HANOVER RESEARCH

KNOW YOUR FUNDER: NIH

Prepared for University of Colorado Colorado Springs

November 2, 2020

PRESENTER

STEVEN JAX, Ph.D.

Grants Consultant

- I was a research scientist in the fields of cognitive psychology and neurorehabilitation for 14 years at a medical center research institute.
- At Hanover, I support grant writing and proposal review for multiple funding agencies, primarily NIH and NSF. I supported $7.7M in funded projects in 2019.

AGENDA

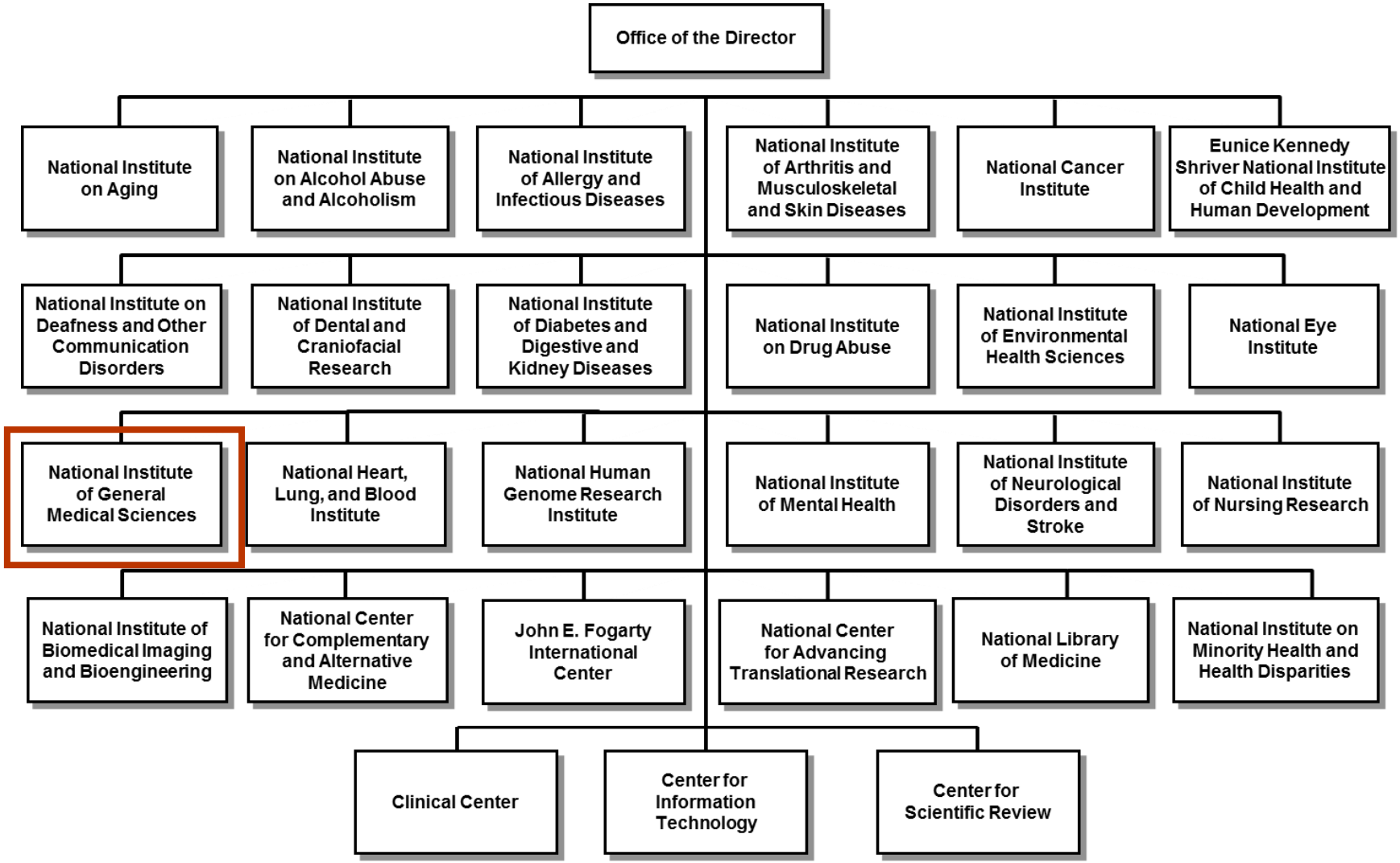
- NIH Overview
- Finding Funding Opportunities
- Study Sections
- Reviews and Resubmissions
- NSF vs. NIH
- Q & A

NIH OVERVIEW

NIH MISSION

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

NIH STRUCTURE



NIGMS

"All NIH Institutes and Centers support basic research that is relevant to the diseases, organ systems, stages of life, or populations within their mission areas. In contrast, NIGMS supports fundamental research that does not focus on those specific areas. NIGMS' research mission is aimed at understanding the principles, mechanisms, and processes that underlie living organisms, often using research models. NIGMS also supports the development of fundamental methods and new technologies to achieve its mission. …. Research with the overall goal to gain knowledge about a specific organ or organ system or the pathophysiology, treatment, or cure of a specific disease or condition will, in most cases, be more appropriate for another Institute or Center."

