



NIH Fellowship Application Process

Sheri Holmen, PhD

Overview of Session

- What type of research is funded by NIH
- Who Is Eligible for an NIH Grant?
- NIH funding mechanisms
- Understanding the NIH format and Peer Review Process
- Review Criteria
- Writing tips for successful applications
- Scoring



What type of research is funded by NIH?

- **Projects that support the advancement of the NIH mission:** enhancing human health, extending healthy life, and reducing the burdens of illness and disability.
- **Projects of High Scientific Caliber**
- **NIH-Requested Research**
 - Funding opportunity announcements (FOAs)
 - program announcements (PAs)
 - requests for applications (RFAs)
 - <https://grants.nih.gov/funding/searchguide/index.html#/>



What type of research is funded by NIH?

- **Unsolicited Research**
 - Parent announcements (PAs)
- **Unique Research Projects**
 - To ensure that your project, or a similar project, has not been funded, visit the NIH Reporter website and search by topic. <https://projectreporter.nih.gov/>
 - NIH Reporter can also help you identify which Institute/Center and study section your grant would fit best



Version: 7.40.0

FIND PROGRAM OFFICIALS OR SIMILAR PROJECTS

About RePORTER DATA FAQ EXPORTER RSS of Newly Added Projects

QUERY BROWSE NIH MATCHMAKER SEARCH PUBLICATIONS BETA

SUBMIT QUERY CLEAR QUERY

Fiscal Year (FY): Active Projects SELECT Current FY is 2020

RESEARCHER AND ORGANIZATION

Principal Investigator (PI) / Project Leader: (Last Name, First Name) Use '%' for wildcard in PI names Enter several PI/Project Leader names OR PI Profile IDs

City: Use '%' for wildcard

Organization: LOOKUP Please enter at least 3 characters to use Lookup. Contains Begins with Exact

State: SELECT

Department Type: SELECT

Country: SELECT

Organization Type: SELECT

Congressional District: SELECT

DUNS Number:

TEXT SEARCH

Text Search (Logic): And Or Advanced Characters left: 2500

Search in: Projects Publications News Limit Project search to: Project Title Project Terms Project Abstracts Limit Publication search to: Start Year End Year

PROJECT DETAILS

Project Number/ Application ID: Format: 5R01CA012345-04/8515397 Use '%' for wildcard in project number, e.g. %R21% Enter multiple project numbers/application IDs

Agency/Institute/Center: Admin Funding SELECT

NIH Spending Category: SELECT

1 R01 CA 811099 01 A1S1

Funding Mechanism: SELECT

Program Officer (PO): (Last Name, First Name) Use '%' for wildcard Enter several Program Officer (PO) names

Award Type: SELECT

Activity Code: SELECT

Project Start Date: >= Format: mm/dd/yyyy

Study Section: SELECT

Project End Date: <= Format: mm/dd/yyyy

FOA: Format: RFA-1C-09-003 or PA-09-003 20 entry maximum. Use % for wildcard Funding Opportunities and Notices

Award Notice Date: Format: mm/dd/yyyy

ADDITIONAL FILTERS

NIH COVID-19 Response: SELECT

Newly Added Projects Only: Projects added since 08/20/2020

NIH (non) ARRA Selection: SELECT

Exclude Subprojects:

Award Size: Only for NIH, CDC, FDA, AHRQ, and ACF

Multi-PI Only:

ClinicalTrials.gov ID: Format: NCT00000419 5 entry maximum separated by commas.

Projects with Outcomes Only:

SUBMIT QUERY CLEAR QUERY

Search Results

[PROJECTS](#)
[PUBLICATIONS](#)
[PATENTS](#)
[CLINICAL STUDIES](#)
[DATA & VISUALIZE](#)
[MAP](#)
[NEWS & MORE](#)

There were 394 results matching your search criteria .
 Records per page 25
Show/Hide Search Criteria

Click on the column header to sort the results
 1 2 3 4 ... 14 15 16
Page 1 of 16 [Next](#) [Last](#)

T: Application Type: Act: Activity Code: Project: Admin IC, Serial No.: Year: Support Year/Supplement/Amendment

