NIH
Individual Pre-doctoral (F31, F30) and Post-doctoral (F32) Fellowships

New York Academy of Sciences
March 20, 2019

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Dept. of Medicine
College of Physicians and Surgeons
Columbia University

Course: "Funding and Grantsmanship for Research and Career Development Activities"
http://grantscourse.columbia.edu/

ADVISORY COMMITTEE TO THE DIRECTOR

Next Generation Researchers Initiative Working Group

ACD Working Group on Biomedical Workforce

ACD Physician-Scientist Workforce

ACD Working Group on Diversity

https://acd.od.nih.gov/

Biomedical Workforce Task Force

Improving graduate student and postdoctoral training

- **A. Put individual development plans in place for all trainees**
- **B. Reduce the length of graduate training**
- **C. Provide F30 and F31 awards from all Institutes/Centers**
- **D. Increase postdoctoral stipends and consider policies on benefits**
- E. Increase support for K99/R00 and shorten eligibility period
- F. Increase support for Early Independence Awards

http://acd.od.nih.gov/bwf.htm

Topics to be Discussed

- **NIH Fellowship Overview**
  - Career Timeline
  - Funding Opportunity Announcements
  - Funding Levels and Success Rate
- **Fellowship Application Review Process**
  - Application Submission, Review, and Award Timeline
  - Institutes and Study Sections
  - Scoring System: Impact Scores
  - Institute Funding Paylines
- **Fellowship Application Review Criteria**
- **Components of a Fellowship Application**
- **Approaches for Competitive Applications**

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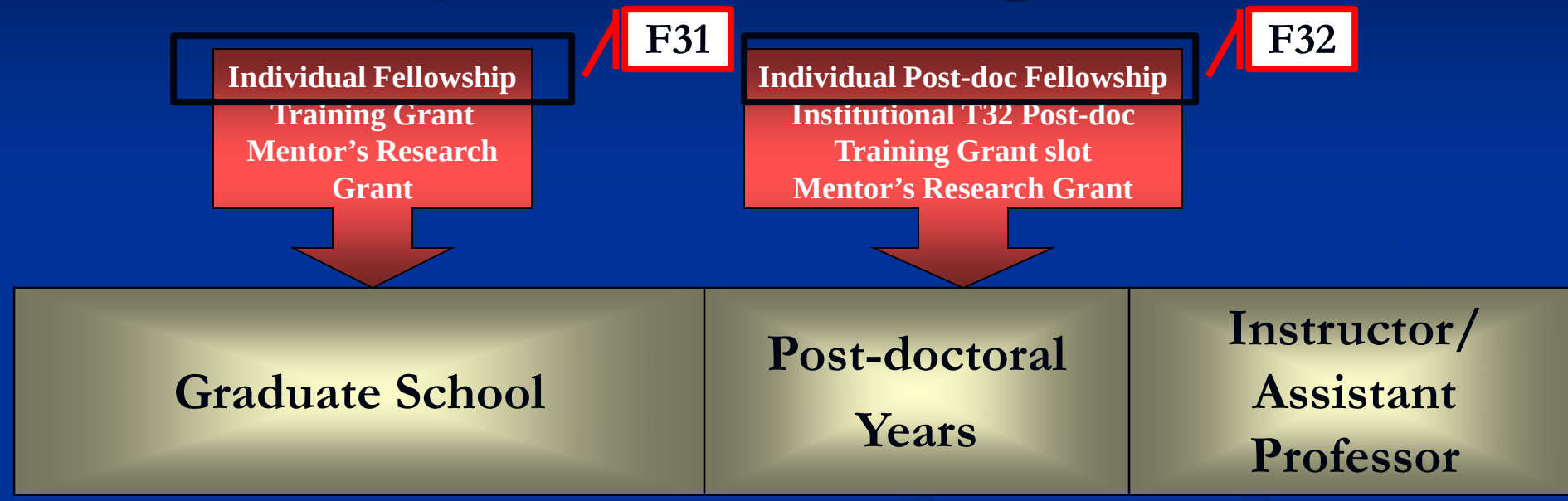
Timeline of Funding for Junior Investigators