TYPES OF NIH AWARDS

- Summary

Type of Award	Purpose of Award
R Series - R01, R03, R15, R21	Research
K Series	Career Development
T & F Series	Research Training and Fellowships
P Series	Program Project / Center Grants
Various Others	Resource Grants, Trans-NIH Programs, and Others

COMMON NIH RESEARCH (R) AWARDS

Activity Code	Purpose	Annual budget (direct)	Years of funding
R03	Provides limited funding to support a variety of types of projects (pilot or feasibility studies, collection of preliminary data, secondary analysis of existing data, etc.)	Typically $50k	2
R15	Small research projects conducted by undergraduate and/or graduate students at institutions that have not been major recipients of NIH research grant funds	$100k	3
R21	Encourages new, exploratory and developmental research projects by providing support for the early stages of project development. Sometimes used for pilot and feasibility studies.	$137k	2
R01	Support a discrete, specified, circumscribed research project	Typically $250k, up to $500k+	3-5

R15 (AREA) DETAILS

Additional review criteria

- If funded, will the AREA grant have a substantial effect on the applicant institution in terms of strengthening the research environment and exposing undergraduate students to research?
- Do the PD(s)/PI(s) have suitable experience in supervising and engaging undergraduate students in research?
- Are innovative approaches to engaging undergraduate students in research proposed?
- Does the application provide sufficient evidence that the project will likely stimulate the interests of students so that they can consider a career in the biomedical sciences?
- Are appropriate plans in place to recruit a diverse and inclusive team of undergraduate researchers?

	Applications	Awards	Success Rate
All NIH	1680	258	15.4%
NCCIH	7	1	14.3%
NCI	271	20	7.4%
NEI	22	4	18.2%
NHGRI	5	2	40.0%
NHLBI	126	17	13.5%
NIA	69	8	11.6%
NIAAA	10	1	10.0%
NIAID	190	18	9.5%
NIAMS	31	5	16.1%
NIBIB	58	4	6.9%
NICHD	140	20	14.3%
NIDA	32	6	18.8%
NIDCD	30	6	20.0%
NIDCR	35	5	14.3%
NIDDK	77	5	6.5%
NIEHS	52	10	19.2%
NIGMS	284	96	33.8%
NIMH	73	11	15.1%
NIMHD	31	7	22.6%
NINDS	96	5	5.2%
NINR	37	7	18.9%

NEXT GENERATION RESEARCHERS INITIATIVE

Designation	Eligibility	Priority
Early Stage Investigator	A Program Director / Principal Investigator (PD/PI) who has **completed their terminal research degree** or end of post-graduate clinical training, whichever date is later, **within the past 10 years** and who has not previously competed successfully as PD/PI for a substantial NIH independent research award. A list of NIH grants that a PD/PI can hold and still be considered an ESI can be found at https://grants.nih.gov/policy/early-investigators/list-smaller-grants.htm	ESI R01 applications with meritorious scores will be prioritized for funding.
New Investigator	An investigator who has not previously received substantial, independent funding from NIH (R01 or equivalent).	NIH Institutes and Centers (ICs) fund New Investigators according to the ICs' programmatic and strategic interests.

RESEARCH STRATEGY

Do not add or take away sections. Place them in the exact order specified.

- The research strategy is the main part of the grant application
- Four main sections
    - Specific Aims (1 page)
    - Significance
    - Innovation
    - Approach
- Length
    - R03/R21 – 6 pages
    - R15/R01 – 12 pages

BIOGRAPHICAL SKETCHES

- Instructions
- 4 parts
  - Personal statement – Why you? Tailor to each proposal
  - Positions and Honors
  - Contributions to Science – Up to 5, with summary paragraph and references
  - Research Support
- SciENcv

NIH ANCILLARY DOCUMENTS

- Budget
- Budget Justification
- Human Subjects/Clinical Trials
- Authentication of Key Biological and/or Chemical Resources
- Vertebrate Animals
- Facilities & Other Resources
- Equipment
- Multiple PD/PI Leadership Plan
- Data Management Plan
- Letters of Support

PROGRAM OFFICER OUTREACH

Take program officer guidance seriously: they are in the best position to know what will be competitive.