<input type="checkbox"/>	T	Act	Project	Year	Sub #	Project Title	Contact PI/ Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC	Similar Projects
<input type="checkbox"/>	5	R03	CA212798	02		PLUMBAGIN IN COMBINATION WITH VEMURAFENIB FOR BRAF-MUTANT MELANOMA	AFAQ, FARRUKH	UNIVERSITY OF ALABAMA AT BIRMINGHAM	2018	NCI	NCI	\$74,250	
<input type="checkbox"/>	5	K23	EY027466	03		PREDICTING OCULAR OUTCOMES, QUALITY OF LIFE AND SURVIVAL AFTER PROTON BEAM RADIOTHERAPY OF CHOROIDAL MELANOMA	AFSHAR, ARMIN REZA	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	2019	NEI	NEI	\$210,392	
<input type="checkbox"/>	5	R01	CA218024	04		EPIGENETIC AND MICROENVIRONMENTAL REGULATION OF DORMANT DISSEMINATED CANCER	AGUIRRE-GHISO, JULIO A. et al.	ICAHN SCHOOL OF MEDICINE AT MOUNT SINAI	2020	NCI	NCI	\$428,136	
<input type="checkbox"/>	1	SC3	GM136639	01		KLF4-MEDIATED MYELOID PLASTICITY IN BREAST CANCER RECURRENCE	AI, WALDEN	BENEDICT COLLEGE	2020	NIGMS	NIGMS	\$97,389	
<input type="checkbox"/>	5	R01	CA202027	05		POST-TRANSLATIONAL CONTROL OF CANCER CELL STRESS RESPONSE AND METASTASIS	AIFANTIS, IANNIS et al.	NEW YORK UNIVERSITY SCHOOL OF MEDICINE	2020	NCI	NCI	\$459,505	
<input type="checkbox"/>	5	R01	CA210561	03		ADVANCING THE TRANSLABILITY OF MOUSE MODELS FOR CANCER IMMUNOTHERAPY	AKHURST, ROSEMARY J	UNIVERSITY OF CALIFORNIA, SAN FRANCISCO	2020	NCI	NCI	\$720,801	
<input type="checkbox"/>	3	R43	CA228721	01S1		TITLE: PRE-CLINICAL EVALUATION OF A NOVEL IMMUNE MODULATOR, ALPHA-TEA IN COMBINATION WITH IMMUNE CHECKPOINT BLOCKADE	AKPORIAYE, EMMANUEL T.	VEANA THERAPEUTICS, LLC	2019	NCI	NCI	\$50,521	
<input type="checkbox"/>	1	R43	CA228721	01		TITLE: PRE-CLINICAL EVALUATION OF A NOVEL IMMUNE MODULATOR, ALPHA-TEA IN COMBINATION WITH IMMUNE CHECKPOINT BLOCKADE	AKPORIAYE, EMMANUEL T.	VEANA THERAPEUTICS, LLC	2018	NCI	NCI	\$299,607	
<input type="checkbox"/>	1	I01	BX003916	01A1		ADMINISTRATION OF INTRATUMORAL IMMUNOCYTOKINE TO ACTIVATE IMMUNE REJECTION OF SPONTANEOUS CANINE MELANOMA	ALBERTINI, MARK R	WM S. MIDDLETON MEMORIAL VETERANS HOSP	2019	VA			
<input type="checkbox"/>	5	R21	DE026964	02		GENOME AMPLIFICATION AND DYSBIOSIS IN TONGUE CANCER	ALBERTSON, DONNA G et al.	NEW YORK UNIVERSITY	2018	NIDCR	NIDCR	\$237,750	
<input type="checkbox"/>	5	P50	CA140388	09	8550	INTEGRATING IPILIMUMAB IMMUNOTHERAPY WITH APPROVED TREATMENT STRATEGIES IN CRPC	ALLISON, JAMES P	UNIVERSITY OF TX MD ANDERSON CAN CTR	2019	NCI		\$286,283	

Project Information?

5R01CA121118-10

[Back to Query Form](#) | [Back to Search Results](#) | [Print Version](#)

[PREVIOUS](#) Project 141 of 394 [NEXT](#)

PI PROFILE LINKS
MORE INFO

[DESCRIPTION](#) | **[DETAILS](#)** | [RESULTS](#) | [HISTORY](#) | [SUBPROJECTS](#) | [SIMILAR PROJECTS](#) | [NEARBY PROJECTS BETA](#) | [LINKS](#) | [NEWS AND MORE](#)

Project Number: 5R01CA121118-10		Contact PI / Project Leader: HOLMEN, SHERIL L.	
Title: A HIGH-THROUGHPUT MODEL FOR HUMAN MELANOMA		Awardee Organization: UNIVERSITY OF UTAH	
Contact PI / Project Leader Information:		Program Official Information:	
Name: HOLMEN, SHERIL L.		Name: SATHYAMOORTHY, NEERAJA	
Email: Click to view Contact PI / Project Leader email address		Email: Click to view PO email address	
Title: PROFESSOR		Other PI Information: Profile Exists No Profile	
Organization:		Department Type/ Organization Type:	
Name: UNIVERSITY OF UTAH		SURGERY	
City: SALT LAKE CITY Country: UNITED STATES (US)		SCHOOLS OF MEDICINE	
		Congressional District: State Code: UT District: 02	
Other Information:			
FOA: PA-11-260		DUNS Number: 009095365	
Study Section: Tumor Progression and Metastasis Study Section (TPM)		Project Start Date: 13-APR-2007	
Fiscal Year: 2018 Award Notice Date: 23-APR-2018		Budget Start Date: 1-JUN-2018	
		CFDA Code: 396	
		Project End Date: 31-MAY-2021	
		Budget End Date: 31-MAY-2021	
Administering Institutes or Centers:			
NATIONAL CANCER INSTITUTE			
Project Funding Information for 2018:			
Total Funding: \$247,340		Direct Costs: \$166,000	
		Indirect Costs: \$81,340	
Year	Funding IC	FY Total Cost by IC	
2018	NATIONAL CANCER INSTITUTE	\$247,340	
Categorical Spending by IC:			
Click here for more information on NIH Categorical Spending			



Who Is Eligible for an NIH Grant?