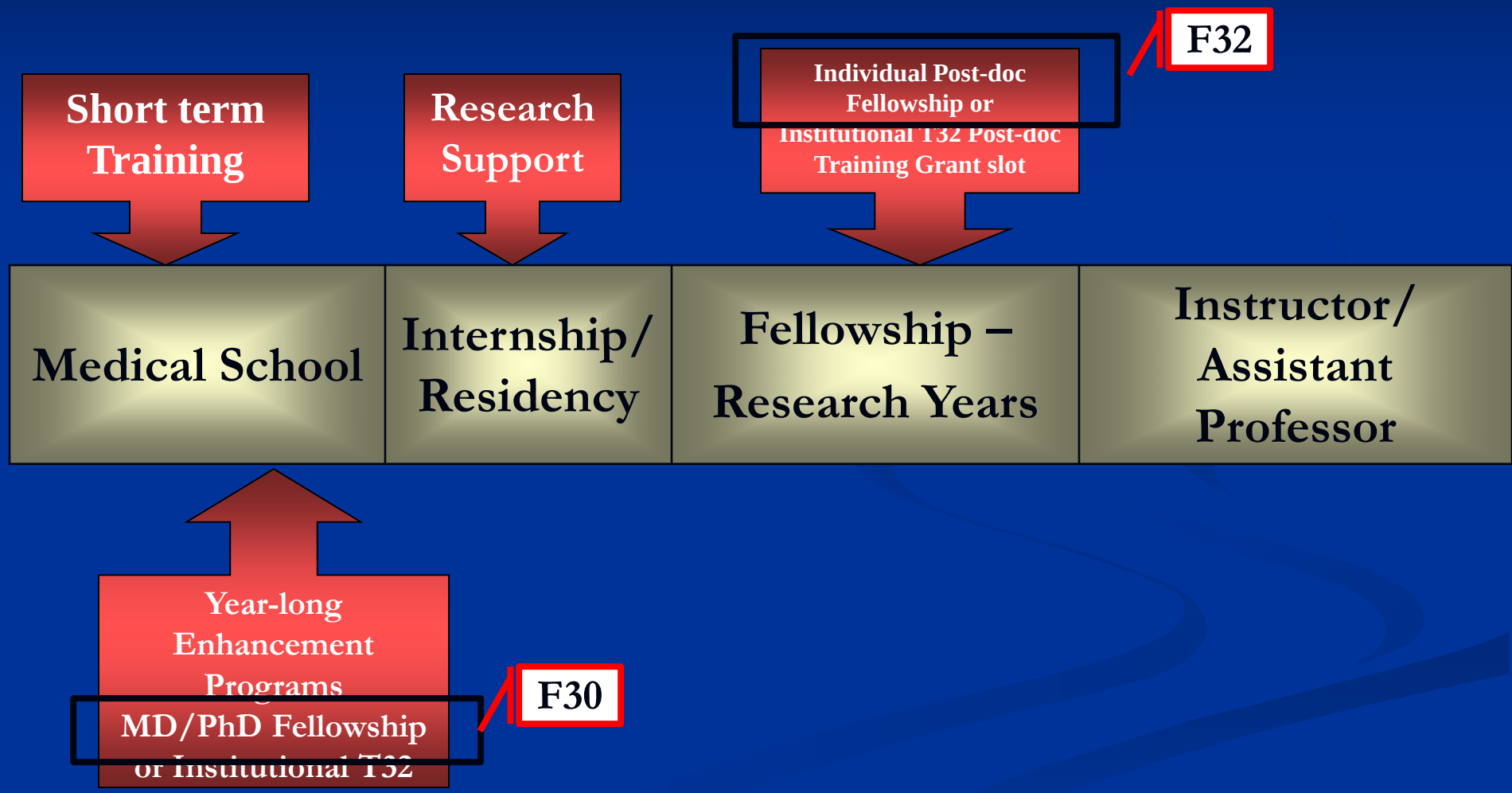
Graduate School	Post-doctoral Years	Instructor/ Assistant Professor

Timeline of Funding for Junior Investigators



Timeline of NIH Funding for Junior Investigators

Timeline of NIH Funding for Junior Investigators



Fellowship Programs

Predoctoral Individual National Research Service Award (F31)

- Supports specific individual in research degree program (e.g. PhD candidate)
- Stipend, health fees, tuition, travel
- Review criteria:
  - Individual fellow
  - Mentor
  - Research project
  - Research training/Career Development environment

Postdoctoral Individual National Research Service Award (F32)

- Supports specific individual
  (e.g., PhD, MD, or MD/PhD trained)
- May be in degree program
- Stipend, health fees, tuition, travel
- Review criteria:
  - Individual fellow
  - Mentor
  - Research project
  - Research training/Career Development environment

Predoctoral MD/PhD or Other Dual-Doctoral Degree Fellowship (F30)

- Supports specific individual - dual degree candidate: health professional doctoral degree (e.g., MD, DDS) and a research doctoral degree (e.g., PhD, DrPH)
- Stipend, health fees, tuition, travel
- Review criteria:
  - Individual fellow
  - Mentor
  - Research project
  - Research training/Career Development environment

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F30

Ruth L. Kirschstein Individual Predoctoral NRSA for MD/PhD and other Dual Degree Fellowships

Individual fellowships for predoctoral training which leads to the combined MD/PhD and other dual Clinical/Research degrees.

Details | *View Current Funding Opportunities*

F31

Ruth L. Kirschstein Predoctoral Individual National Research Service Award

To provide predoctoral individuals with supervised research training in specified health and health-related areas leading toward the research doctoral degree (e.g., PhD).