- Most funded proposals have been discussed with a Program Officer before submission
- Email your Specific Aims page to the program officer, and ask:
  - Are you interested in this type of work?
  - If so, do you have any guidance on how best to approach a proposal?
  - If a program officer prefers to speak on the phone, speak to them on the phone

PROGRAM OFFICER OUTREACH RESOURCES

- "Can We Talk? Contacting Program Officers"
- "What to Say—and Not Say—to Program Officers"
- "Communicating with Funders and Program Officers"

FINDING FUNDING OPPORTUNITIES

OVERVIEW

- Past funding
  - NIH Reporter – searchable database of funded projects
  - NIH Matchmaker – Long text (up to 15k characters) overlap with funded projects
- Upcoming funding
  - Parent vs. non-parent announcements
  - Definition of clinical trial
  - Keyword search in grants.gov
  - Look at best fitting Institute/Center website
    - Overview of NIH Institutes and Centers (with links)

NIH MATCHMAKER

PROJECTS | PROGRAM OFFICIAL

Matching Text

Two experiments (total N = 81) we conducted to investigate the basis for the large-scale horizontal-vertical illusion (HVI), which is typically measured as 15-20% and has previously been linked to the presence of a ground plane. In a preliminary experiment, vertical rods of similar angular extents that were either large (4.5-7.5 m) and far, or small (0.9-1.5 m) and near, were matched to horizontal extents in a virtual environment by adjustment of horizontal gaps or rods. Large/far objects showed a larger HVI (~ 13%) than small objects (~7%), as has been shown before, but the horizontal gap normally used to measure the large-scale HVI was not the source of the larger bias. In the second experiment, it was found that simply separating the comparison rod in depth from the vertical rod (thus forcing an evaluation of size at a distance) was sufficient to produce a large HVI

Characters left: 8171

Fiscal Year (FY) Active Projects SELECT

Select options begin with FY 2007.

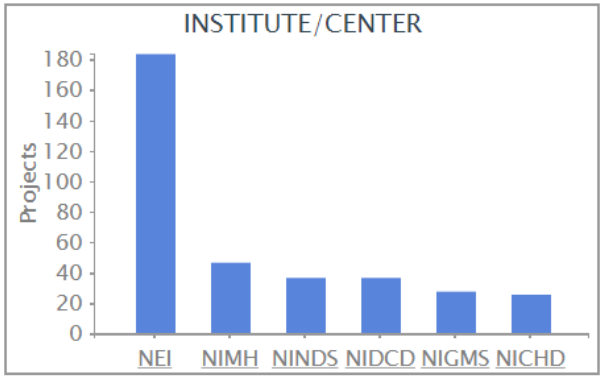
Exclude Subprojects?

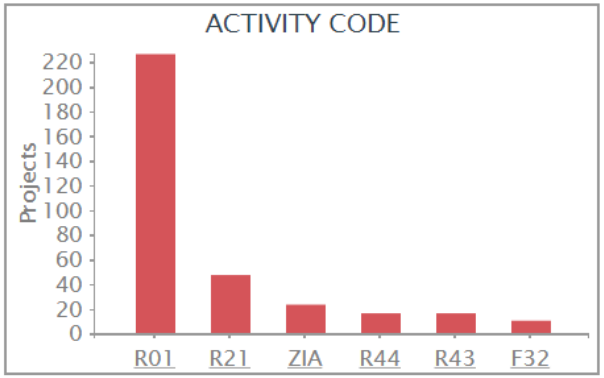
RESET RESUBMIT

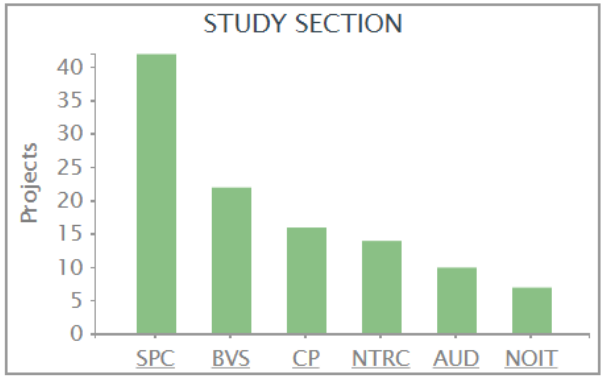
500 projects with similar concepts to the entered text. (500 maximum)

Click on chart labels to filter search results by the Institute/Center or Activity Code or Study Section

Click here to view detailed Charts







NIH MATCHMAKER

Match Score	T Act	Project	Year	Sub #	Project Title	Contact PI / Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC	Similar Projects
232	1	R34	NS111669	01	VISUAL CODING IN FREELY MOVING BEHAVIOR	NIELL, CRISTOPHER M	UNIVERSITY OF OREGON	2019	NINDS	NIDA NINDS	$300,000 $325,654	
205	5	R21	DC014909	02	EMPLOYING MAGNETIC VESTIBULAR STIMULATION (MVS) DURING FUNCTIONAL IMAGING	MERFELD, DANIEL M et al.	MASSACHUSETTS EYE AND EAR INFIRMARY	2017	NIDCD	NIDCD	$209,157	
203	7	R01	EY022538	06	NEURAL CORRELATES OF 3D VISUAL ORIENTATION	ANGELAKI, DORA	NEW YORK UNIVERSITY	2019	NEI	NEI	$396,250	
199	5	R01	NS065395	10	NEURAL SUBSTRATES OF OPTIMAL MULTISENSORY INTEGRATION	BEAUCHAMP, MICHAEL S	BAYLOR COLLEGE OF MEDICINE	2019	NINDS	NINDS	$346,719	
196	1	ZID	HG200384	07	IMMERSIVE VIRTUAL ENVIRONMENT TESTING AREA	PERSKY, SUSAN		2018	NHGRI	NHGRI	$243,279	
194	5	R01	DC013543	06	AUDIOVISUAL INTEGRATION FOR SPOKEN LANGUAGE IN ADVERSE LISTENING SITUATIONS	SHAHIN, ANTOINE J.	UNIVERSITY OF CALIFORNIA, MERCED	2019	NIDCD	NIDCD	$392,533	
186	1	R15	AG063348	01	VIRTUAL CYCLING ENVIRONMENT (VCYCLE) INCREASES EXERCISE INTENSITY OF OLDER ADULTS AND PERSONS WITH PARKINSON DISEASE	DEUTSCH, JUDITH E	RBHS-SCHOOL/ HEALTH RELATED PROFESSIONS	2019	NIA	NIA	$432,197	

