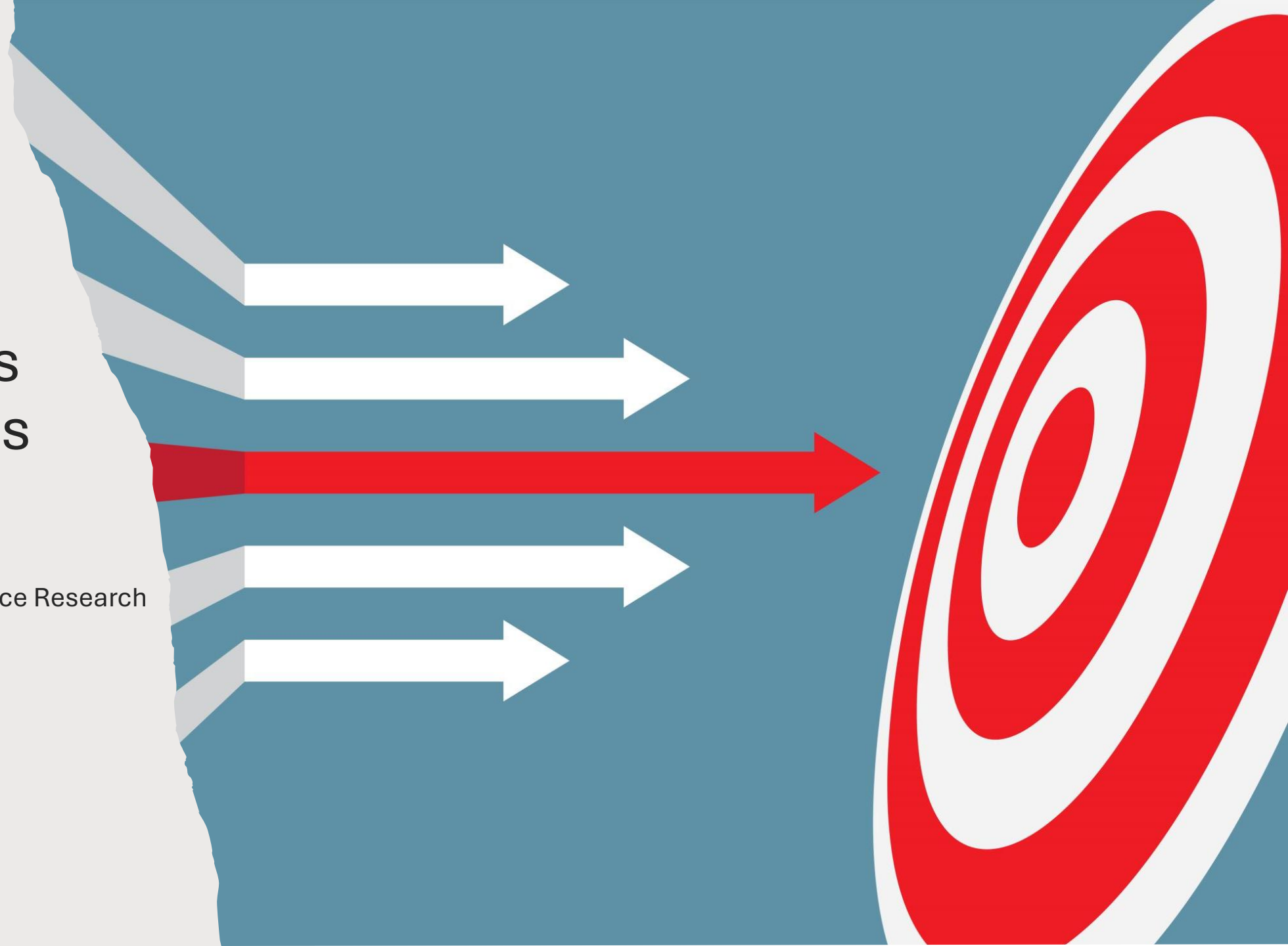


Extramural Funding Opportunities and Strategies

Peter Winsauer, PhD
Assistant Dean for Basic Science Research
Research Café
8/11/26



Learning Objectives



Identify the different extramural funding agencies and entities that faculty at LSUHSC should target for their research.