Details | *View Current Funding Opportunities*

F32

Ruth L. Kirschstein Postdoctoral Individual National Research Service Award

To provide postdoctoral research training to individuals to broaden their scientific background and extend their potential for research in specified health-related areas.

Details | *View Current Funding Opportunities*

F31

Ruth L. Kirschstein Predoctoral Individual National Research Service Award

To provide predoctoral individuals with supervised research training in specified health and health-related areas leading toward the research doctoral degree (e.g., PhD).

Details | *View Current Funding Opportunities*

- Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship (Parent F31)
- Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship to Promote Diversity in Health-Related Research (Parent F31)

https://researchtraining.nih.gov/programs/fellowships

Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship (Parent F31)

Funding Opportunity Announcement (FOA) Number PA-19-195

National Center for Complementary and Integrative Health (NCCIH)
National Cancer Institute (NCI)
National Eye Institute (NEI)
National Human Genome Research Institute (NHGRI)
National Heart, Lung, and Blood Institute (NHLBI)
National Institute on Aging (NIA)
National Institute on Alcohol Abuse and Alcoholism (NIAAA)
National Institute of Allergy and Infectious Diseases (NIAID)
National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)
Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)
National Institute on Deafness and Other Communication Disorders (NIDCD)
National Institute of Dental and Craniofacial Research (NIDCR)
National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)
National Institute of Environmental Health Sciences (NIEHS)
National Institute of Mental Health (NIMH)
National Institute on Minority Health and Health Disparities (NIMHD)
National Institute of Nursing Research (NINR)
National Institute of Neurological Disorders and Stroke (NINDS)
National Library of Medicine (NLM)
Division of Program Coordination, Planning and Strategic Initiatives, Office of Research Infrastructure Programs (ORIP)
National Institute on Drug Abuse (NIDA)

https://grants.nih.gov/grants/guide/pa-files/PA-19-195.html

Ruth L. Kirschstein National Research Service Award (NRSA) Individual Predoctoral Fellowship to Promote Diversity in Health-Related Research (Parent F31)

National Cancer Institute (NCI)

National Human Genome Research Institute (NHGRI)

National Heart, Lung, and Blood Institute (NHLBI)

National Institute on Aging (NIA)

Funding Opportunity Announcement (FOA) Number PA-19-196

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

National Institute of Allergy and Infectious Diseases (NIAID)

Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)

National Institute on Drug Abuse (NIDA)

National Institute on Deafness and Other Communication Disorders (NIDCD)
National Institute of Dental and Craniofacial Research (NIDCR)
National Institute of Environmental Health Sciences (NIEHS)
National Institute of General Medical Sciences (NIGMS)

National Institute of Mental Health (NIMH)

National Institute on Minority Health and Health Disparities (NIMHD)

National Institute of Neurological Disorders and Stroke (NINDS)

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https://grants.nih.gov/grants/guide/pa-files/PA-19-196.html

For the purpose of this announcement, institutions are encouraged to recruit potential student participants from diverse backgrounds, such as:

A. Individuals from racial and ethnic groups that have been shown by the National Science Foundation to be underrepresented in health-related sciences on a national basis (see data at http://www.nsf.gov/statistics/showpub.cfm?TopID=2&SubID=27) and the report Women, Minorities, and Persons with Disabilities in Science and Engineering). The following racial and ethnic groups have been shown to be underrepresented in biomedical research: Blacks or African Americans, Hispanics or Latinos, American Indians or Alaska Natives, Native Hawaiians and other Pacific Islanders. In addition, it is recognized that underrepresentation can vary from setting to setting; individuals from racial or ethnic groups that can be demonstrated convincingly to be underrepresented by the grantee institution should be encouraged to participate in this program. For more information on racial and ethnic categories and definitions, see NOT-OD-15-089.

B. Individuals with disabilities, who are defined as those with a physical or mental impairment that substantially limits one or more major life activities, as described in the Americans with Disabilities Act of 1990, as amended. See NSF data at http://www.nsf.gov/statistics/wmpd/2013/pdf/tab7-5_updated_2014_10.pdf.

Ruth L. Kirschstein National Research Service Award (NRSA) Individual Fellowship for Students at Institutions with NIH-Funded Institutional Predoctoral Dual-Degree Training Programs (Parent F30)

National Center for Complementary and Integrative Health (NCCIH)

National Cancer Institute (NCI)

National Eye Institute (NEI)

Funding Opportunity Announcement (FOA) Number PA-19-191

National Human Genome Research Institute (NHGRI)

National Heart, Lung and Blood Institute (NHLBI)

National Institute on Aging (NIA)

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

National Institute of Allergy and Infectious Diseases (NIAID)

Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)

National Institute on Drug Abuse (NIDA)

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National Institute of Dental and Craniofacial Research (NIDCR)
National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK)

National Institute of Environmental Health Sciences (NIEHS)