NIH MATCHMAKER

Program Official	IC	Contact Information	Projects
FLANDERS, MARTHA C	NEI	Click to view PO email address	45
NEUHOLD, LISA	NEI	Click to view PO email address	30
WIGGS, CHERI	NEI	Click to view PO email address	29
GREENWELL, THOMAS	NEI	Click to view PO email address	24
AGARWAL, NEERAJ	NEI	Click to view PO email address	21
DAVID, KAREN KATE	NINDS	Click to view PO email address	12
POREMBA, AMY	NIDCD	Click to view PO email address	10
KING, KELLY ANNE	NIDCD	Click to view PO email address	9
WUJEK, JEROME R	NEI	Click to view PO email address	8
PENG, GRACE	NIBIB	Click to view PO email address	7
GNADT, JAMES W	NINDS	Click to view PO email address	6
ANGELONE, LEONARDO MARIA	NIDA	Click to view PO email address	5
RIVERA-RENTAS, ALBERTO L	NIDCD	Click to view PO email address	5
FERRANTE, MICHELE	NIMH	Click to view PO email address	5
SHEN, GRACE L	NEI	Click to view PO email address	5

PARENT AND NON-PARENT ANNOUNCEMENTS

NIMH-Sponsored Program Announcements

- **Parent Announcements** for Unsolicited or Investigator-Initiated Applications
- NIH Guide

Funding and Policy Announcements (Complete List): NIMH-Sponsored | NIMH-Participating | Both
Program Announcements: NIMH-Sponsored | NIMH-Participating | Both
Requests for Applications: NIMH-Sponsored | NIMH-Participating | Both
Policy Announcements: NIMH-Sponsored | NIMH-Participating | Both

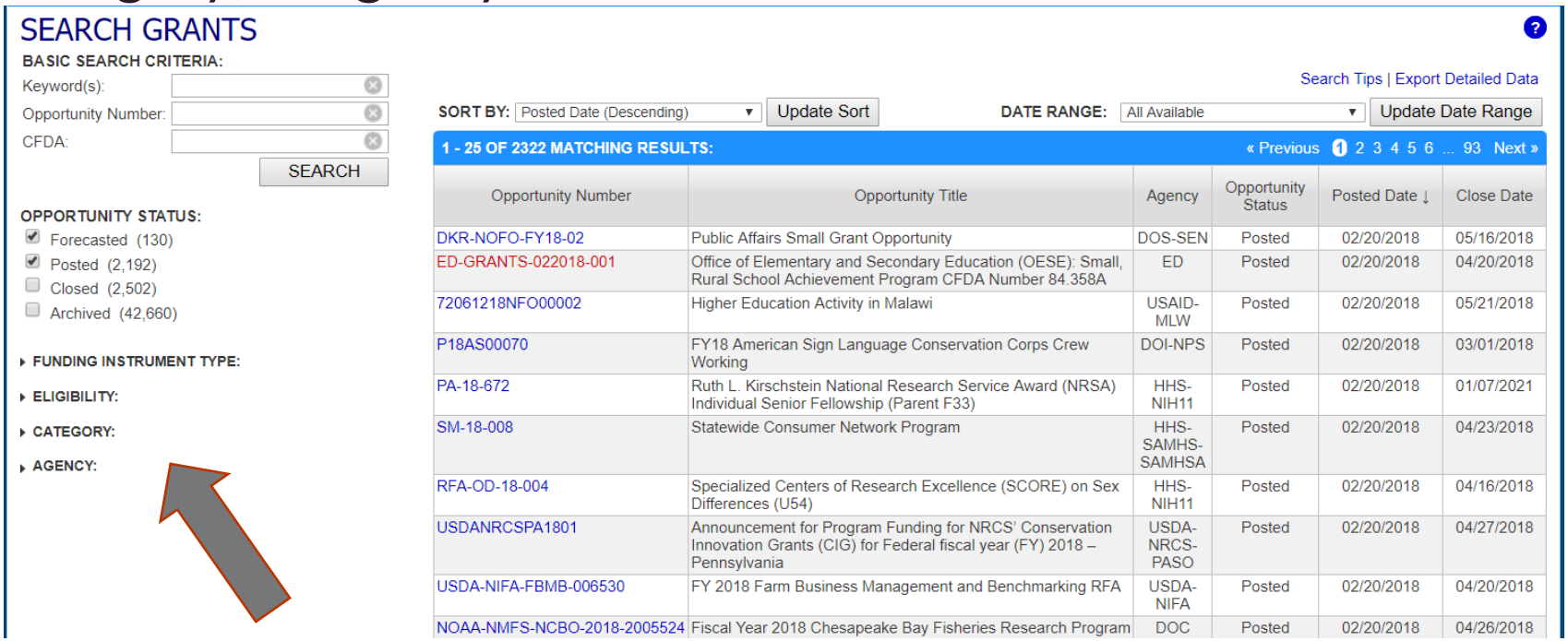
Announcement Number	Title	Release Date	Expiration Date
PAR-19-236	Reducing the Duration of Untreated Psychosis in the United States (R01 Clinical Trial Required)	2019-04-02	2022-05-08
PAR-19-235	Reducing the Duration of Untreated Psychosis in the United States (R34 Clinical Trial Required)	2019-04-02	2022-05-08
PAR-19-214	Novel Assays to Address Translational Gaps in Treatment Development (UG3/UH3 Clinical Trial Optional)	2019-03-08	2022-02-23
PAR-19-189	Pilot Services Research Grants Not Involving Clinical Trials (R34 Clinical Trial Not Allowed)	2019-02-21	2022-01-08