Understand key elements of successful extramural funding applications



Discuss different strategies for improving one's own funding submissions



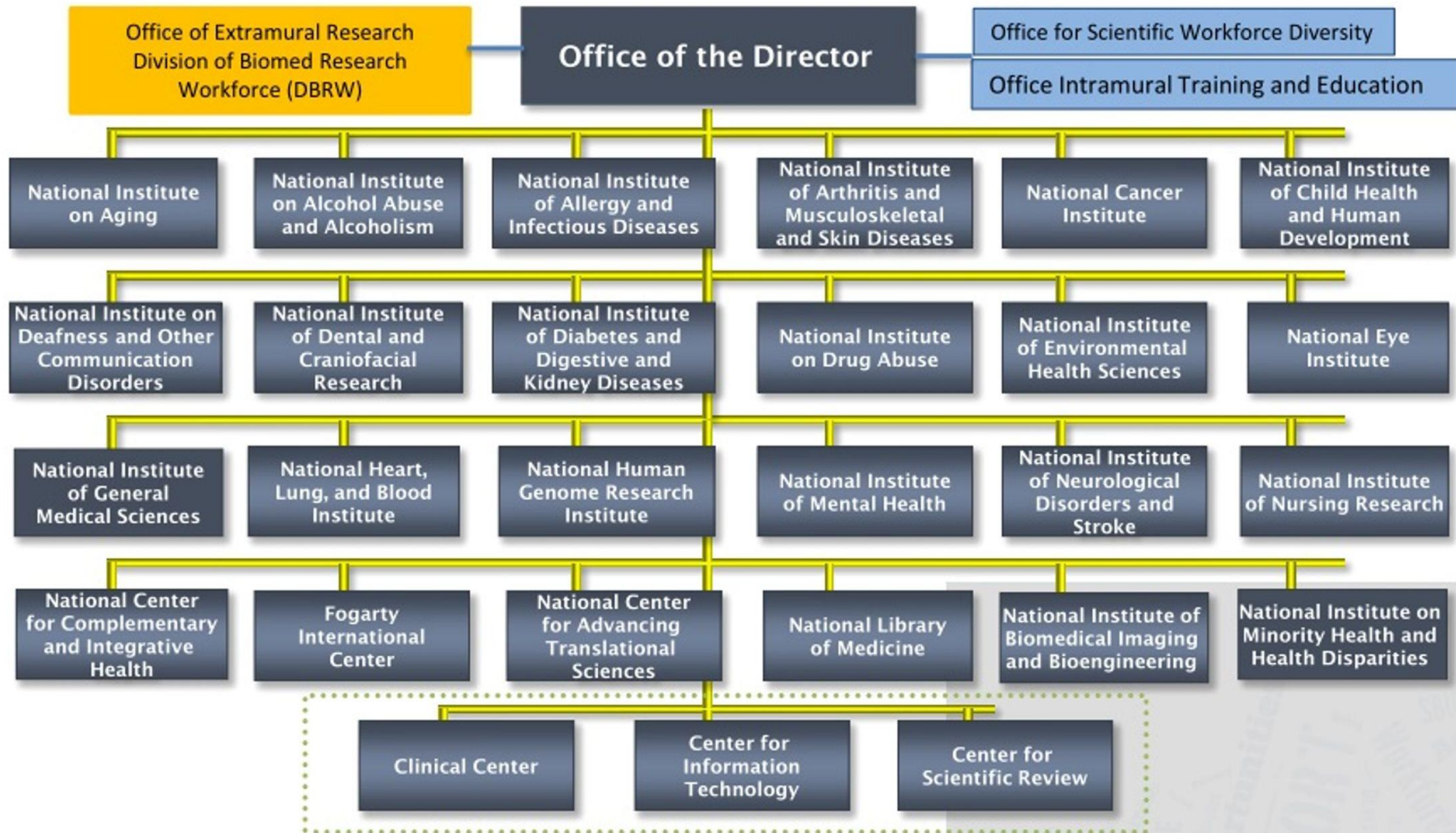
Awards grants to carry out its core mission: to seek fundamental knowledge about the nature and behavior of living systems and apply that knowledge to enhance health, lengthen life, and reduce illness and disability.

The National Institutes of Health (NIH)

Purpose and Goals of NIH Grants

- **Fund Medical Discovery:** Support biomedical and behavioral research into the causes, diagnosis, prevention, and cure of human diseases.
- **Build Infrastructure:** Develop, maintain, and renew scientific human and physical resources, including laboratories and research facilities.
- **Train Researchers:** Provide research training, fellowships, and career development awards for scientists at various professional stages.
- **Expand Knowledge Base:** Advance medical sciences to protect public health and ensure a high return on public research investments.

NIH includes 27 Institutes and Centers





National Science Foundation (NSF)