- Each type of NIH grant has its own eligibility requirements.
 - Eligibility information is in section III of each FOAs
 - NIH recognizes the applicant institution as the grantee
- **Individual Eligibility**
 - NIH supports scientists at various stages in their careers, from pre-doctoral students on research training grants to investigators with extensive experience who run large research centers.



Who Is Eligible for an NIH Grant?

- **Institutional Eligibility**

- In general, domestic or foreign, public or private, non-profit or for-profit organizations are eligible to receive NIH grants.

- **Foreign Eligibility**

- Foreign applicants are strongly encouraged to review the Eligibility section of the FOA to determine whether they are eligible to respond to that particular FOA.



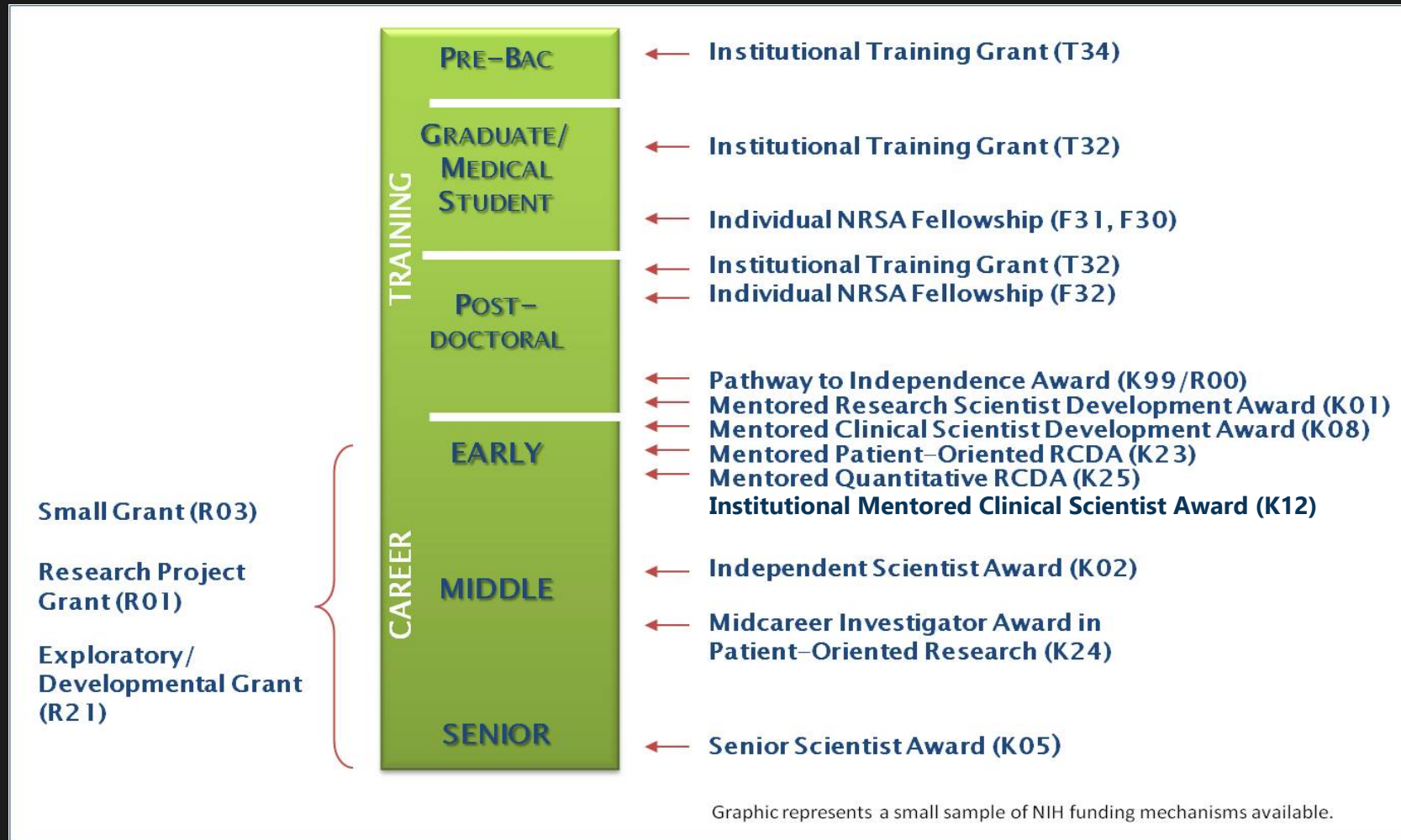
NIH Funding Mechanisms

NIH provides financial support in the form of grants, cooperative agreements, and contracts.