CLINICAL TRIALS

- Revised (inclusive) definition of clinical trials
  - A research study in which one or more human subjects are prospectively assigned to one or more interventions (which may include placebo or other control) to evaluate the effects of those interventions on health-related biomedical or behavioral outcomes.
- Separate opportunities for the following categories
  - Clinical Trial Required
  - Clinical Trial Optional
  - Clinical Trial Not Allowed
  - Basic Experimental Studies with Humans Required

FEDERAL TOOLS

Search Grants.gov by keyword, status, type, eligibility, category, or agency.



SEARCH GRANTS

BASIC SEARCH CRITERIA:

Keyword(s):

Opportunity Number:

CFDA:

SEARCH

OPPORTUNITY STATUS:

- Forecasted (130)
- Posted (2,192)
- Closed (2,502)
- Archived (42,660)

- FUNDING INSTRUMENT TYPE:
- ELIGIBILITY:
- CATEGORY:
- AGENCY:

Search Tips | Export Detailed Data

SORT BY: Posted Date (Descending) Update Sort DATE RANGE: All Available Update Date Range

1 - 25 OF 2322 MATCHING RESULTS: « Previous 1 2 3 4 5 6 ... 93 Next »

Opportunity Number	Opportunity Title	Agency	Opportunity Status	Posted Date ↓	Close Date
DKR-NOFO-FY18-02	Public Affairs Small Grant Opportunity	DOS-SEN	Posted	02/20/2018	05/16/2018
ED-GRANTS-022018-001	Office of Elementary and Secondary Education (OESE): Small, Rural School Achievement Program CFDA Number 84.358A	ED	Posted	02/20/2018	04/20/2018
72061218NFO00002	Higher Education Activity in Malawi	USAID-MLW	Posted	02/20/2018	05/21/2018
P18AS00070	FY18 American Sign Language Conservation Corps Crew Working	DOI-NPS	Posted	02/20/2018	03/01/2018
PA-18-672	Ruth L. Kirschstein National Research Service Award (NRSA) Individual Senior Fellowship (Parent F33)	HHS-NIH11	Posted	02/20/2018	01/07/2021
SM-18-008	Statewide Consumer Network Program	HHS-SAMHS-SAMHSA	Posted	02/20/2018	04/23/2018
RFA-OD-18-004	Specialized Centers of Research Excellence (SCORE) on Sex Differences (U54)	HHS-NIH11	Posted	02/20/2018	04/16/2018
USDANRCSPA1801	Announcement for Program Funding for NRCS' Conservation Innovation Grants (CIG) for Federal fiscal year (FY) 2018 – Pennsylvania	USDA-NRCS-PASO	Posted	02/20/2018	04/27/2018
USDA-NIFA-FBMB-006530	FY 2018 Farm Business Management and Benchmarking RFA	USDA-NIFA	Posted	02/20/2018	04/20/2018
NOAA-NMFS-NCBO-2018-2005524	Fiscal Year 2018 Chesapeake Bay Fisheries Research Program	DOC	Posted	02/20/2018	04/26/2018

FEDERAL TOOLS

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Receive a daily email listing all new grant opportunities