National Institute of Mental Health (NIMH)
National Institute on Minority Health and Health Disparities (NIMHD) Office of Research Infrastructure Programs (ORIP)

Ruth L. Kirschstein National Research Service Award (NRSA) Individual Fellowship for Students at Institutions Without NIH-Funded Institutional Predoctoral Dual-Degree Training Programs (Parent F30)

National Center for Complementary and Integrative Health (NCCIH)

National Cancer Institute (NCI)

National Heart, Lung and Blood Institute (NH

National Institute on Aging (NIA)

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

National Institute of Allergy and Infectious Diseases (NIAID)

National Institute of Arthritis and Musculoskeletal and Skin Diseases (NIAMS)

Eunice Kennedy Shriver National Institute of Child Health and Human Development (NICHD)

National Institute on Drug Abuse (NIDA)

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National Institute of Neurological Disorders and Stroke (NINDS)

National Library of Medicine (NLM)
Office of Research Infrastructure Programs (ORIP)

National Human Genome Research Institute(NHGRI)
National Institute of Biomedical Imaging and Bioengineering (NIBIB)

Funding Opportunity Announcement (FOA) Number PA-19-192

https://grants.nih.gov/grants/guide/pa-files/PA-19-192.html

Ruth L. Kirschstein National Research Service Award (NRSA) Individual Postdoctoral Fellowship (Parent F32)

National Center for Complementary and Integrative Health (NCCIH)

National Cancer Institute (NCI)

National Eye Institute (NEI)

National Human Genome Research Institute (NHGRI)

National Heart, Lung and Blood Institute (NHLBI)

National Institute on Aging (NIA)

National Institute on Alcohol Abuse and Alcoholism (NIAAA)

National Institute of Allergy and Infectious Diseases (NIAID)

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National Institute of Mental Health (NIMH)

National Institute on Minority Health and Health Disparities (NIMHD)

National Institute of Nursing Research (NINR)

National Institute on Drug Abuse (NIDA)

National Institute of Biomedical Imaging and Bioengineering (NIBIB)

Funding Opportunity Announcement (FOA) Number	PA-19-188

https://grants.nih.gov/grants/guide/pa-files/PA-19-188.html

NINDS Ruth L. Kirschstein National Research Service Award (NRSA) for Training of Postdoctoral Fellows (F32)

PAR-16-458

The purpose of this award is to support outstanding scientific training of highly promising postdoctoral candidates with outstanding mentors. Candidates are eligible to apply for support from this program from ~12 months prior to the start of the proposed postdoctoral position to within 12 months after starting in postdoctoral position. Based on the early timeframe of eligibility, and the discouragement of inclusion of preliminary data, this NINDS F32 seeks to foster early, goal-directed planning and to encourage applications for bold and/or innovative projects by the candidate that have the potential for significant impact. Applications are expected to incorporate strong training in quantitative reasoning and the quantitative principles of experimental design and analysis. Support by this program is limited to the first 3 years of a candidate's activity in a specific laboratory or research environment, so as to further encourage early fellowship application and timely completion of "mentored training" of the postdoctoral candidate in a single environment.

https://grants.nih.gov/grants/guide/pa-files/PAR-16-458.html

Individual Fellowships

Non-government, non-profit agencies

- Voluntary Health Organizations
- Professional Societies
- Private Foundations

American Heart Association
Predoctoral Fellowship Program

- Cardiovascular function and disease and stroke
- "Pre-doctoral or clinical health professional degree students… enrolled in a post-baccalaureate Ph.D., M.D., D.O., D.V.M., Pharm.D., D.D.S., DrPH, or Ph.D. in nursing or equivalent clinical health science doctoral degree program"
- Basic science, clinical, behavioral, translational, population research, bioengineering, biotechnology, public health
- Funding: Stipend (NIH rate), Health insurance, Project support
- Award Duration: 1-2 years
- U.S. citizen, Permanent resident, Visa status (e.g., H1-B, F-1, J-1, O-1)

American Heart Association

Postdoctoral Fellowship Program

- Cardiovascular function and disease and stroke research
- Basic, translational, clinical, behavioral, population, bioengineering, biotechnology, and public health
- Funding: Stipend, Health insurance, Project support
- Award Duration: 2 years, May apply for a second 2-year award
- US citizenship/Permanent Residency not required

