NIH is not the right home

HOW DO YOU FIND AN NIH CONTACT?

Where to start?

Program Official

✓*An Important Resource for Applicants & Investigators*

✓*Principal liaison between Investigators and the NIH*

✓The most important contact for Scientists

Call us early …

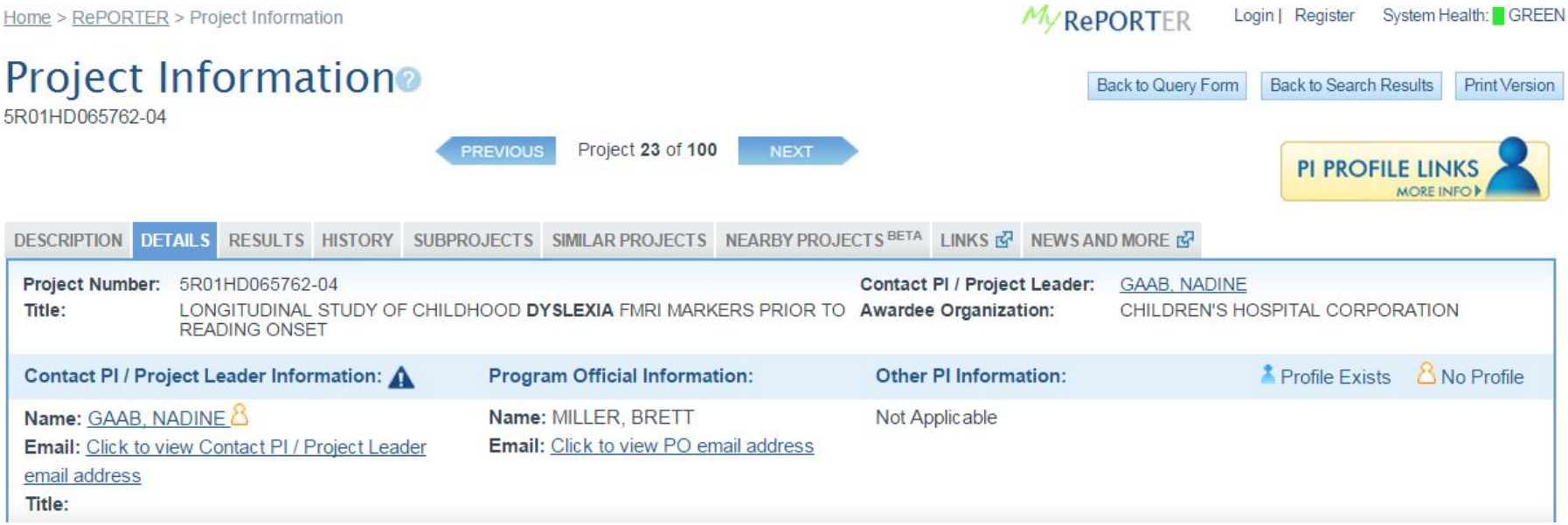
Contact us often!

Identifying program officials at NIH

- Common approaches
  - Identify an institute with interests that overlaps with yours
  - Ask colleagues (mentors) for suggested contacts
  - Identify staff from specific program announcements (PA) or program announcements with specific review (PAR)
  - Search RePorter for similar grants and identify PO
  - Reach out to a known NIH contact and ask for assistance in identifying relevant contact

- Note, you want to identify a program official (HSA – health scientist administrator)
  - These individuals are your primary point of contact

Alternative approach to identifying program contacts at NIH



1. Search on topic field
2. Identify project of interest and view this project
3. Click on details tab and identify the assigned program official

Efficient interactions with your program official

- How best to contact a PO?
  - Email is almost always best and we are generally happy to chat as needed
  - Clearly indicate if it is an urgent or time sensitive request
- Initial contact?
  - Introduce yourself and clarify your goal/need
    - I can help you figure out how to meet the goal if you don't know how to proceed
  - Keep the email no more than 2-3 paragraphs
  - Follow-up as needed
- Be assertive, but not pushy
  - We are all busy so response time can vary, but this is your career so you should follow-up as needed

FUNDING OPPORTUNITIES

What options are available to you now?