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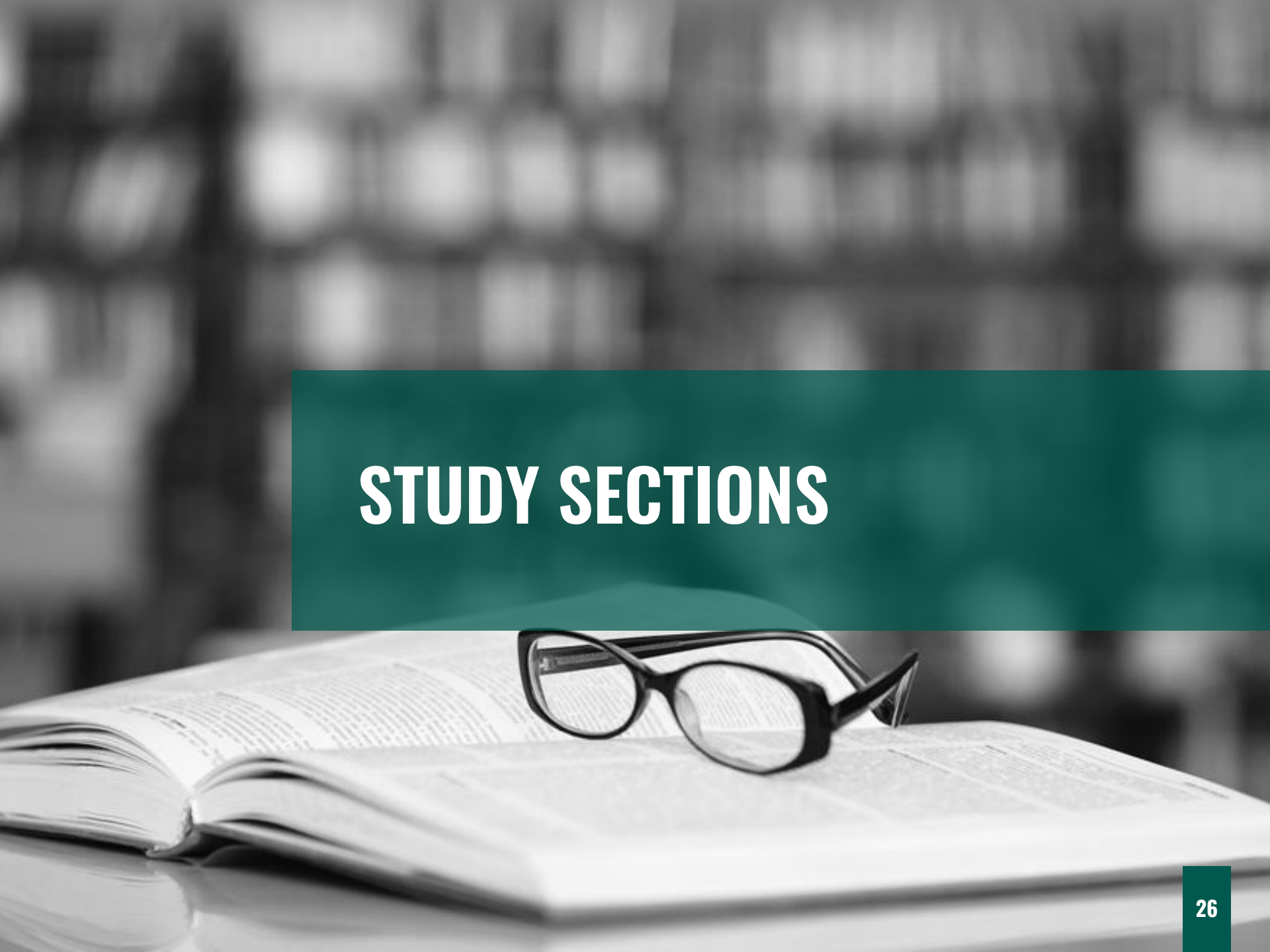
» Subscribe to saved searches for grant opportunities
Receive notifications for new opportunities matching saved search criteria

For more information on Grants.gov Subscriptions, please review the Connect with Grants.gov help article.

STUDY SECTIONS



STUDY SECTIONS

- Find study sections with NIH Matchmaker
- CSR Assisted Referral Tool
- Full list of standing study sections
- Assignment request form

EXAMPLE STUDY SECTION

Cognition and Perception Study Section – CP

The Cognition and Perception Study Section reviews applications investigating attention, perception, learning, cognition, decision-making, executive function, navigation, and memory, in development and throughout the lifespan. Approaches and methodologies include behavior, neuroimaging, psychophysiology, neuropsychology, and mathematical/computational modeling.

Dr. Devon Oskvig

Scientific Review Officer

devon.oskvig@nih.gov

301-402-4045

CP reviews predominantly human subjects' applications, with occasional consideration of primate applications. CP does not review non-primate animal models.

The List of Reviewers lists all present, whether permanent or temporary, to provide the full scope of expertise present on that date. Lists are posted 30 days before the meeting and are tentative, pending any last minute changes.

Review Dates

- List of Reviewers on 06/06/2019
- List of Reviewers on 02/14/2019
- List of Reviewers on 10/11/2018

Membership Panel

The membership panel is a list of chartered members only.