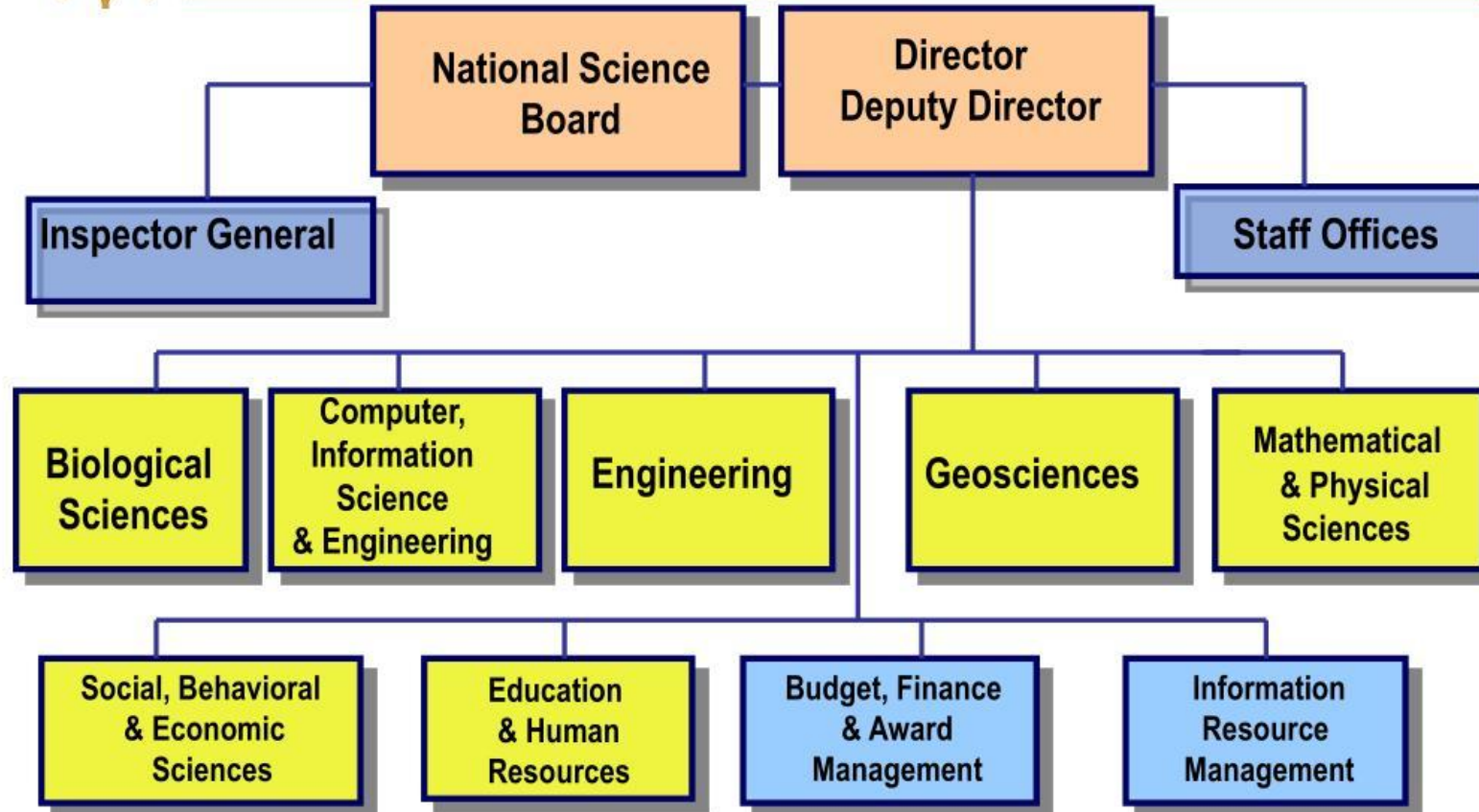
Fulfills its congressional mission chiefly by funding grants that promote the progress of science, advance national health, prosperity, and welfare, and secure the national defense.