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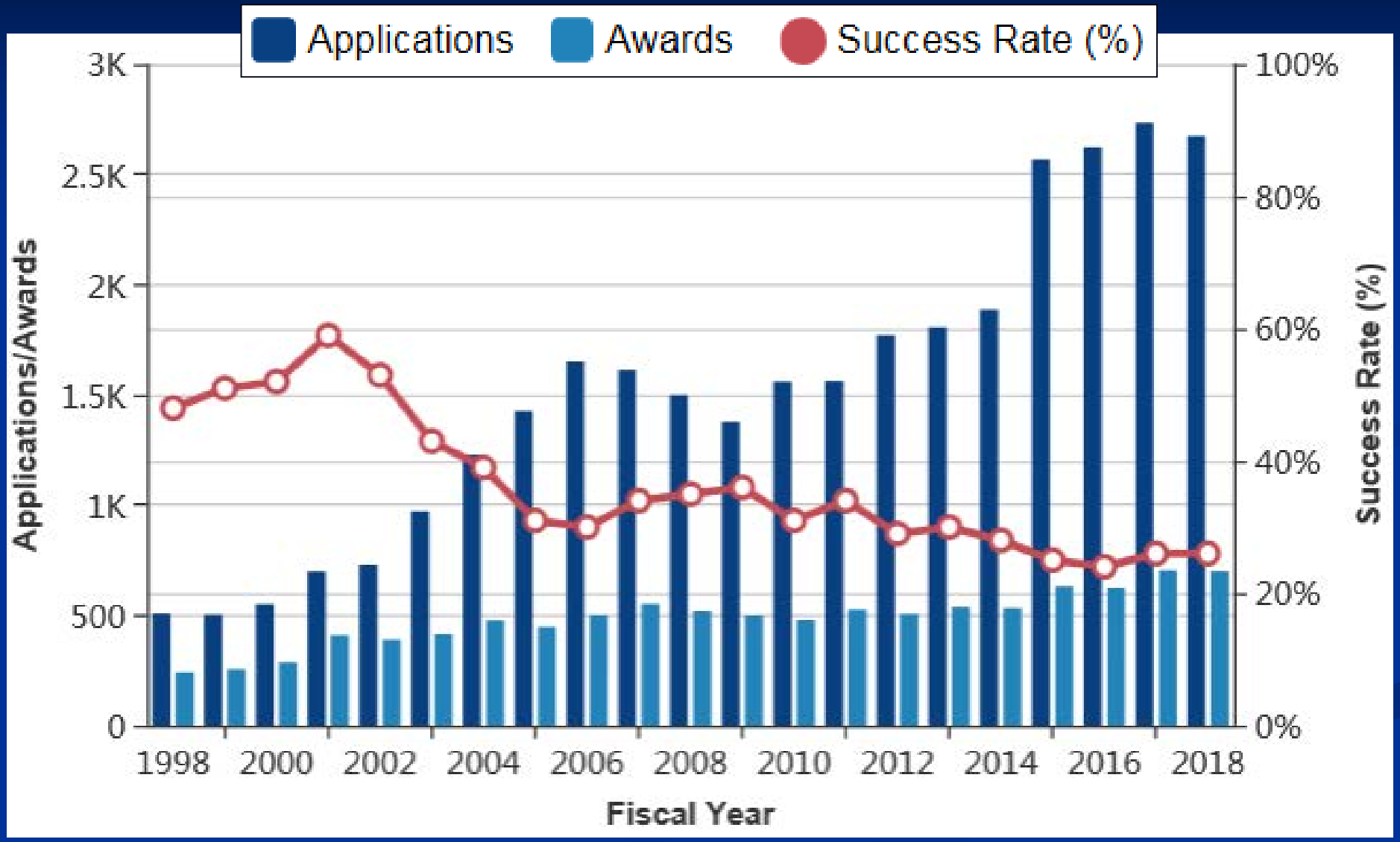
Pre-doc Fellowships (F31's)
Applications, awards, and success rates