Return to your needs assessment

- NIH funding falls into broad groups (examples below)
  - Research projects
  - Program project – multi-project research programs and centers
  - Training grants
  - Mentorship awards
- Contact your Program official – s/he can help confirm your ideas or guide you to alternatives you should consider

Funding Opportunities

- Advertised through
  - Grants.gov
  - NIH Guide for Grants and Contracts
- Issued by
  - Each IC
  - “Parent” announcements span the breadth of the NIH mission, include many ICs

NIH National Institutes of Health
Office of Extramural Research

NIH Guide
Grants.nih.gov

HOME

FUNDING

Search NIH Guide for Grants and Contracts

Search

Funding Opportunities & Notices
Unsolicited Applications (Parent Announcements)

- Recovery Act
- Research Training & Career Development
- Small Business (SBIR/STTR)
- Contract Opportunities
- NIH Loan Repayment Programs
- New and Early Stage Investigators
- Stem Cell Information
- NIH Common Fund
- OppNet (Behavioral & Social Sciences)

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Peer Review
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Forms & D
Forms & Applications
Due Dates & Submission Policies
Submitting Your Application

Grants Policy
Policy & Guidance
Compliance & Oversight

- Recovery Act
- Research Training & Career Development
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Support for Sandy-rantees

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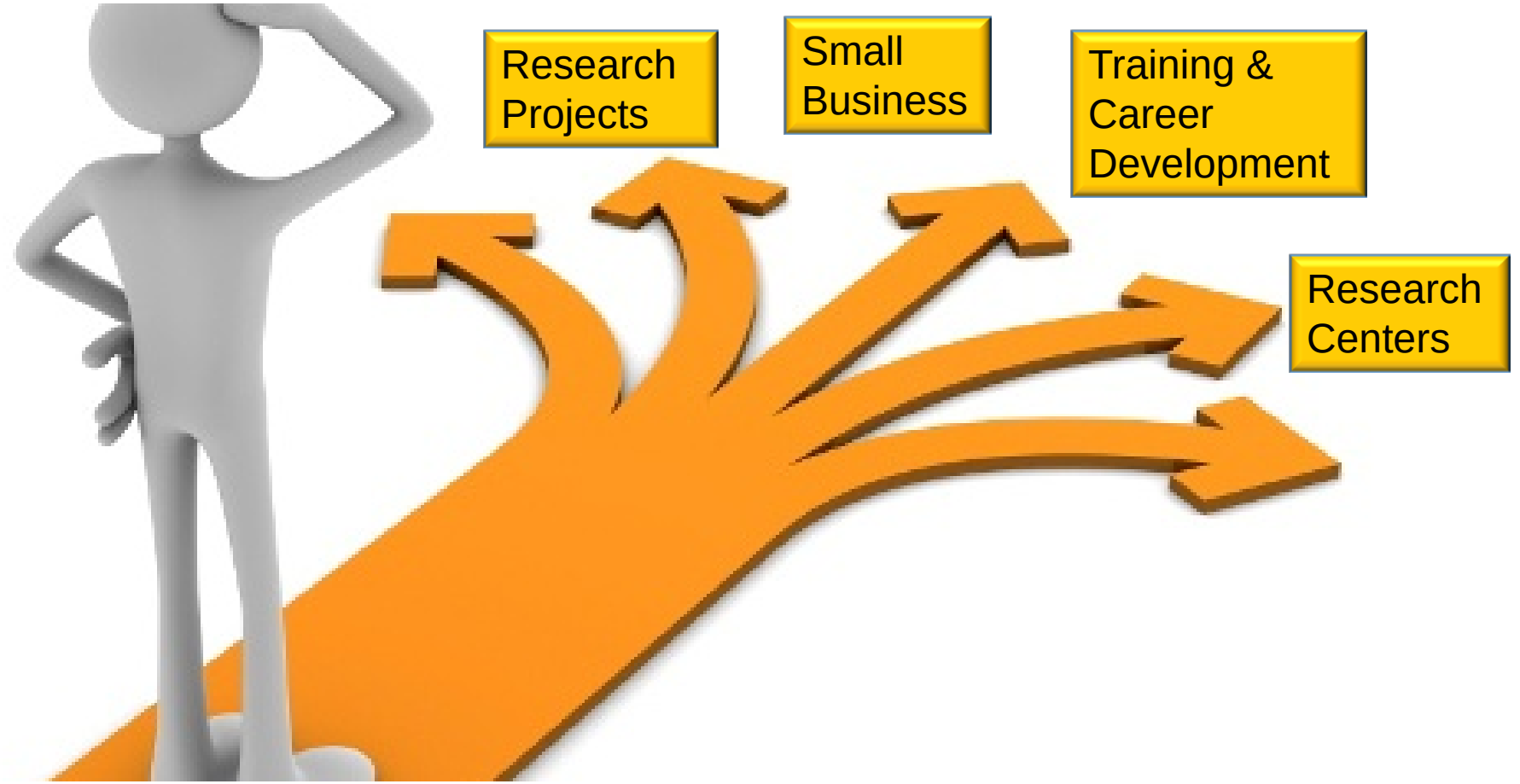
Handling Electronic sues that Threaten rant Application
n Open! Join Your e NIH Regional Seminar in Baltimore, MD