- F = Fellowships (pre- & post-doc)
- K = Career Development Awards
- T = Training Grants
- R = Research Projects
- P = Program Project/Center Grants
- U = Cooperative Agreements Grants

In Training and Career Development Awards

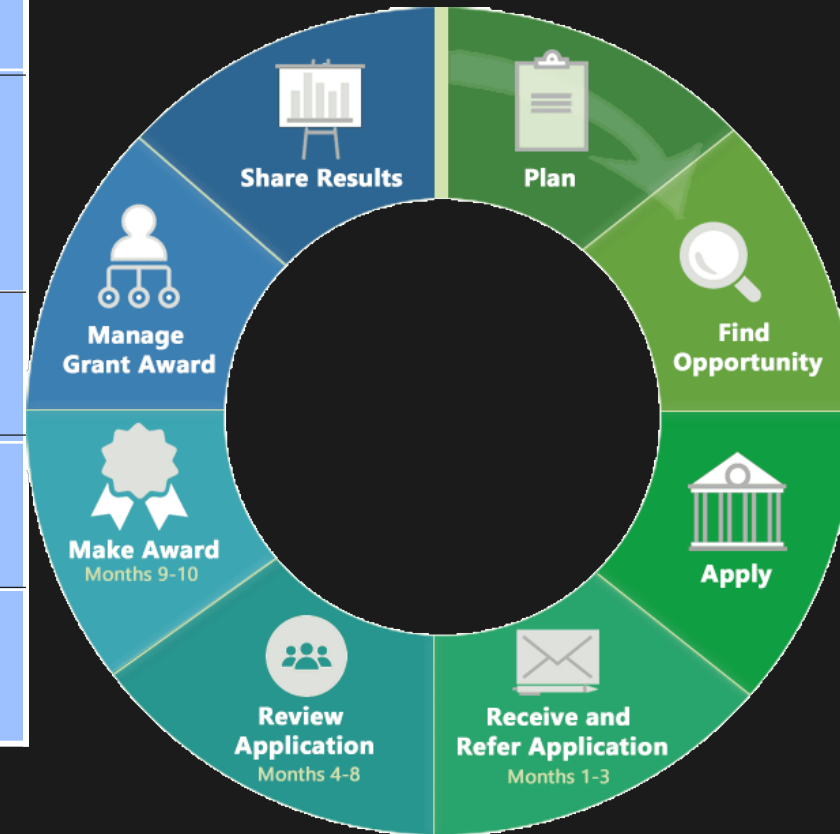
<http://nexus.od.nih.gov/all/2011/10/07/trends-in-nih-training-and-career-development-awards/>



Grant Cycles – Standard Dates

<http://grants.nih.gov/grants/funding/submissionschedule.htm>

Activity	Cycle I	Cycle II	Cycle III
Due Dates: F Series	April 8	August 8	December 8
Scientific Merit Review	June – July	October – November	February - March
Advisory Council Round	August or October	January	May
Earliest Start Date	September or December	April	July



Division of Receipt and Referral (DRR)

Central receiving point for all competing applications, whether solicited or unsolicited. DRR:

- Checks for completeness
- Determines area of research
- Assigns application to specific NIH Institute or Center for possible funding
- Assigns an identification number
- Assigns application to a Review Group: Applications are assigned to a Scientific Review Group (SRG) or study section, that has the expertise to evaluate the scientific and technical merit
- Center for Scientific Review (CSR) reviews most R01s, fellowships, and small business applications
- Institute or Center (IC) review groups handle applications that have Institute specific features such as program projects, training grants, career development awards, and responses to RFAs.



Peer Review Process

- The first level of review is carried out by a Scientific Review Group (SRG) (aka study section)
 - composed primarily of non-federal scientists who have expertise in relevant scientific disciplines and research areas.
- The second level of review is performed by Institute and Center (IC) National Advisory Councils or Boards.
 - composed of both scientific and public representatives chosen for their expertise, interest, or activity related to health and disease.
- Final funding decisions are made by the IC Directors.

Scientific Review Officer (SRO)

- Each SRG is led by an SRO- an extramural staff scientist (PhD)
- Analyzes the content of each application, and check for completeness.
- Documents and manages conflicts of interest.
- Recruits qualified reviewers
- Assigns applications to reviewers
- Attends and oversees administrative and regulatory aspects of peer review meetings.
- Prepares summary statements for all applications reviewed.