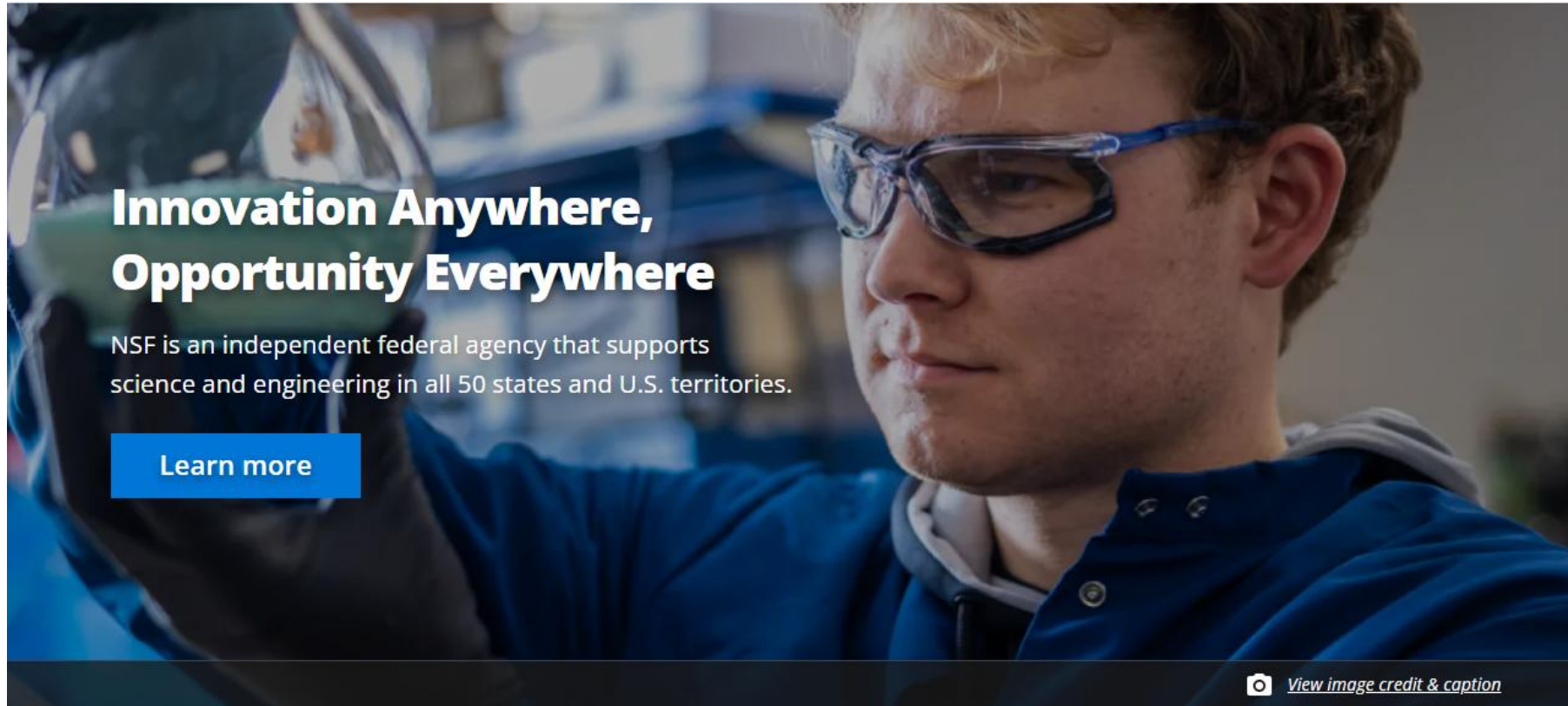
Core Purposes of NSF Grants

- **Basic Research:** Support curiosity-driven research accounting for roughly 25% of federal backing to American colleges and universities.
- **Solutions-Oriented Research:** Fund use-inspired projects that turn discoveries into real-world innovations and commercial applications.
- **Education & Workforce:** Build a diverse, capable STEM pipeline spanning pre-K through graduate levels.
- **Research Infrastructure:** Provide state-of-the-art tools, labs, and equipment essential for modern scientific breakthroughs.



National Science Foundation





Innovation Anywhere, Opportunity Everywhere

NSF is an independent federal agency that supports science and engineering in all 50 states and U.S. territories.

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Department of Defense (DoD)

The purpose of its grant and assistance programs is to fund research, development, and community planning that addresses complex national security challenges, advances defense technology, and supports military personnel and local defense communities. Because the DoD operates through multiple distinct branches and agencies, the exact purpose shifts depending on the specific grant portfolio.

Core Research and Technology Goals

- **Foundational Science:** Support basic and applied scientific research in physical, life, and social sciences to create the groundwork for future defense capabilities.
- **Innovation Transition:** Accelerate the procurement, development, and fielding of emerging commercial and small-business technologies directly to the warfighter.
- **Workforce and Education:** Train student and post-doctoral technical experts for the defense sector and fund critical language and regional studies.





CDMRP

DEPARTMENT OF WAR

CONGRESSIONALLY DIRECTED MEDICAL RESEARCH PROGRAMS

CDMRP-Supported Research Assesses TBI-Related Outcomes to Improve Warfighter Brain Health



FY26 Funded Research Programs

★ Currently Has Open Funding Opportunities

Alcohol and
Substance Use
Disorders

Alzheimer's

Amyotrophic Lateral
Sclerosis

Arthritis

Autism

★ Bone Marrow Failure

Breast Cancer

★ Combat-Readiness
Medical

★ Duchenne Muscular
Dystrophy

Epilepsy

★ Hearing Restoration

★ Joint Warfighter
Medical

★ Kidney Cancer

★ Lung Cancer

Lupus

★ Melanoma

Military Burn

Multiple Sclerosis

★ Neurofibromatosis

★ Orthopaedic

★ Ovarian Cancer

★ Pancreatic Cancer

★ Parkinson's

Peer Reviewed
Cancer

Peer Reviewed
Medical

★ Prostate Cancer

★ Rare Cancers

★ Reconstructive
Transplant

Spinal Cord Injury

Tick Borne Disease

★ Toxic Exposures

★ Traumatic Brain
Injury and
Psychological Health

Tuberous Sclerosis

★ Vision

Department of Veterans Affairs (VA)



- The VA is a cabinet-level executive branch department with the mission of caring for veterans, their families, caregivers, and survivors.
- Because the VA runs many different types of financial assistance rather than just one single program, the specific stated purpose depends entirely on the exact grant type. Most of their support for healthcare is coordinated by the Veterans Health Administration (VHA), which fosters VA and DoD partnerships that expand access, enhance awareness, and strengthen delivery of services that support the health and coordinates.

