Research Grants & NCI Initiatives in Imaging and Image-Guided Interventions

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Outline

1. NIH Grant Application Process

2. NCI Initiatives in Imaging and Image-Guided Interventions

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1. NIH Grant Application Process

2. NCI Initiatives in Imaging and Image-Guided Interventions

NIH Institutes and Centers

National Cancer Institute

NCI	NEI	NHLBI
NHGRI	NIA	NIAAA
NIAID	NIAMS	NIBIB
NICHD	NIDCD	NIDCR
NIDDK	NIDA	NIEHS
NIGMS	NIMH	NIMHD
NINDS	NINR	NLM
CC	СІТ	CSR
FIC	NCATS	NCCIH
OD		

	NIH Grant	Process Ov	erview
	Months 1 - 3	Receipt and Referral	
	Applications compliant with NH policie are assigned for review by the Division o Receipt and Referal in the Center of Scientific Review (CSR).	CR asigns application to an NH 3 Initial/eCenter (C) and a Scientific Review of Group (SRG).	identific Review Officer (SRO) anigms applications to reviewees and readers.
	Months 4 - 8	8 8 8 Deer Review	
L	Initial Level of Review	Impact Scores	Summary Statement
L	SRS members review and evaluate applications for unlevilla meth.	Available to Mincipal Investigator on eRA Commana.	Available to Principal Investigator on altA. Commune.
		Second Level of Review Advances conditional writers applications	
	Months 9 - 10	Award	
	Pre-Award Process	Notification of Award	Congratulations!
	IC grants management staff conduct administrative review and negotiates	In final 1011 Institute/Center (KC) direction makes a oward.* Annoing decision. (C shaft issues and sen Notice of Award (NicA) to applicant institute/cepretation.	Protect period officially begins

Online Resources

Google	nih grant proposal	ঞ্				
	Web Images News Videos Shopping More - Search tools					
	About 831,000 results (0.34 seconds)					
	Grant Application Basics - NIH - National Institutes of Health grants.mit.gov/grants/grant_basics.htm * National Institutes of Health Fio 20, 2014 - NH Hocks for grant proposals of high scientific calible that are relevant to public harth meass and are writen NH Institute and Grant (C).					
	NIH Forms & Applications grants.nih.gov grants.nih.gov/grantforms.fmv = National Institute of Nath - Standard EVm 445 (Research, Brainel) (Grank Application for ms Includes application pales and forms to be used with all comparing applications for					
	How to Write a Research Project Grant Application: National www.retex.ahs_a - National Institute of Neurotogical Devotes and Blevie - Jum to Stretey for Cetting an HM Earch-Assess composition in the field. Know the level of neurones needed to compate. Do an operational introduction. Stretey for Genrg an NM Coart - Write part Application for a					
	Sample Applications and Summary Statements NIAID www.niad.nih.govi * National Institute of Alergy and Infectiona Diseases *- uls 3, 2013 - Application - Pwer Review "Grant Award Management" Pl and Grantee Institution, Application Resources Britangy for NIM Fluring, particularly Strategy is With the Research Plan-Infect May and page 2013 Application.					
	POP QUICK GUIDE FOR GRANT APPLICATIONS					



The NIH Reporter

https://report.nih.gov/



National Cancer Institute

New Investigators Guide to NIH Funding

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NAU > Research Funding > Grants Research Funding NAID Funding Newsletter Opportunities and Announcements	Research Funding	Website Tools
Announcements Paylines and Funding Grants Application Peer Review	New Investigator Guide to NIH Funding This document suffree strateges for gaining an Nif grant and explains basic funding concepts and processes to new and wald-be principal investigators.	
Grant Award and Management New and Early-Stage Investigators Training and Career RD1 Investigator Resources	Table of Contents Starting Out Test Your NH Savy: Self Quiz Outing to Know NH Starting a Research Crew Starting a Research Crew	Strategy for NIH Funding Samples and Examples Sample Applications Top Policy Changes Resources for Resources for
Scientific Collaborations Other Grant Types Serving on a Peer Review	Putting Grants in Context Perspective on Peer Review Our Mission—Why it Matters to You	Look It Up

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Online Guides

- Grant Writing Tips Sheets
- https://grants.nih.gov/grants/grant_tips.htm
- Tips for New Applicants
- https://www.nigms.nih.gov/Research/Application/Pages/Tips.aspx
- Preparing Grant Applications
- http://deainfo.nci.nih.gov/extra/extdocs/apprep.htm
- All about Grants: Tutorials and Samples
 http://www.niaid.nih.gov/researchfunding/grant/Pages/aag.aspx

🗖 President's Cancer Panel Twitter Feed 🛛 🚔 NCI You Tube Series 🔯 Subscribe to Cancer gov RPS Feeds 👖 Options for Viewing Files





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https://www.nigms.nih.gov/research/application/pages/tips.aspx

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Tips for New NIH Grant Applicants	Dies inter Ques
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Review Criteria