SRG Members

- **Chair:** Serves as moderator of the discussion of scientific and technical merit of the applications under review. Is also a peer reviewer for the meeting.
- **Reviewers:** Prepare a written critique for each application assigned,
- **Other NIH Staff:** Federal officials who have need-to-know or pertinent related responsibilities are permitted to attend closed review meetings.
- NIH IC or other federal staff members wishing to attend an SRG meeting must have advance approval from the responsible SRO.
 - These individuals may provide programmatic or grants management input at the SRO's discretion.

Peer Review Meeting Procedures

- Applications are reviewed based on established review criteria.
- Assigned reviewers summarize their prepared critiques for the group.
- An open discussion follows.
- Final scoring of overall impact scores is conducted by private ballot.



Peer Review Criteria and Considerations

- **Overall Impact.**
 - Likelihood that the proposed training will enhance the candidate's potential for a productive, independent scientific research career in a health-related field.
- **Scored Review Criteria.**
 - Reviewers will consider each of the 5 review criteria in the determination of scientific and technical merit, and give a separate score for each. An application does not need to be strong in all categories to be judged likely to have major scientific impact.

5 Core Review Criteria (fellowships)

- **Applicant** – Qualifications of the applicant
- **Sponsor(s)**– Qualifications and mentoring track record of the sponsor(s), funding available (R01 or equivalent)
- **Research Training Plan** – Feasibility/strength/match of strategy to project aims.
- **Training Potential** – Must have a well developed training plan
- **Institutional Environment & Commitment to Training**– Institutional support/resources

What does it take to be competitive?

- Demonstration of commitment to research
 - Clearly articulate long-term career goals and how this fellowship will help you achieve those goals
- Evidence of strong mentor-mentee relationship
- Strong letters of reference
- Good project
- Clear training plan to show how you will develop research skills
- Likelihood of research independence

Applicant

- Must have a baccalaureate degree
- Must be currently enrolled in a PhD or equivalent research degree program, a formally combined MD/PhD program, or other combined professional/clinical and research doctoral in the biomedical, behavioral, or clinical sciences at an accredited institution
- Must not be pursuing an MD, DDS, or other clinical, health-professional degree and/or training (with the exception of a combined degree program as mentioned above)
- May receive up to 5 years of aggregate Kirschstein-NRSA support at the predoctoral level, including any combination of support from an institutional training grant (e.g., T32 or T90) and an individual fellowship award (F31)

Biosketch

- A: personal statement
 - Make sure it is relevant to the current application
- B: positions and honors
 - List relevant positions (not education/training) and honors/awards
- C: Contributions to science (limit 5 with 4 publications each)
 - Make sure to include Complete List of Published Work in MyBibliography:
<http://www.ncbi.nlm.nih.gov/sites/myncbi/sheri.holmen.1/bibliography/41161076/public/?sort=date&direction=ascending>
- D: Research Support and/or scholastic performance (courses taken and grade received)
 - Make sure to list the funding that is currently supporting you

Biosketch

Allows applicants to:

- describe the magnitude and significance of their scientific contributions (including publications)
- provide more detailed information about their research experience in the context of the proposed project
- Explain any gaps in work history, productivity, etc.

Keep in Mind...

- DO NOT Exceed maximum allowable contributions to science (5)
- DO NOT Provide more than 4 citations per contribution
- Biosketch is limited to 5 pages
- Only include a link to full list of publications – no other links are allowed
- MyBibliography must be PUBLIC for others to access it
- Images and graphs are allowable – but do not circumvent page limits!

Complete list of Publications

The screenshot shows the My NCBI dashboard with several portlets. The 'My Bibliography' portlet is highlighted with an orange oval. It displays the following information:

- Your bibliography contains **54 items**.
- Share your bibliography with this URL:
<https://www.ncbi.nlm.nih.gov/myncbi/sheri.holmen.1/bibliography/public/>
- [Manage My Bibliography >](#)

Other portlets visible include:

- Search NCBI databases:** Search: PubMed, Search button. Hint: clicking the "Search" button without any terms listed in the search box will transport you to that database's homepage.
- Saved Searches:** You don't have any saved searches yet. Go and [create some saved searches](#) in PubMed or our other databases. [Manage Saved Searches >](#)
- Collections:** All bibliographies and Other citations are now in [My Bibliography](#).

Collection Name	Items	Settings/Sharing	Type
Favorites	edit 0	Private	Standard

[Manage Collections >](#)
- Filters:** Filters for: PubMed. You do not have any active filters for this database. [Add filters for the selected database.](#) [Manage Filters >](#)
- SciENcv:** [Click here to create a new CV.](#)
- Recent Activity:**

Time	Database	Type	Term
12:14 PM	PMC	record	Proton vs. Photon Radiation Therapy...
Yesterday 8:39 PM	PMC	record	Defining Association between COVID-...
23-Jun-2020	PMC	record	Anti-CD8 monoclonal antibody-mediat...
23-Jun-2020	PMC	record	Characterization of an Antibody Dep...
22-Jun-2020	PMC	record	Differential AKT dependency display...
17-Jun-2020	Gene	record	Esrra estrogen related receptor al...
17-Jun-2020	Gene	record	ESRRA estrogen related receptor alp...
17-Jun-2020	Nucleotide	record	Homo sapiens chromosome 11_GRCh38...