Major General and Multi-Focal Foundations

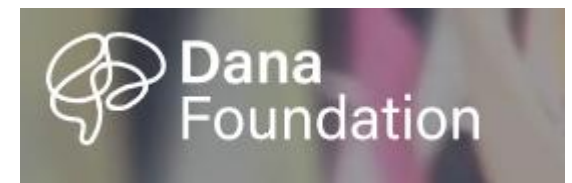


Numerous private and public foundations provide substantial financial backing for medical, translational, and clinical research. Major philanthropic organizations distribute grants ranging from early-career investigator fellowships to multi-million-dollar institutional studies across specialized and broad health sectors.

- **Bill & Melinda Gates Foundation:** Focuses heavily on global health issues, infectious diseases, and vaccine development.
- **Doris Duke Charitable Foundation:** Supports clinical research, health equity, and the transition of early-career physician-scientists into dedicated research roles.
- **Robert Wood Johnson Foundation:** Funds public health, health services research, and systemic community health improvements.
- **Arnold and Mabel Beckman Foundation:** Provides grants and support for young researchers in chemistry, life sciences, and instrument-related medical breakthroughs.
- **Hearst Foundations:** Actively back regional medical centers, public health initiatives, and young investigator medical research programs.

Disease-Specific and Specialized Foundations

- **The V Foundation for Cancer Research:** Allocates funds specifically toward translation, prevention, and clinical trials for various types of cancer.
- **BrightFocus Foundation:** Directs funding toward research addressing Alzheimer's disease, macular degeneration, and glaucoma.
- **Burroughs Wellcome Fund:** Offers competitive funding for biomedical scientists, bridging gaps in infectious diseases, reproductive science, and translational research.
- **Dana Foundation:** Focuses primarily on advancing clinical neuroscience, brain research, and neuroimaging studies.



Major Private Foundations

and What Research They Fund: [Major-Private-Foundations-and-What-Research-They-Fund.pdf](#)

What to Know/Do *Before* You Start Writing the Research Proposal: General Advice

- Publish independently: single or last author papers.
- Network with scientists in your field: some may become collaborators or reviewers of your application.
- Get to know program officers in your field; appointments are often available at major scientific meetings.

BASIC TRUTHS

- There is a wide variety of excellent sources on grant writing that an individual should take advantage of when thinking about writing a grant application.
- There is no single source that can tell you everything you need to know about grant writing – unfortunately, most of this comes from experience.

2nd OF 7 PARTS

“NIH R01 Grant Application” Mentor
An Instructional Series

**Successfully Use
Your Biosketch and
Abstract to Define
Your Project and
Your Qualifications**

ISBN No. 978-0-9832691-7-5



OVERVIEW OF WHAT YOU SHOULD KNOW

- Grant writing is a process
- The process typically starts with a fundable idea, regardless of the source:
 - federal – NIH, NSF, NEH, DOD, etc.
 - private foundations
 - health agency – American Diabetes Association (ADA)
- The idea must be scientifically sound.
- You must be able to clearly and succinctly express this idea to those who will be reviewing the idea.
- The idea usually has to be supported by data – ideally, it's yours, rather than someone else's.

OVERVIEW OF WHAT YOU SHOULD KNOW (CONT.)

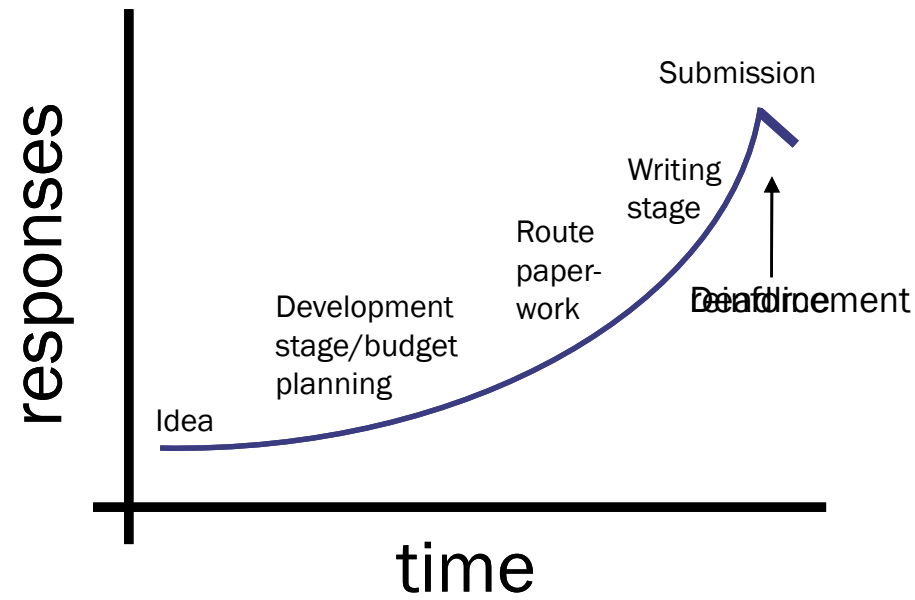
- Follow the rules and guidelines for your particular application type.
- Make sure the institutional components have been completed, routed, and signed-off by the appropriate institutional representative/officer.
- Review all aspects of the application before submitting it.
- Submit it in a timely manner (easier said than done)

YOU CANNOT START THIS PROCESS TOO EARLY!