- View Membership Panel

EXAMPLE STUDY SECTION

Topics

- Perception: higher-order perceptual mechanisms for all sensory modalities; object and scene recognition; processing of spatial and temporal relations; complex auditory events; intermodal/multisensory perception, face recognition
- Attention: attentional control and allocation; capacity and resource limitations; automatization
- Executive Function: planning and monitoring of complex behaviors; coordination of cognitive operations; consciousness; cognitive control
- Learning, Memory, and Knowledge: Encoding, consolidation, and retrieval processes; short-term, working, and long-term memory; episodic/semantic, declarative/procedural, explicit/implicit and other types of memory and their interactions; categorization; expert knowledge;
- skill learning; rule induction; cognitive training, roles of instruction and practice Reasoning, Decision Making, and Problem Solving: use of rules, models, strategies, and heuristics; deductive and inductive reasoning; mathematical and statistical reasoning; analogical reasoning; choice behavior; creativity
- Mathematical Cognition: cognitive processes (and their development) related to science, technology, engineering and math; spatial awareness, number concept
- Navigation: driving, simulated driving, way-finding and spatial navigation/ representation; effects of age, substance use, and other factors on driving and navigation outcomes

Shared Interests and Overlaps

Adult Psychopathology and Disorders of Aging (APDA): Applications that focus on cognition in Alzheimer's Disease, Mild Cognitive Impairment, and other dementias are typically reviewed in APDA. Normative age-related cognitive change, risk for dementias, premorbid conditions, and effects of concussion are usually reviewed in CP.

Biobehavioral Regulation, Learning, and Ethology (BRLE): Applications that focus on basic mechanisms of learning such as classical/operant conditioning are reviewed in BRLE; animal models of learning or navigation with a predominantly behavioral orientation are also appropriate for BRLE.

REVIEWS AND RESUBMISSIONS

NIH PEER REVIEW PROCESS

- First Level of Review
  - Study section members individually review proposals
  - Top ~40% discussed in the group
- Second Level Of Review - Advisory Council/Board
  - The second level of review is performed by Institute and Center (IC) National Advisory Councils or Boards. Councils are composed of both scientific and public representatives chosen for their expertise, interest, or activity in matters related to health and disease.