Get Connected
Nexus (News)
Rock Talk (Blog)
Workshops & Training
Listservs & Feeds

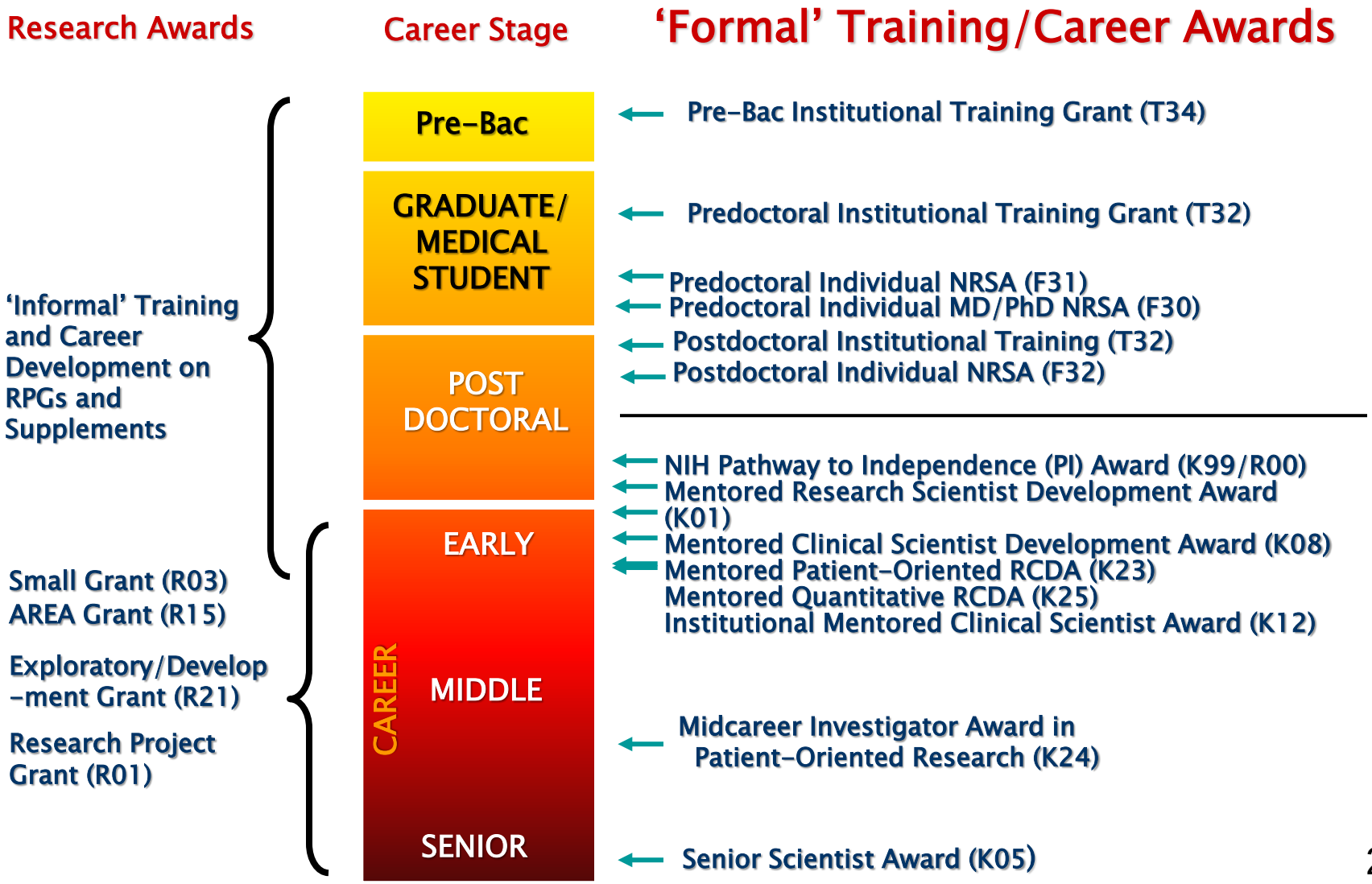
Know the terminology;
Funding Opportunity Announcements (FOA)