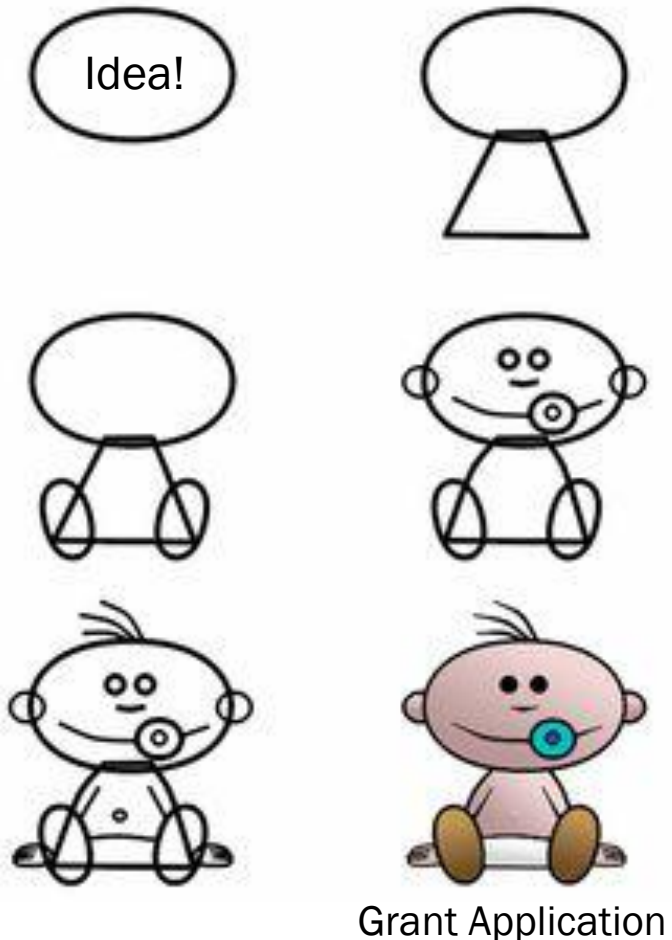
Conflicts/stress arise for the principal investigator (PI) when things interrupt the writing stage.



Function describing response of PI for a fixed investigation schedule



THE PROCESS



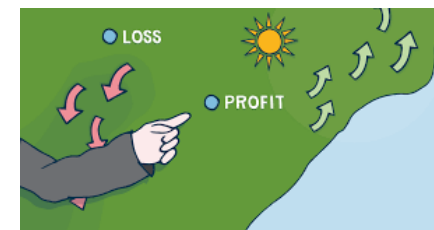
- Grants may best be viewed as a partnership between you, the institution, and the funding agency.
 - You, because you will bring the idea to fruition by conducting the work.
 - The institution, because the money is actually awarded to them to dispense appropriately.
 - The funding agency, because they agree to supply the money for an agreed upon period of time to complete the project.

IN THE BEGINNING, THERE WAS AN IDEA . . .

- Propose the right idea for the right institution
 - Not all ideas are suitable for submission.
 - Funding agencies want ideas that match the mission of their institution.
- Involve others to help you shape the science surrounding the idea, whether they are formal collaborators or simply colleagues.
- Determine whether you have all the expertise to carry out the proposal.
- Begin thinking about the budget and look over the forms that will need to be completed and routed.



This is no time to be insecure



IN THE BEGINNING, THERE WAS AN IDEA . . .

(CONT.)

- Learn to wordsmith your ideas into testable hypotheses.
 - For NIH, avoid descriptive, interdependent aims, and make sure the hypotheses address a mechanism.
 - For a foundation, make sure the aims address the disease, condition, or disorder, or a respective cure.
 - For industry, commercialization is often the focus.
- Consider the relevance of sex, age, life style, and socioeconomic status.

THE SCIENCE

- Grants begin and end with the science!
 - The science must excite.
 - The science must be sound/credible.
 - There must be enough data *to convince the reviewers* of the credibility.
 - The science must be doable.
 - You have to have the expertise to conduct the science.
 - The institution has to have the environment and the resources for completing the science (i.e., science cannot be conducted in a vacuum).



LOST IN TRANSLATION . . .



- The idea(s) and the science must be clearly communicated.
 1. Consider the source (e.g., NIH versus NSF versus some foundation or industry)
 2. Use the language appropriate for the individuals who are going to review the application
 - Use only lay-language to appeal to the widest audience
 - Use the least amount of jargon possible, assuming some is needed
 - Use enough technical language to indicate your knowledge of the topic
- Punctuation, grammar, and spelling count!

LOST IN TRANSLATION . . . (CONTINUED.)