My NCBI Dashboard – My Bibliography Portlet

<https://www.ncbi.nlm.nih.gov/myncbi/>

Complete list of Publications

My NCBI » My Bibliography [Go to SciENcy](#) | [See all collections](#) | [My Bibliography help](#)

Bibliography: **My Bibliography** (Public)

Bibliography Name:
My Bibliography

Bibliography Sharing:
 Private Public

Only you can view Private collections. Others can see your Public collections if you send them the URL below.

Direct URL:

Share this URL with colleagues or use it to create a link to this collection. Click the Save button first!

Choose sorting: Date (new to old) Author (A to Z) Title (A to Z) Reverse

HTML for Web Pages and Blogs:

```
<a href="http://www.ncbi.nlm.nih.gov/sites/myncbi/amanda.norton.1/bibliography/46312347/public/?sort=date&direction=descending">View my collection "My Bibliography" from NCBI</a>
```

Copy and paste this HTML into blogs or web pages to create a link to the collection.

Delegates
Account Settings page"/>

Sponsor(s)

- May have more than one:
 - Include biosketch for each
- Other support page required for each sponsor
 - Should reveal that there is additional funding for the trainee (R01 or equivalent)
- List of previous trainees/fellows (or select examples if there are many) to demonstrate track record of successful mentoring
- Detailed Training plan for the applicant
 - Mentor-trainee interaction
 - Grant writing
 - Presentations and papers
 - Professional skills development
 - Ethical conduct in science
 - Environment
 - Number of trainees to be supervised
 - Applicant's qualifications and potential for a research career

Research Training plan

- Must propose a dissertation research project and training program that fall in a research area within the scientific mission of the participating NIH Institutes
 - Aims Page (1 page)
 - Significance
 - Innovation
 - Approach
 - Experimental design
 - Expected outcomes, potential problems, alternative approaches
 - Future directions
 - Literature Cited
- 6 page limit

Specific Aims

What are you going to do?

In theory, easiest part to write:

Only 1 page! Only 2-3 aims!

In reality, most difficult part to write:

Sink or swim on this page: first impression!

Specific Aims

Should be: 1. Concise and clear

2. Focused

3. Independent yet interdependent

4. Worthwhile, even exciting

5. Innovative, impactful

6. Successful completion of the aims should significantly advance the field!

1. Why Concise and Clear?

- Reviewers have little time to read and understand your grant proposal (concise)
- At study section: “Everyone is famous for 15 minutes,” but only for 15 minutes! Reviewers have to sell your proposal to the panel. To do so, they need to understand it quickly (clear). Don’t think you’ll impress them by making your proposal so complex that only you are “smart” enough to understand it.
- Bottom Line: time is highly limited--wasting a reviewer’s time or causing confusion will not endear you to him/her

2. Why Focused?

- Reviewers have a limited amount of time to present each grant
- The primary reviewer needs to convey to the panel specifically what will be done, how it will be done, why it is important to do, and that it will be done in the time allotted
- The proposed aims must be logical, doable, and direct (best way); hypothesis must be testable AND worthy of testing

If Possible, Be Hypothesis Driven

Why? Basically, because that's the scientific method:

- Observation
- Hypothesis
- Experiments/controls
- Revision of hypothesis
- Bottom line: “the best scientists” adhere to the scientific method. Hypothesis-driven research is very much in vogue, and is considered cutting edge and focused; one of the best things to hear on study section: this is hypothesis-driven research!
- Hypothesis-driven research is considered the gold standard

3. Why Independent yet Interdependent?

- The fatal flaw: to be able to do one aim requires a specific result from another aim--the aims are not independent
- Another flaw: if the aims are not interdependent (i.e., related and synergistic), then the grant is viewed as non-focused
- Bottom Line: When it comes to choosing specific aims, think, think, think! And rewrite, rewrite, rewrite! Then, rewrite, rewrite and rewrite again

4. Why Worthwhile, Even Exciting?

- Grants scores are based on level of enthusiasm (should be exciting)
- Ask yourself: if all works as planned will anyone actually care about what is learned?
- Bottom line: the panel, acting as an advocate for the NIH, must decide how best to spend NIH's limited resources (note: resources are always limited)

Significance

- Does the project address an important problem or a critical barrier to progress in the field?
- If the aims of the project are achieved, how will scientific knowledge, technical capability, and/or clinical practice be improved?
- How will successful completion of the aims change the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field?
- Is there a strong scientific premise for the project?