NIH Data Book

Pre-doc Fellowships (F31's) Applications, awards, and success rates

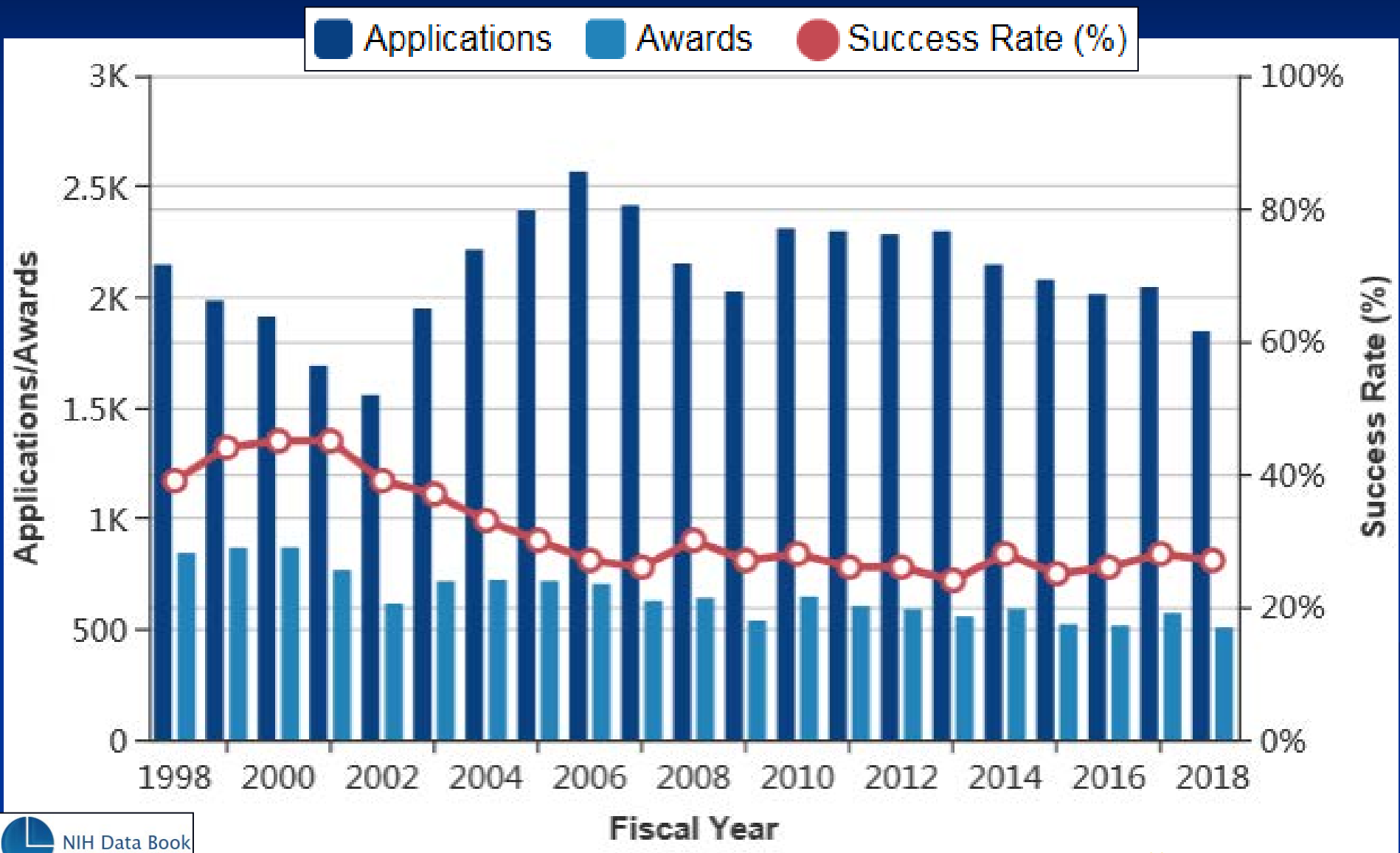
Fiscal Year	Activity Code	NIH Institute/Cent	Number of Applications Reviewed	Number of Applications Awarded	Success Rate[1]	Total Funding[2]
2018	F31	NCCIH****	14	6	42.9%	$214,547
2018	F31	NCI	367	104	28.3%	$4,083,988
2018	F31	NEI	56	17	30.4%	$714,724
2018	F31	NHGRI	8	1	12.5%	$38,767
2018	F31	NHLBI	214	89	41.6%	$3,495,967
2018	F31	NIA	106	28	26.4%	$1,088,187
2018	F31	NIAAA	71	30	42.3%	$1,186,524
2018	F31	NIAID	325	38	11.7%	$1,470,618
2018	F31	NIAMS	59	15	25.4%	$600,490
2018	F31	NIBIB	15	5	33.3%	$192,770
2018	F31	NICHD	128	39	30.5%	$1,521,735
2018	F31	NIDA	95	28	29.5%	$1,080,314
2018	F31	NIDCD	72	22	30.6%	$829,291
2018	F31	NIDCR	28	18	64.3%	$630,826
2018	F31	NIDDK	172	53	30.8%	$1,993,026
2018	F31	NIEHS	56	13	23.2%	$471,710
2018	F31	NIGMS	282	34	12.1%	$1,253,228
2018	F31	NIMH	219	53	24.2%	$2,136,692
2018	F31	NIMHD***	20	5	25.0%	$210,722
2018	F31	NINDS	324	85	26.2%	$3,302,734
2018	F31	NINR	35	14	40.0%	$595,847
2018	F31	NLM	6	2	33.3%	$94,048
2018	F31	OD ORIP	1	0	0.0%	$0
2018	**F31**	**Activity Total**	**2673**	**699**	**26.2%**	**$27,206,755**

Pre-doc Fellowships (F31's)
Applications, awards, and success rates

Fiscal Year	Activity Code	NIH Institute/Cent	Number of Applications Reviewed	Number of Applications Awarded	Success Rate	Total Funding
2009	F31	NCI	64	29	45.3%	$1,000,758
2010	F31	NCI	72	28	38.9%	$956,309
2011	F31	NCI	71	28	39.4%	$969,748
2012	F31	NCI	333	95	28.5%	$3,327,984
2013	F31	NCI	372	118	31.7%	$4,268,106
2014	F31	NCI	349	109	31.2%	$3,907,028
2015	F31	NCI	336	97	28.9%	$3,497,746
2016	F31	NCI	302	86	28.5%	$3,183,545
2017	F31	NCI	343	84	24.5%	$3,180,018
2018	F31	NCI	367	104	28.3%	$4,083,988