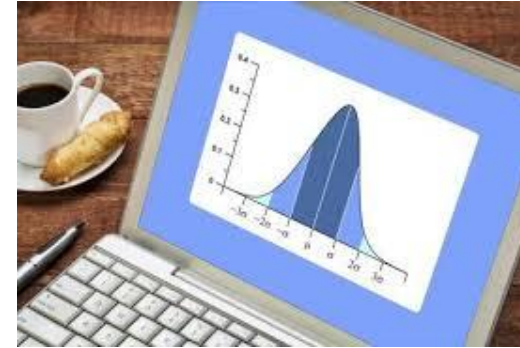
- Do not be surprised to find that things you included in the grant, or points that you felt were articulated well, were missed by the reviewers. Even the best writers' prose are misinterpreted or overlooked – this is particularly true of technical writing.
 - This only means you probably need to follow the old adage about presentations: **"Tell the audience what you're going to say, say it; then tell them what you've said."** – repetition is the key to learning
 - Remember the “KISS” method: Keep It Simple Silly
- Know your audience – the names of the reviewers are often public information. Have you cited their work where appropriate?
- Keep in mind that reviewers usually appreciate a small, focused project better than a diffuse, multifaceted project (*NIH TIP* ISBN No. 978-0-9832691-9-9).

LOST IN TRANSLATION . . . (CONT.)

- Accept the notion that you simply cannot tell the reviewers everything you know or everything on this topic.
- This is especially true of the methods, as methods tend to be highly discipline specific.
- Be scholarly! Cite others work where appropriate. Unless it's true, do not leave the reviewer with the impression you are the only person conducting research in this area.

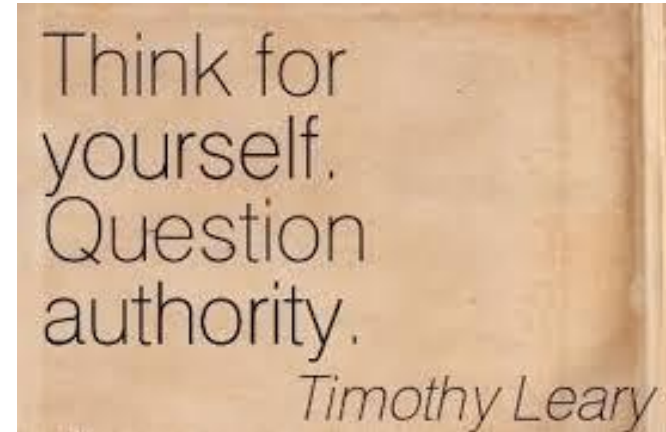
WHERE'S THE DATA?

- A general rule of thumb is to have at least 1-2 pieces of data for each specific aim.
 - Helps validate the idea and purpose for each specific aim
 - Shows experience with the techniques
 - Shows ongoing interest and readiness
 - Shows competence in displaying and analyzing the results



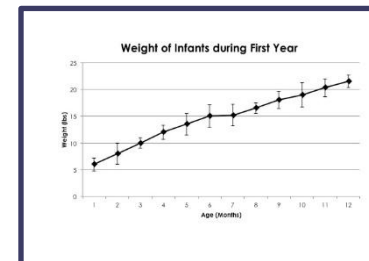
FOLLOW THE RULES! AND GUIDELINES OR QUESTION AUTHORITY?

- Best-case scenario, an improperly completed application is returned to you for corrections and resubmission.
- Worst-case scenario, an improperly completed application is simply rejected without notification.
- Take the time at the *outset* to *review* the application materials.
 - At least have a working knowledge of the materials
 - There will be no time toward the end of the process



FOLLOW THE RULES!

- Frequently observed mistakes that lose reviewers' interest and attention – and distract from really good science:
 - Listing all of your publications in your biosketch, rather than the 15 publications requested
 - Placing methods in the Vertebrate Animals section to circumvent the page limit
 - Not including letters of support from proposed consultants, or biosketches from key personnel
 - Changing fonts from 11 point to 8 point, as if no one will ever notice the transition.
 - Including illegible graphs and figure legends



BUDGET



- Easiest rule: Ask for the amount you need.
 - Reviewers do not like:
 - Inflated budgets
 - Budgets that question the PI's capacity to get the project completed
- Determine whether the required budget is modular or itemized.
 - General categories:
 - Personnel (percent effort, fringe benefits, etc.)
 - Supplies along with subject costs (animal or human)
 - Equipment
 - Travel
- Know if the funding agency has budgetary exclusions (e.g., some exclude travel, or PI salary) – *not knowing can be costly*