Type of FOA	Description
Program Announcements (PA, PAR, PAS)	• Highlights areas of focus • Usually ongoing (3 yrs) • Often use standard receipt dates
Requests for Applications (RFA)	• Narrowly defined scope • Usually single receipt date • Set aside funds • IC usually convenes review panel
Parent Announcements	• Type of program announcement • Generally span the breadth of NIH mission • By activity code (R01, R03, etc) • For “investigator initiated” or “unsolicited” research ideas



What's the Right Type of Grant for My Idea (and Me)?

Research Training and Career Development Timeframe



Grants that build your expertise…

- Fellowships
  - **F31** --- Individual Predoctoral Fellowships
    - 2 types of announcements
      - Promoting diversity and open eligibilty
      - Includes funds for stipend, tuition and fees and minimal research expenses
      - Open to all scientific topics relevant to NICHD
      - This is in your name!
  - **F32** – Individual Postdoctoral Fellowships
    - Stipend and funds for some research expenses.
    - Single announcement with open eligibility

You must be a citizen or non-citizen national of the United States, or must have been lawfully admitted to the United States for Permanent Residence

Grants that build your expertise…

Mentored awards (K-awards)

- Most limited to individuals with clinical degrees
- Time sensitive when these are right for you career-wise
- Most have U.S. residency or citizenship requirements

K01, K08 & K23

- Up to 5 years of mentored experience
- Support is primarily stipend support, but includes limited research support
- Must devote 75% or more of effort to research
- Limited to individuals with clinical degrees
- K01 limited to 3 topic areas at NICHD
- Talk to your PO early if you plan to apply!

Grants that build your expertise…

- **K99/R00 – Pathway to Independence Award**
  - Open to individuals with terminal degrees in their program
  - Up to 2 years of mentored support
  - Up to 3 years of independent support for research (<=$249K/year - total costs)

- **Unique attributes**
  - The independent support is contingent upon securing a faculty/research position that is INDEPENDENT
  - No citizenship requirement
  - Great to have when going on the job market
  - VERY time sensitive on when this is strategically possible
    - Applicants can have NO more than 4 years of postdoctoral experience at time of application

Research Project Grants

	R01	R03	R21	R15
Purpose	discrete, specified, circumscribed research projects	small research projects, including pilot and feasibility studies; secondary analysis of existing data; development of research methodology and new technology	exploratory and developmental research projects in early and conceptual stages; some risk but may lead to breakthrough in field or other methods or technical developments	small research projects that expose students to research and strengthen the institution research environment; US institution that does not receive significant NIH funding
Budget	as appropriate	$50K/year(***)	Up to $275K/entire	$300/entire
Project Period	5 Years	2 years	2 years	3 years
Renewable	yes	no	no	yes
NI/ESI Status	yes	no	no	no
Foreign Inst	yes			no

Grants that build your research…

- **R01** Research Project Grant Program
  - Up to 5 years, less than $500K per year in direct costs
  - If direct is $500K or over, you need to contact program official 6 weeks or MORE before application due date
  - Early Stage Investigator Initiative
  - http://grants.nih.gov/grants/funding/r01.htm

- **R21** Exploratory/Developmental Research Grant Award
  - Up to 2 years
  - Up to $275K total direct costs over the course of the grant
  - http://grants.nih.gov/grants/funding/r21.htm