Scientific Premise

- **GOAL:** Ensure that the underlying **scientific foundation** of the project—concepts, previous work, and data (when relevant)—is sound.
- Pertains to the **underlying evidence/data** for the project
- Address under Significance
- “Is there a strong scientific premise?”
 - Specifically, has the applicant provided sufficient justification for the proposed work?
 - Cited appropriate work and/or preliminary data?
 - Appropriately identified strengths and weaknesses in prior work in the field?
 - Proposed to fill a significant gap in the field?
 - OR has the applicant explained why this is not possible?

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?
- Are the concepts, approaches or methodologies, instrumentation, or interventions novel to one field of research or novel in a broad sense?
- Is a refinement, improvement, or new application of theoretical concepts, approaches or methodologies, instrumentation, or interventions proposed?



Approach

- Is the strategy well-reasoned and appropriate?
- Are expected outcomes, potential problems, and alternative strategies presented?
- Is it feasible and will particularly risky aspects be managed?
- Have the investigators addressed relevant biological variables, such as gender, for studies in vertebrate animals or human subjects?
- If the project involves human subjects, is it justified in terms of the scientific goals and research strategy proposed?

Scientific Rigor

GOAL: Ensure a strict application of scientific method that supports robust and unbiased design, analysis, interpretation, and reporting of results, and sufficient information for the study to be assessed and reproduced. Give careful consideration to the methods and issues that matter in your field.

- Pertains to the **proposed research**
- Address under **Approach**
- Addition to review criteria: Are there strategies to ensure a robust and unbiased approach?
 - Possible considerations, if appropriate for the scientific field and research question, include plans for determining group sizes
 - analyzing anticipated results
 - reducing bias
 - ensuring independent and blinded measurements
 - improving precision and reducing variability
 - including or excluding research subjects
 - managing missing data

Training Potential

- Proposed training should provide the applicant with:
 - experience conducting research using appropriate, state-of-the-art methods, as well as presenting and publishing the research findings as first author;
 - the opportunity to interact with members of the scientific community at appropriate scientific meetings and workshops (including NIH-sponsored meetings, where available); and
 - a strong foundation in research design, methods, and analytic techniques appropriate to the proposed dissertation research.
- Should document the need for the proposed research training and the expected value of the proposed fellowship experience as it relates to the individual's goals for a career as an independent researcher

Environment

- Will the scientific environment in which the work will be done contribute to the probability of success?
- Are the institutional support, equipment and other physical resources available to the investigators adequate for the project proposed?
- Will the project benefit from unique features of the scientific environment, subject populations, or collaborative arrangements?

Additional components

- Respective contributions
 - Did the applicant compose of the aims, write the proposal independently, etc.?
- Selection of Institution
- Selection of Sponsor(s)

Additional review criteria

- As applicable for the project proposed, reviewers will evaluate the following additional items while determining scientific and technical merit and in providing an overall impact score, but will not give separate scores for these.
- Human Subjects
- Vertebrate Animals
- Training in Responsible Conduct of Research

Additional Review Considerations

- As applicable, reviewers will consider each of the following items, but will not give scores for these items and should not consider them in providing an overall impact score.
- Resource Sharing Plans
- Budget and Period of Support
- Biohazards



Scoring

- 9-point rating scale (1 = exceptional; 9 = poor) for all applications
- Before the SRG meeting, each reviewer assigned to an application gives a separate score for each of the 5 criteria.
 - The preliminary scores determine which applications will be discussed at the meeting (top 50%).
- For each application that is discussed at the meeting, a final impact score is given by each eligible committee member (without conflicts of interest) including the assigned reviewers.

What do the 1-9 scores mean?

Impact	Score	Descriptor	Additional Guidance
High	1	Exceptional	Exceptionally strong with essentially no weaknesses
	2	Outstanding	Extremely strong with negligible weaknesses
	3	Excellent	Very strong with only some minor weaknesses
Medium	4	Very Good	Strong but with numerous minor weaknesses
	5	Good	Strong but with at least one moderate weakness
	6	Satisfactory	Some strengths but also some moderate weaknesses
Low	7	Fair	Some strengths but with at least one major weakness
	8	Marginal	A few strengths and a few major weaknesses
	9	Poor	Very few strengths and numerous major weaknesses

FELLOWSHIPS & CAREER AWARDS

Overall Impact:

The likelihood that the proposed training (F) or career development (K) will enhance the candidate's potential for a productive, independent scientific research career in a health-related field.