Success Rates https://report.nih.gov/success_rates/index.aspx

Post-doc Fellowships (F32's)
Applications, awards, and success rates



NIH Data Book

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Application Due Dates

Activity Codes	Program Description	Cycle I Due Date	Cycle II Due Date	Cycle III Due Date
F Series Fellowships (including F31 Diversity – NOT-OD-17-029) *new, renewal, resubmission*	***Individual*** **National Research Service Awards (Standard)** (see NRSA Training Page)	April 8	August 8	December 8

https://grants.nih.gov/grants/how-to-apply-application-guide/due-dates-and-submission-policies/due-dates.htm

Application Due Dates

All Activity Codes Cited Above *new, renewal, resubmission, revision*	**AIDS and AIDS-Related Applications** *Effective. Sept 5, 2015 - N/A for SBIR/STTR Applications using Standard Due Dates NOTE: See Key Dates section of funding opportunity announcement to determine if AIDS dates apply.	May 7	September 7	January 7

https://grants.nih.gov/grants/how-to-apply-application-guide/due-dates-and-submission-policies/due-dates.htm

Application Due Dates

Review and Award Cycles

	Cycle I	Cycle II	Cycle III
Application Due Dates	January 25 - May 7	May 25 - September 7	September 25 - January 7
Scientific Merit Review	June - July	October - November	February - March
Advisory Council Round	August or October *	January	May
Earliest Project Start Date	September or December *	April	July

https://grants.nih.gov/grants/how-to-apply-application-guide/due-dates-and-submission-policies/due-dates.htm

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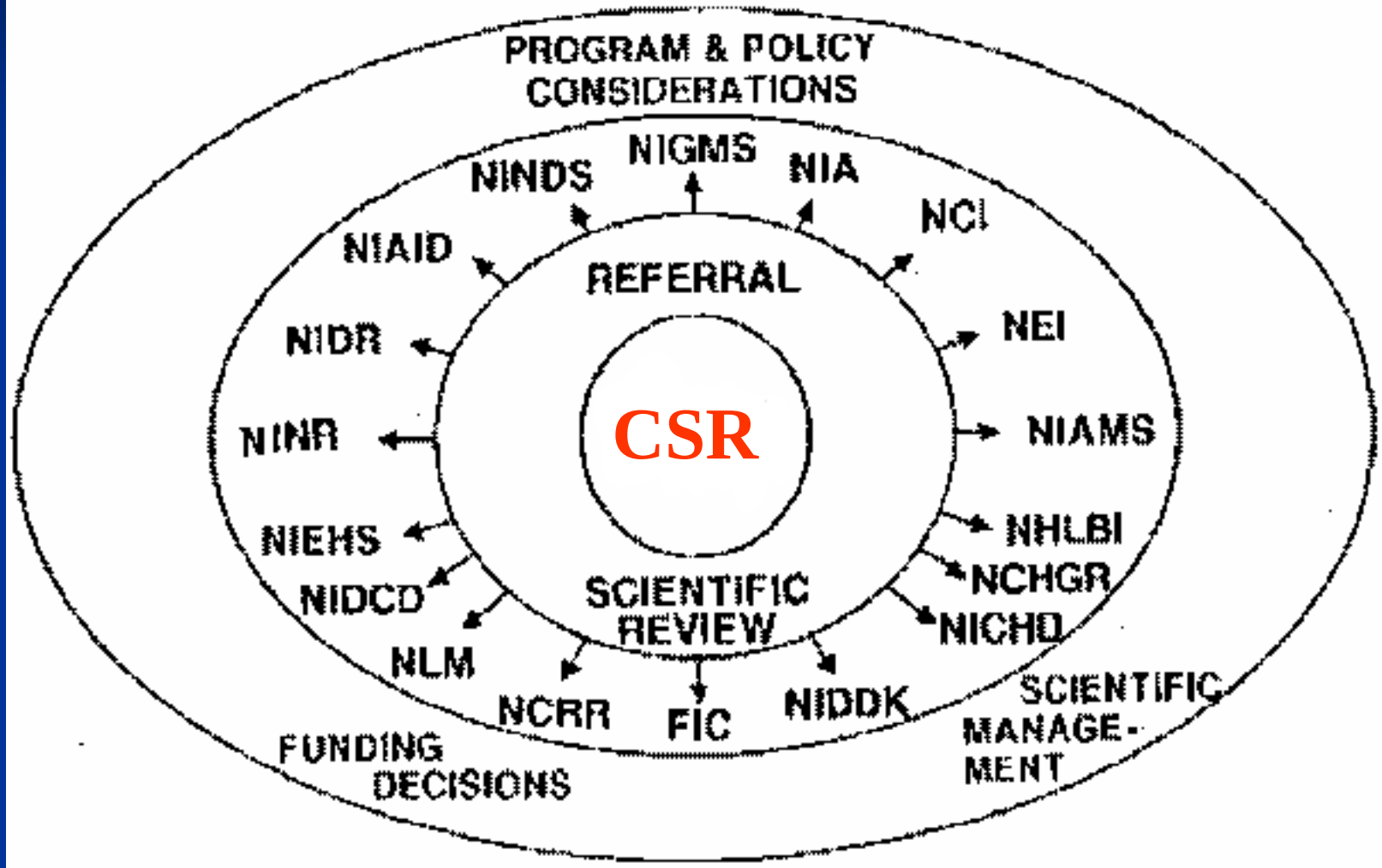
National Institutes of Health