Grants that build your research…

- **R15** Academic Research Enhancement Award
  - Specific to institutions receiving no more than $6 million per year in NIH support in each of 4 of the last 7 years
  - Up to 3 years of support available
  - Renewable!
  - Up to $300K in direct costs over the course of the grant
  - Includes focus on inclusion of students in research
  - http://grants.nih.gov/grants/funding/area.htm

- **R03** Small Grant Program
  - Up to 2 years
  - Generally $50K/year direct but can vary by announcement
  - Not just for early career investigators (at least at the NICHD)
    - http://grants.nih.gov/grants/funding/r03.htm

NIH and funding mechanisms

- There are 70+ mechanisms of support
- The examples provided are some of the most commmon
- Program staff can help you identify less common mechanisms that might be relevant given your specific circumstances(e.g., K25, R34)

SO YOU IDENTIFIED A FUNDING MECHANISM …WHAT NOW?

What's the process?

Grant Writing

- This is different than writing for a journal
  - Prospective view
  - Big PICTURE is key
  - Make the case for the value of the science to the field (theoretical and practical import) and consideration of alternative outcomes
  - Why is this the best next step?

Aspects of most grant applications

- Background and Significance
  - Need to tersely and cogently lay out the research questions or more generally aims of project
  - Need to portray an understanding of the scientific import of these questions from a broader theoretical and empirical viewpoint and connect to relevant literatures
  - Goals need to make sense given where we are in a particular field
    - This should set the stage for the formulation of your research design
  - Consideration of alternative views and vision for adapting if your predictions are wrong

Design Issues

- Appropriately chosen given aims
  - Most rigorous design possible to answer the questions posed in your project
  - Be explicit here and tie to significant and innovation section for coherent narrative about your science
  - Yes, of course there are constraints but the onus is on you to argue that this is the best design choice in light of these constraints
    - $$$, number of years, design limitations inherent in choice of setting
- Make sure you have appropriate human capital with appropriate expertise to complete project successfully

General Grant Writing Comments

- Pay particular attention to how you pose and/or write:
  - Title, abstract, aims, examples, etc.
- Be explicit
- Think big picture but don’t overstate import
- Revise, revise, revise!!!

All About Grants Podcast

Download Episodes Podcast

So You Wanna...

Prepare a Successful Grant Application?

- Telling Your Story
- Composing Your Cover Letter
- Navigating a Funding Opportunity Announcement
- Deciphering Funding Opportunity Alphabet Soup
- Due Dates, Cycles and Award Dates Oh My!
- Getting Ready to Submit (November

Understand How Your Grant is Reviewed?

- Thinking About Resubmitting
- Summary Statement Basics
- Scoring Your Application
- The Ins and Outs of a Study Section Meeting

All About Grants Channel on iTunes or download directly from webpage

grants.nih.gov/podcasts/All_About_Grants

Review Process

- Application submitted by specific due date and reviewed some period later
- Reviewed by panel of scientific peers in the community
- Evaluated for scientific merit
  - Think significance, innovation, methods, expertise, and resources
- Funding based upon scientific merit, programmatic considerations, availability of funds
- The vast majority of people have to revise and resubmit before they are competitive for funding

National Institutes of Health
Grants Process
At-A-Glance

Planning, Writing, and Submitting

Planning: Applicant should start early, collect preliminary data, and determine internal deadlines.

Writing: Applicant often begins writing application several months prior to application due date

Submitting: Applicant organization submits most applications to NIH through the Federal portal, *Grants.gov*.

Receipt and Referral

1 – 3 Months

Applications compliant with NIH policies are assigned for review by the Division of Receipt and Referral in the Center for Scientific Review (CSR).

CSR assigns application to an NIH Institute/Center (IC) and a Scientific Review Group (SRG).

Scientific Review Officer (SRO) assigns applications to reviewers and readers.

Peer Review

4 – 8 Months

Initial Level of Review: SRG members review and evaluate applications for scientific merit.

Priority Scores: Available to Principal Investigator in eRA Commons.

Summary Statement: Available to Principal Investigator in eRA Commons.

Second Level of Review: Advisory council/board reviews applications.

Award

9 – 10 Months

*NIH Requests additional information needed *Just-In-Time* for award.

Pre-Award Process: IC grants management staff conducts final administrative review and negotiates award.*

Notification of Award: Institute/Center issues and sends Notice of Award (NoA) to applicant institution/organization.

Congratulations! Project period officially begins!