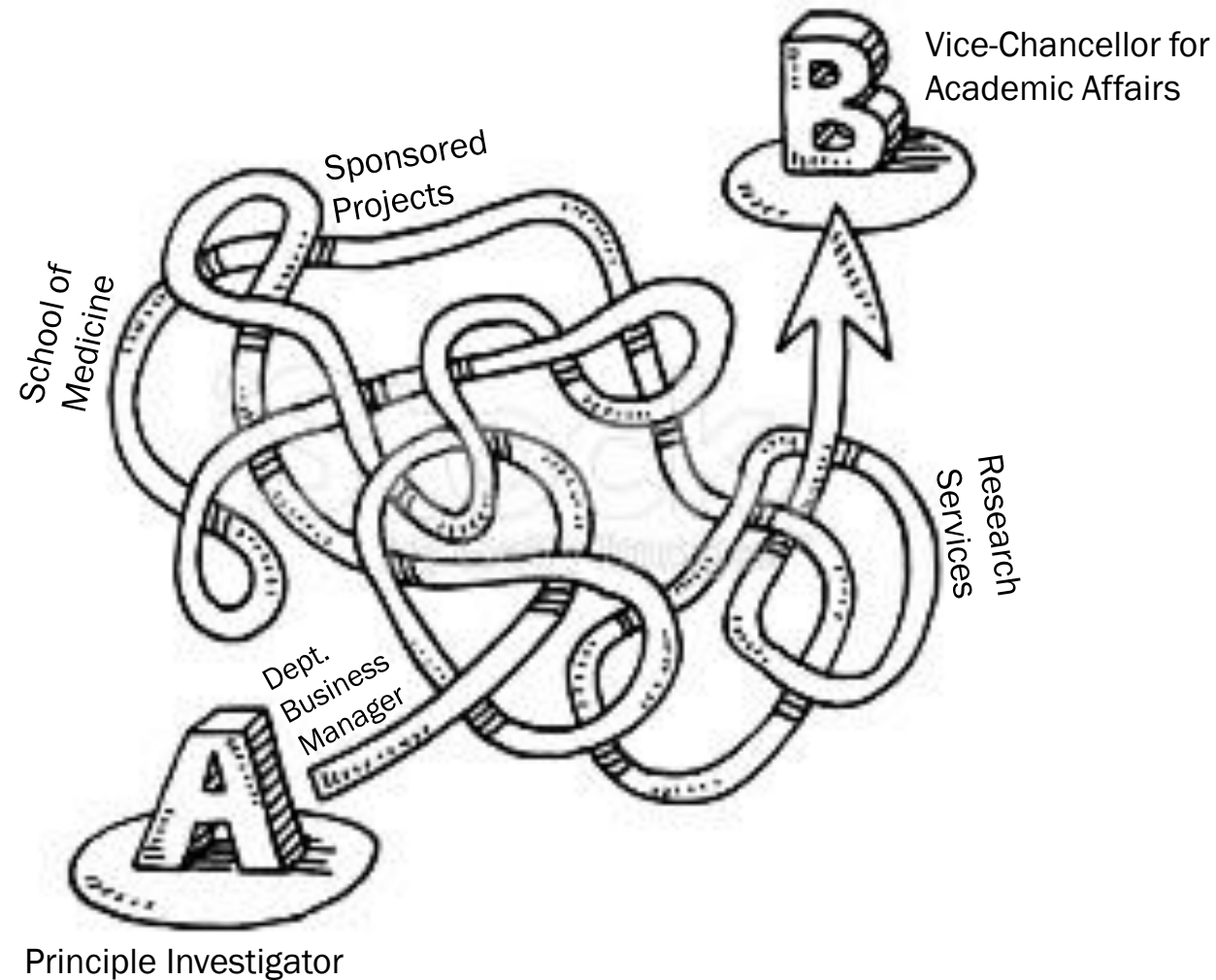
BUDGET (CONT.)



- Easiest rule: **Be realistic.**

- How many co-investigators, postdoctoral fellows, research associates, or students will actually be needed to complete the project?
- How many assays, cell lines, subjects (animal or human) will be needed?
 - Conduct power analyses
 - Consult with a statistician if necessary
- Will additional equipment be needed? These non-recurring costs can ‘front-load’ many budgets.
- Have you properly estimated the cost of travel to meetings to present the data you will be collecting?

ROUTE THE APPLICATION AS EARLY AS POSSIBLE



ADDITIONAL ROUTING TIPS . . .



- Your business manager needs to be involved.
- Route before the frenetic writing phase is in full swing! This is the last thing you want to think about as the deadline approaches.
- Not all parts of the grant need to be routed. Necessary and suggested parts to route:
 - Routing sheet w/ keywords and IRB/IACUC/IBC approvals
 - Application face page
 - Abstract
 - Application budget, including F&A costs
 - Personnel justification
 - Letter of Intent to Establish a Consortium
 - Institutional Animal Care and Use (Vertebrate Animals) or Institutional Review Board information
 - Conflict of Interest documents

ADDITIONAL ROUTING TIPS . . . (CONT.)

- If a grant has subaward(s), each subaward requires:
 - Statement of Work
 - Letter of Intent signed by the other institution
 - Budget
 - Budget Justification
 - COI/SFI or the highlighted PHS FCOI

- Each subaward also requires:
 - Biosketch(es)
 - Resources and Facilities
 - Equipment



THANK YOU!

QUESTIONS?