Overall Impact

- Assessment of the likelihood for the project to exert a sustained, powerful influence on the research field(s) involved
- Core Review Criteria
 - 1. Significance
 - 2. Investigator(s)
 - 3. Innovation
 - 4. Approach
 - 5. Environment
 - Review criteria each scored from 1-9

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Hints for writing a research grant proposal

- Start with an original, compelling idea that will generate excitement.
 should not be incremental in nature
 but should also not be over-ambitious
- Stay <u>focused</u> on a cancer problem
 appropriate model
- Early in the proposal (abstract and body) <u>establish</u>:
 <u>Significance</u> and <u>Innovation</u> of your project
 research objectives should be presented early
- > Present clear and direct hypotheses
- Present potential <u>pitfalls and alternatives</u>
 carefully balance confidence in planned work with a rational well-conceived back-up plan
- Include <u>appropriate expertise</u> in your team
- > Appropriate Timeline
- Request appropriate <u>budget</u>
 too little or too much reflects poorly on the applicant

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Budget Development

/grants/how-to-apply-applic Entire Site 4 Search this NIH) National Institutes of Health Grants & Funding Office of Desearch Research Miles and Funding Information

Develop Your Budget

On This - Cost Condensitions - Detailed Budget Equipment, Tawl, Page: - Mostaine Getting Streted - Ortailed Budget Equipment, Tawl, - Mostaine direttin, whooled FM stats - Mostaine Durgets - Ortained Budgets FM stats - Mostaine Durgets - Ortained Budgets FM stats - Ortained Budget Equipment, Tawl, - Ortained Budget Equipment, - Ortained Budget E

Pay attention to details

- Follow application instructions carefully
 -Fonts, margins, page limits, etc...
- Make the application easy to read
 Figures appropriately sized
 Poor grammar and text errors reduce scores
 Avoid jargon and abbreviations
- Biosketch(s) and supporting documents up-to-date
- · Letters of support that address the proposal
- Proofread (and re-check uploads)
 Stuff happens when uploading
- No application should be submitted without internal review

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Once you get the Summary Statement

Communicate with your Program Director

If fundable, prepare just-in-time information for submission -IACUC, IRB approvals -updated other support

-information must be current (< 6 mos)

If you must resubmit:

-Don't rush it -Talk over review with your Program Director -Carefully and succinctly address critiques -If you rebut a review point, do so respectfully, with supporting evidence. Don't rebut the reviewer! -Get external review of revised application prior to resubmission

Division of Cancer Treatment and Diagnosis (DCTD)

Extramural Programs in DCTD/NCI



Outline

- 1. NIH Grant Application Process
- 2. NCI Initiatives in Imaging and Image-Guided Interventions

Imaging-related Funding Initiatives

- 1. Image-Guided Drug Delivery (R01)
- 2. Academic Industry Partnerships (R01)
- 3. Quantitative Imaging Network (U01)
- 4. Early Phase Clinical Trials (R01)
- 5. Quantitative Imaging (U01)
- 6. Imaging and Biomarkers (U01)
- 7. Oncology Co-Clinical Imaging Resources (U24)
- 8. NCI Clinical and Translational Exploratory Studies (R21)
- 9. Informatics Technologies for Cancer Research (R21, U01 & U24)

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Image-Guided Drug Delivery – R01 PAR-16-044

- Development of integrated platforms for multifunctional / multiplexed IGDD systems
- Development of quantitative in-vivo imaging methods in IGDD for cancer and other indications
 - interrogate tumor/drug interaction
 - imaging studies of biodistribution, PK/PD, Tx response
- Receipt dates: Nov & June (2/yr)
- http://grants.nih.gov/grants/guide/pa-files/PAR-16-044.html

Academic-Industrial Partnerships – R01 PAR-15-075

- Purpose: Development and validation of technologies for cancer diagnosis and treatment
- Requires Partnership between academic and industrial Co-PIs
- Standard R01 Application Receipt Dates
- SEP Review (CSR)
 - http://grants.nih.gov/grants/guide/pa-files/PAR-15-075.html

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Quantitative Imaging for Evaluation of Response to Cancer Therapies - U01

- QI of response to therapies, including IGI, for prediction or measurement of Tx response
- Development and implementation of QI methods and tools and their applications to current or pending Phase I/II clinical trials
- Funded teams join the QI Network (QIN)
- http://grants.nih.gov/grants/guide/pa-files/PAR-14-116.html

Early Phase Clinical Trials in Imaging & IGI – R01 PAR-14-166

- 3 yr clinical trials of novel imaging and IGI
- Intended to accelerate the development of imaging and IGI modalities, methodologies, and agents through the early stages of clinical development -such as trials evaluating safety and preliminary efficacy
- Phase I & II studies to establish treatment parameters and early therapeutic efficacy
- SEP Review (CSR)
- http://grants.nih.gov/grants/guide/pa-files/PAR-14-166.html