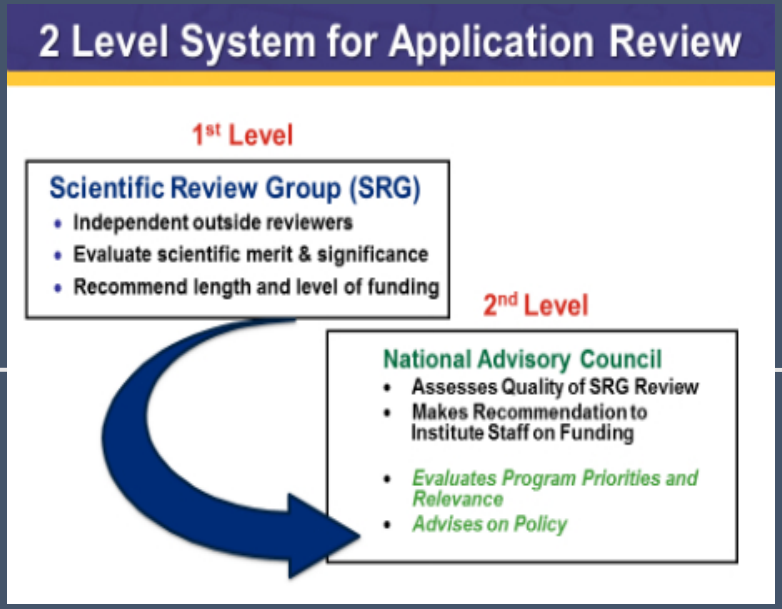
Post-Award Management

Administrative and fiscal monitoring, reporting, and compliance

Visit: http://grants.nih.gov/grants/grants_process.htm for more about the NIH grants process

NIH National Institutes of Health
Office of Extramural Research

REVIEW CRITERIA



Review Criteria for Grant Mechanisms

NRSA Fellowship Awards	Career Development Awards	Research Grants
Fellowship Applicant	Candidate	Investigator(s)
Sponsors, Collaborators, Consultants	Mentor(s), Co-Mentor(s), Consultant(s), Collaborator(s)	Innovation
Training Potential	Career Development Plan/Career Goals & Objectives	Significance
Research Training Plan	Research Plan	Approach
Institutional Environment & Commitment to Training	Environment & Institutional Commitment	Environment

Initial Peer Review Criteria

- **Overall Impact:** The likelihood for the project to exert a sustained, powerful influence on the research field(s) involved.
- **Core Review Criteria:**
  - ***Significance:*** Does the project address an important problem or a critical barrier to progress in the field? will scientific knowledge, technical capability, and/or clinical practice be improved?
  - ***Investigator(s):*** Are the PD/PIs, collaborators, and other researchers well suited to the project?
  - ***Innovation:*** Does the application challenge and seek to shift current research or clinical practice paradigms by utilizing novel theoretical concepts, approaches or methodologies, instrumentation, or interventions?
  - ***Approach:*** Are the overall strategy, methodology, and analyses well-reasoned and appropriate to accomplish the specific aims of the project?
  - ***Environment:*** Are the institutional support, equipment and other physical resources available to the investigators adequate for the project proposed?

Initial Peer Review Criteria

Overall Impact:

- The likelihood for the project to exert a sustained, powerful influence on the research field(s) involved.

Key Points:

- Overall Impact takes into consideration, but is distinct from, the scored review criteria.
- Overall Impact is not the arithmetic mean of the scores for the scored review criteria.
- Overall Impact is the synthesis/integration of the five core review criteria that are scored as well as applicable additional review criteria which are not scored.