Overall Impact	High	Medium	Low
Score	1 2 3	4 5 6	7 8 9

Evaluating Overall Impact Consider the 5 criteria (weighting based on reviewer's judgment):		<i>e.g. Proposes training or career development of high value/benefit for the candidate who has high potential for developing into a productive, independent scientist. May have some or no weaknesses in the criteria.</i>	<i>e.g. Proposes training or career development of high or moderate value/benefit for the candidate who has high or moderate potential for further development, but weaknesses in the criteria reduce the overall impact to medium.</i>	<i>e.g. Proposes training or career development of moderate or low value/benefit for the candidate who has moderate or low potential for further development. Weaknesses in the criteria reduce the overall impact to low.</i>
Fs <ul style="list-style-type: none"> • Applicant • Sponsor(s) • Research Training Plan • Training Potential • Institutional Environment & Commitment 	Ks <ul style="list-style-type: none"> • Candidate • Career Development Plan/Goals* • Research Plan • Mentor(s)** • Environment & Institutional Commitment 		<i>e.g. Proposes training or career development of moderate value/benefit for the candidate who shows moderate potential. May have some weaknesses in the criteria.</i>	<i>e.g. Proposes training or career development of low value/benefit for the candidate who shows low potential. May have some weaknesses in the criteria.</i>
and other score influences, e.g. human subjects, animal welfare, inclusion plans, and biohazards				
*K05 and K24: Plan to Provide Mentoring **K02: Consultants/Collaborators				

5 is a good, medium-impact application. The entire scale (1-9) should always be considered.

Scoring

- Final score for each discussed application is determined by calculating the mean score from all the eligible members' impact scores, and multiplying the average by 10 (range 10-90)
- Impact scores are not reported for applications that are not discussed
 - reported as ++ on the face page of the summary statement
 - The applicant will see the scores and comments from the assigned reviewers for each of the criteria on their summary statement.
- Scores typically post to NIH Commons within 2-3 days after the meeting.
- Summary statement will post to NIH Commons within 2-4 weeks.





Understanding the Percentile

- A percentile is the approximate % of applications that received a better overall impact/priority score from the SRG during the past year.
- For applications reviewed in ad hoc study sections, a different base may be used to calculate percentiles.
- All percentiles are reported as whole numbers.
- Only a subset of all applications receive percentiles. The types of applications that are percentiled vary across different NIH Institutes and Centers.
- The summary statement will identify the base that was used to determine the percentile.

The NIH utilizes 2 stages of review when making funding decisions

1. Evaluating applications for Scientific Merit (conducted in *SRG*)
2. Funding decisions made by the Institutes

The institutes consider percentiles, not overall impact scores, in making funding decisions.

Percentiles are a function of rank -- where a particular overall impact score falls in relation to other overall impact scores in 3 rounds of the study section.

Note that the score itself does not factor into the percentile calculation.

$$\text{Percentile} = 100 (\text{Rank} - 0.5) / \text{Total \# of R01s in 3 rounds}$$

Second Level of Review

- The Advisory Council of each IC performs the 2nd level of review.

Recommendation Process

- NIH program staff members examine applications, their overall impact scores, percentile rankings (if applicable) and their summary statements and consider these against the IC's needs.
- Program staff provide a grant-funding plan to the Advisory Board/Council.
- The Advisory Board/Council also considers the IC's goals and needs and advises the IC director.
- It is not funded until you receive the notice of award (NOA).

Writing Tips: Take home message

- Start early, plan ahead
- Read successful grants
- No typos, figures easy to read, legends clear. . .
- Have peers/mentors (not friends) read the application and provide constructive critiques

Know this website!

<http://grants.nih.gov/grants/oer.htm>

The screenshot shows the homepage of the NIH Office of Extramural Research. At the top, there is a navigation bar with the following links: Home, About Grants, Funding, Forms & Deadlines, Grants Policy, News & Events, About OER, and NIH Home. Below the navigation bar, the page is organized into several sections:

- About Grants**
 - Grants Process**
 - Grants Process Overview
 - Grant Application Basics
 - Types of Grant Programs
 - How to Apply
 - Peer Review Process
 - Award Management
 - Foreign Grants Information
 - NIH Financial Operations (w/Funding Strategies)
 - Electronic Grants**
 - Electronic Research Admin (eRA)
 - eRA Commons
 - Applying Electronically
- Funding**
 - Funding Opportunities**
 - Search NIH Guide for Grants and Contracts (with a search box and a 'Go' button)
 - Funding Opportunities & Notices
 - Unsolicited Applications (Parent Announcements)
 - Recovery Act Grant Information
 - Research Training & Career Development
 - Small Business (SBIR/STTR)
 - Contract Opportunities
 - NIH Loan Repayment Programs
 - Challenge.gov
 - NIH-Wide Initiatives**
 - New and Early Stage Investigators
 - Stem Cell Information
 - NIH Common Fund
 - OppNet (Behavioral & Social Sciences)
 - Award Data**
 - Search NIH Awards (RePORTER)
 - NIH Data Book
 - Reports, Data & Analyses (RePORT)
- Grants Policy**
 - Policy & Guidance
 - Compliance & Oversight
 - Research Involving Human Subjects
 - Office of Laboratory Animal Welfare (OLAW)
 - Peer Review Policies & Practices
- Forms & Deadlines**
 - Forms & Applications
 - Due Dates & Submission Policies
 - Submitting Your Application
- About OER**
 - OER and You
 - OER Annual Reports
 - OER Offices
 - Contact Us