Imaging and Biomarkers – U01 PAR-16-089

 Cancer screening, early detection of aggressive cancer, assessment of cancer risk and cancer diagnosis aimed at integrating multi-modality imaging strategies and multiplexed biomarker methodologies in a complementary approach

- Establish a Consortium for Imaging and Biomarkers (CIB) to perform collaborative studies, exchange information, share knowledge and leverage common resources
- SEP Review (CSR)
- http://grants.nih.gov/grants/guide/pa-files/PAR-16-089.html

stitute	Oncology Co-Clinical Imaging Resource – U24 PAR-15-266
Cancer Institute	To encourage consensus on quantitative imaging methods and precision medicine
ç	• Optimize pre-clinical quantitative imaging methods

- Implement the optimized methods in the co-clinical trial
- Populate a web-accessible research resource with data, methods, workflow documentation, and results collected
- Receipt dates: Nov & June (2/yr)
- http://grants.nih.gov/grants/guide/pa-files/PAR-15-266.html

Informatics Technologies in Cancer Research - ITCR [PAR-15-332 & PAR-15-331]

 To improve acquisition, management, analysis, and dissemination of data and knowledge across the cancer research continuum, incl. cancer biology, cancer and diagnosis, cancer prevention, treatment, and evaluation

> U01: Early stage development http://grants.nih.gov/grants/guide/pa-files/PAR-15-332.html

> U24: Advanced development http://grants.nih.gov/grants/guide/pa-files/PAR-15-331.html

Small Grants

• R21 (NCI and EBRG)

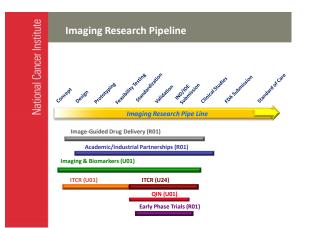
- Exploratory / Developmental Research
- 2 years
 \$275,000 direct costs
- \$275,000 direct co

Omnibus R03

- Pilot studies, secondary analysis, etc.
- 2 years
- \$100,000 direct costs

Omnibus R15

- Academic Research Enhancement Award (AREA)
- Eligibility criteria
- 3 years
- \$300,000





TCIA: The Cancer Imaging Archive

http://cancerimagingarchive.net



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TCIA: The Cancer Imaging Archive

- Funded by CIP/NCI, is a large archive of clinical images of cancer accessible for download.
- TCIA de-identifies, organizes, and catalogs the images for use by the research community.
- The archive is already home to high value data sets including a growing collection of cases that have been characterized in the Cancer Genome Atlas (TCGA)
- Community activities: Imaging Genomics, Imaging
 Proteomics, Computational Challenge Competitions
 http://cancerimagingarchive.net

Final Points

Contact an NCI Program Director to discuss a potential ~ 6 months ahead of receipt date

Include Cover Letter with suggestion of Study Section and 2-3 key areas of expertise (Review) and Program Director (Program) assignment

- The budget situation is fluid and is limiting funding for science across the board.
- Program prioritization of near payline scores for potential funding increases scrutiny of overlap and impact. - Program Directors advocate for strong grants internally through this process.
- Many clear and compelling proposals in all fields continue to be funded.

NCI Contacts

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Radiation Research Program Jacek Capala, PhD capalaj@mail.nih.gov

Training K Awards

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Grants &	& Fun	ding			, Ø	
Funding Opportunities Funding Opportunities (RFAs, PAs) & Notices	K Kiosk	- Information about NIH Care	a factor and the	lopment Awa	ards	
Unsolicited Applications (Parent Announcements)	Policies	Career Award Policy Issues				
Research Training & Career Development	Notices					
Extramunal Training Mechanisms	K01	NIH: Mentored Research Scientist Development 14-036)	Award (Pari	INE KO1) (PA-14-044)	(see NOT-O	
Detramunal News Career Resources		NCI: NCI Mentared Research Scientist Developer 12-050)	ient Award t	o Promote Diversity	(K01) (PAR-	
QBA and PAQs Small Business SBIA/STTR)		NIH/BD2K: Mentared Career Development Award in Biomedical Big Data Science Clinicians and Doctorally Prepared Scientists (k01) (RFA-HG-14-007)				
Contract Opportunities			NIDDK Mentored Research Scientist Development Award (K01) (PAR-12-020)			
N2H-Wide Infibetives		NINDS: NINDS Faculty Development Award to P (K01) (PAR-12-152)	vamote Divi	mity in Neuroecienco	e Research	
New and Early Stage		NLM: NLM Career Development Award in Biomedical Informatics (K01) (PAR 13-284)				

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Some Important Websites

NIH Office of Extramural Research: http://grants.nih.gov/grants/oer.htm

NIH RePORTER:

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

NCI Division of Extramural Affairs: http://deainfo.nci.nih.gov/

Cancer Imaging Program: http://imaging.cancer.gov

Radiation Research Program: http://rrp.cancer.gov