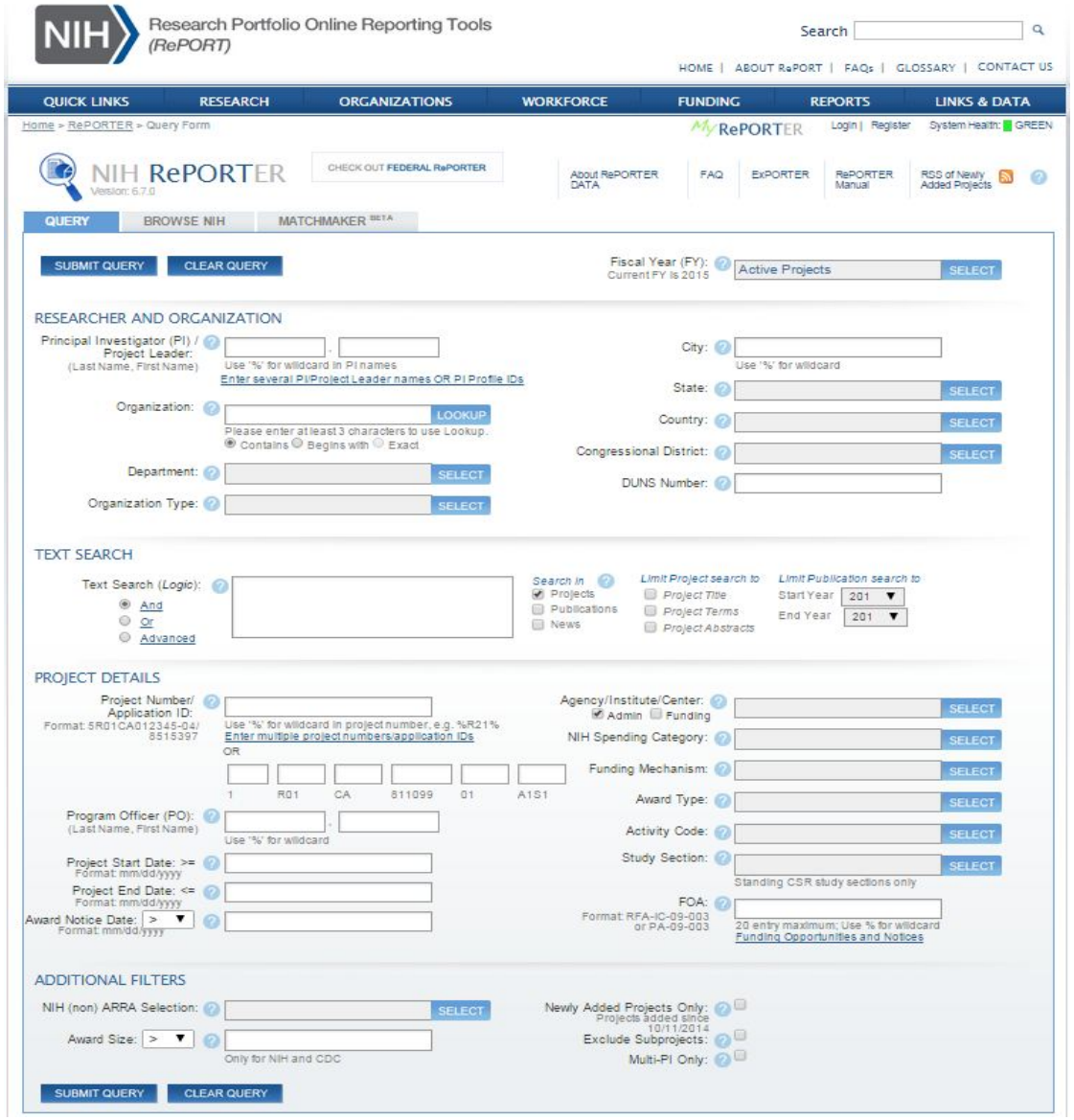
FUNDED PROJECTS

How to identify what’s been funded

Information on funded projects

- Information about ALL projects funded by NIH are available online to the public
  - Includes data on the most recent 10 years
- Includes some or all of the following:
  - Description of project (i.e., title, PI name, organization, abstract, key words, grant number)
  - Contact information for PI
  - Funding amount
  - Publications attributed to the grant
  - Searches available for ‘similar’ projects and ones funded nearby