SCORING

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

- Significance
- Investigator(s)
- Innovation
- Approach
- Environment

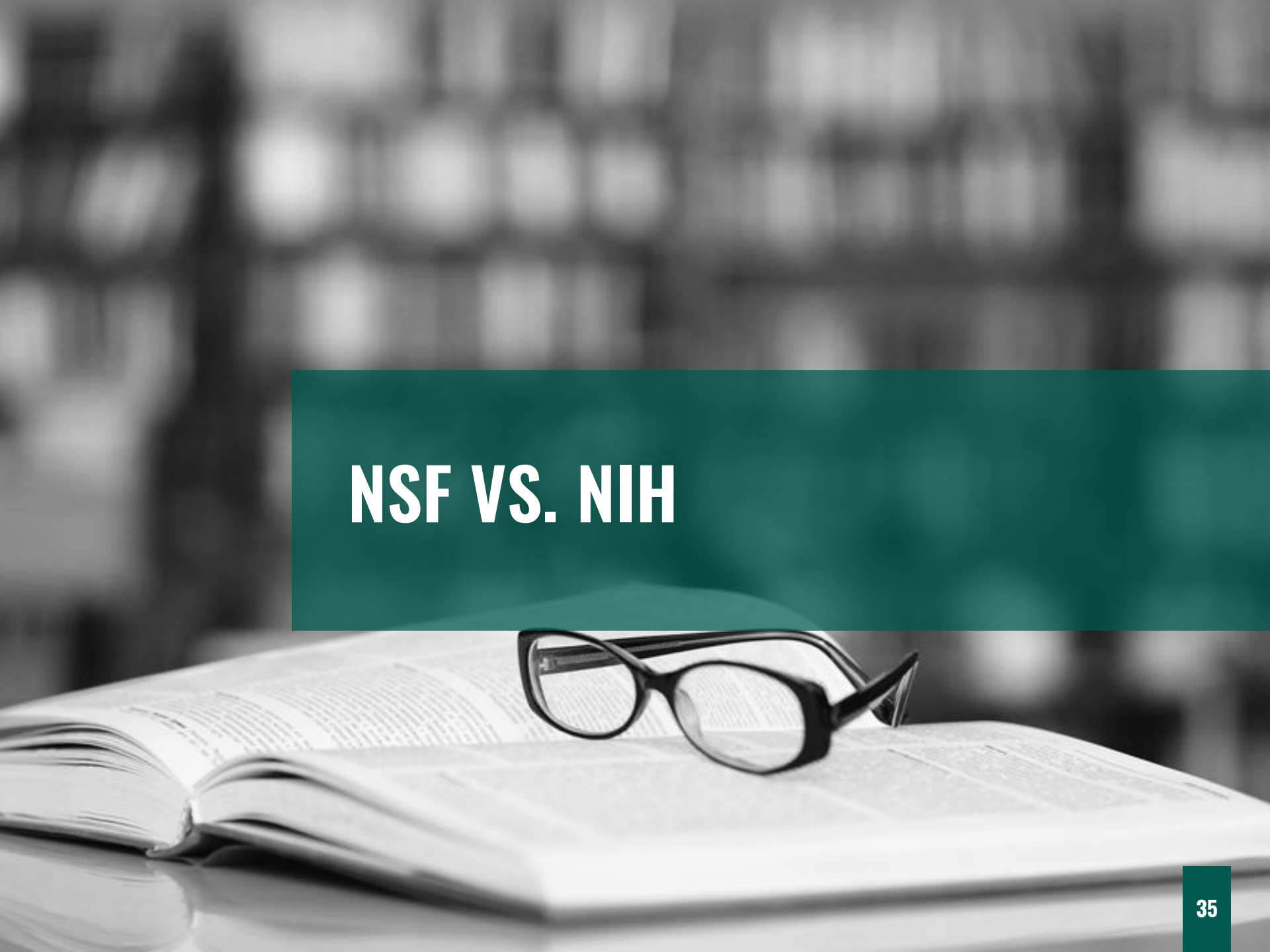
WRITTEN RESPONSE

- Respond to concerns through an Introduction to your application (1 page)
  - Most important concerns should receive the most space in your response (mentioned in summary)
  - Make it clear which reviewers shared the concerns by citing the reviewers' numbers (e.g., R1, R2)
  - Make sure your responses refer to a section of your proposal which you have revised (e.g., see A.3)

WRITTEN RESPONSE

- First paragraph
  - Gratitude for the previous review
  - List of strengths the reviewers identified
  - EXAMPLE: We thank the reviewers for their recommendations regarding our original application and appreciate their recognition of the application's strengths including "an outstanding team (R1)," an "important target population (R3)," and "high dissemination potential (R2)." We provide a summary of our responses to the critiques below.
- Remainder
  - Address specific comments, starting with the most serious ones (everything mentioned in Summary of Discussion)
  - Don't skip comments – minimally point to text changes
    - We clarified the inclusion criteria (R1, see C.2), number of samples taken (R2, see C.5), ….

NSF VS. NIH



COMPARISON

	NSF	NIH
Organization	Academic departments	Medical conditions
Core review criterion	Intellectual Merit	Impact (Significance and Innovation)
Reviewers	Change every submission	Often more stable
Resubmissions	Not special	1-page response
Typical proposal length	15 pages	6 or 12 pages
Proposal structure	Unstructured	3 main sections
Online tools	Limited	More plentiful

TOOLS AND RESOURCES

- NIH Reporter
  - Funding Facts – Success rates
  - Data Book
- NIAID's website is a great resource for sample funded grants, preparing your application, and other guidance
- Open Mike blog/ email listserv
- YouTube video about Human Subjects and Clinical Trials
- Rigor and Reproducibility
- Definition of clinical trials

UCCS OFFICE OF RESEARCH

Research Tools and Resources

Building Your Grant Proposal

Know Your Agency Series

Research Enhancement Activities

Building Your Grant Proposal 2 Day Seminar	National Endowment for the Humanities	What is Technology Transfer
NSF Broader Impacts	National Institutes of Health	National Center for Faculty Development and Diversity
Finding Funding and an Introduction to Grant Writing	National Science Foundation	Let's Get Writing
Show Me the Money: What to Put in you Grant Budget	Spencer Foundation	Determine Your Research Impact
Introduction to Foundation Proposal Writing	Small Business Innovation Research/Small Business Technology Transfer	#ShutDownAcademia Resources

Proposal Templates

Proposal Resources

Policies, Programs, and Guidelines

UCCS SUBMISSION PROCESS

- **Consult funder website for specific guidance.** *Do this early!*
- ***Consult UCCS' Office of Sponsored Programs and Research Integrity (OSPRI) for budget and submission support***
  - Training – Offers variety of training for responsible research
  - Budget – Must use UCCS budget template (*https://osp.uccs.edu/resources/forms*)
  - Supporting documents – (IRB, IBC, export controls, etc.)
  - Proposal routing – Must submit the budget and justification to OSPRI well before the agency deadline
    - *OSPRI requires complete proposal 5 days before due date*

UPCOMING WEBINARS

Don't miss these upcoming Hanover webinars for UCCS faculty!

Know Your Funder: NSF

December 2 @ 2pm Mountain

This one-hour webinar training will include an overview of NSF agency structure, proposal review and award processes, and pre-application best practices. Join us for tips on developing a strong NSF proposal that describes significant advancement in the field of inquiry (intellectual merit) as well as benefits for students, collaborators, institution, and other public and private stakeholders including the general public (broader impacts).

NSF CAREER Webinar

January 29 @ 11am Mountain

NSF CAREER is one of the most prestigious grant awards for tenure-track Assistant Professors working to advance highly innovative research and education initiatives. This webinar will provide key insights into the CAREER funding mechanism, guidance on developing a responsive and competitive proposal, and insight into how proposals are reviewed against the NSF merit review criteria.

QUESTIONS?

HANOVER RESEARCH

Thank you.

CONTACT

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