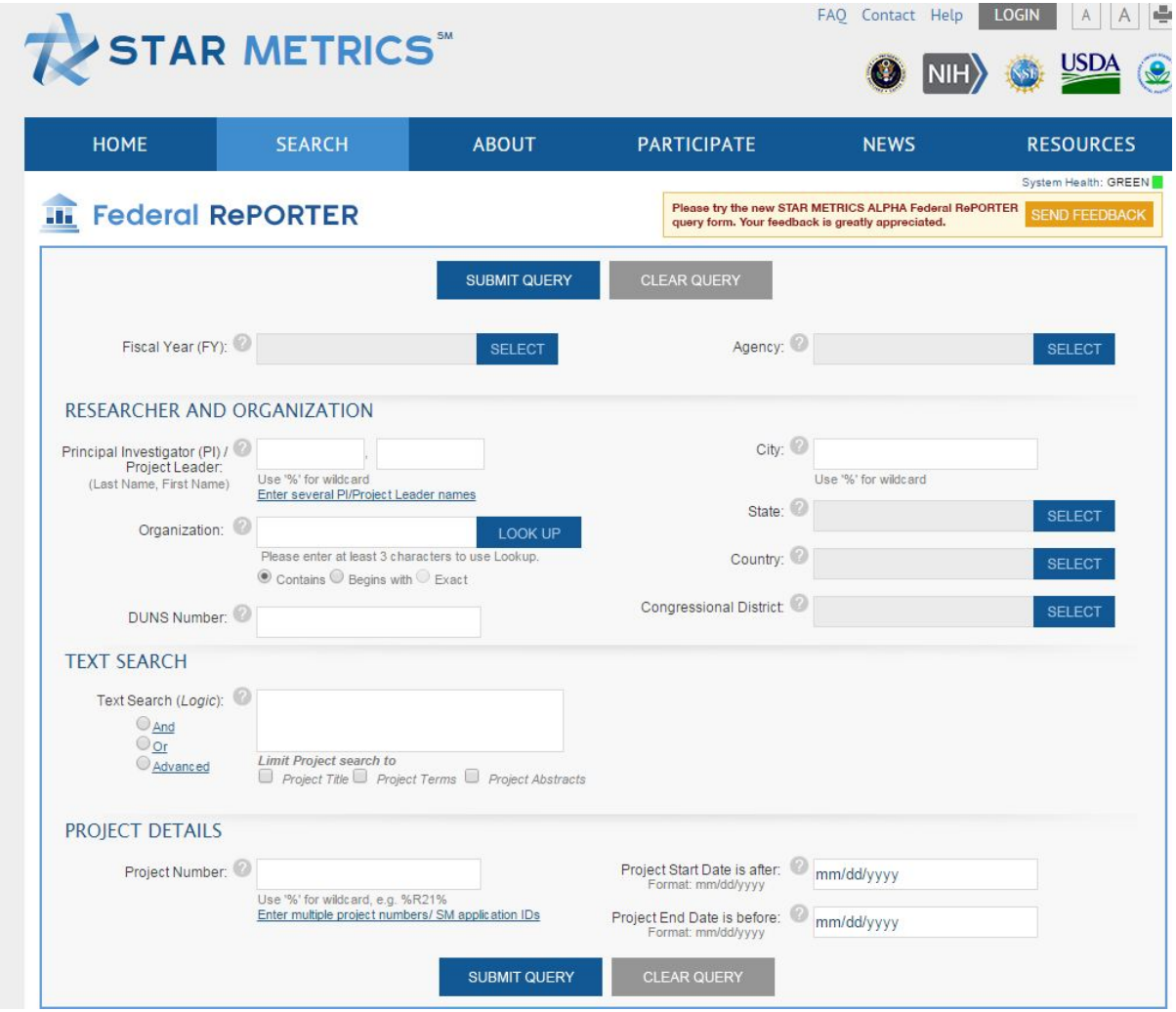
NIH RePorter



Star Metrics

Federal RePorter

- Includes 11 federal agencies
  - ACF
  - AHRQ
  - CDC
  - DoD's CNRM & CDMRP
  - EPA
  - FDA
  - NASA
  - NSF
  - VA
  - USDA
  - NIH



Thinking about searching for projects…

- Change perspectives and think like NIH
  - Focus on what you need and constrain search parameters
  - Constrain by some or all of the following if known…
    - Institute and Center
    - Program officer
    - Activity code (e.g., R01, R21) or Funding Mechanism (e.g., Training, Individual)
    - Fiscal year – e.g., active projects

- Text search
  - This will pull in more than you likely intend
  - You will also likely miss projects that use different terminology (e.g., “dyslexia” could miss work on reading disabilities)

Take away

- Contact me as needed
- Contact me early if possible
- Keep focused on your long-term goals

Contact info

Brett Miller
Brett.Miller@nih.gov