- National Cancer Institute
- National Eye Institute
- National Heart, Lung, & Blood Institute
- National Human Genome Research Inst
- National Institute on Aging
- National Inst of Alcohol Abuse & Alcoholism
- National Inst of Allergy & Infectious Diseases
- National Inst of Arthritis & Musculoskeletal & Skin Diseases
- National Institute of Child Health & Human Development
- National Inst on Deafness & other Communication Disorders
- National Inst of Dental & Craniofacial Research
- National Institute of Diabetes & Digestive & Kidney Diseases
- National Institute on Drug Abuse
- National Institute of Environmental Health Sciences
- National Institute of General Medical Sciences
- National Inst of Biomedical Imaging and Bioengineering
- National Institute of Mental Health
- National Inst of Neurological Dis and Stroke
- National Institute of Nursing Research
- National Library of Medicine
- National Ctr for Complementary & Integrative Health
- National Inst on Minority Health & Health Disparities
- Office of Research Infrastructure
- Center for Scientific Review

Adapted from: NIH (DRG) - Peer Review of NIH Research Grants Applications

NIH REFERRAL AND REVIEW SYSTEM
REGULAR RESEARCH GRANT APPLICATIONS



Center for Scientific Review
- Integrated Review Groups (IRG's) -

- AIDS and Related Research
- Biobehavioral and Behavioral Processes
- Biological Chemistry and Macromolecular Biophysics
- Biology of Development and Aging
- Bioengineering Sciences and Technologies
- Brain Disorders and Clinical Neuroscience
- Cell Biology
- Cardiovascular and Respiratory Sciences
- Digestive, Kidney, and Urological Sciences
- Emerging Technologies and Training Neurosciences
- Endocrinology, Metabolism, Nutrition and Reproductive Sciences
- Genes, Genomes and Genetics
- Healthcare Delivery and Methodologies

- Immunology
- **Infectious Diseases and Microbiology**
- Integrative, Functional, and Cognitive Neuroscience
- Interdisciplinary Molecular Sciences and Training
- Molecular, Cellular, and Developmental Neuroscience
- Musculoskeletal, Oral and Skin Sciences
- Oncology 1 – Basic Translational
- Oncology 2 – Translational Clinical
- Population Sciences and Epidemiology
- Risk, Prevention and Health Behavior
- Surgical Sciences, Biomedical Imaging, and Bioengineering
- Vascular and Hematology

Infectious Diseases and Microbiology IRG [IDM]

- Bacterial Pathogenesis Study Section [BACP]
- Clinical Research and Field Studies of Infectious Diseases Study Section [CRFS]
- Drug Discovery and Mechanisms of Antimicrobial Resistance Study Section [DDR]
- Host Interactions with Bacterial Pathogens Study Section [HIBP]
- Pathogenic Eukaryotes Study Section [PTHE]
- Vector Biology Study Section [VB]
- Virology A & B Study Sections [VIRA & VIRB]
- Topic-specific R03, R21, and R15 review committees
- 2 Small Business Study Sections [IDM -10] and (IDM-12)
- **Infectious Diseases and Microbiology Fellowship Study Section [F13]**

NIH Center for Scientific Review

Fellowship Study Sections

Study Section	Study Section Description	Scientific Review Officer
F01A	Fellowships: Brain Disorders and Related Neurosciences	Dr. Vilen Movsesyan
F01B	Fellowships: Learning and Memory, Language, Communication and Related Neurosciences	Dr. Susan Gillmor
F02A	Fellowships: Behavioral Neuroscience	Dr. Mei Qin
F02B	Fellowships: Sensory and Motor Neurosciences, Cognition and Perception	Dr. Sharon Low
F03A	Fellowships: Neurodevelopment, Synaptic Plasticity and Neurodegeneration	Dr. Mary Schueler
F03B	Fellowships: Biophysical, Physiological, Pharmacological and Bioengineering Neuroscience	Dr. Sussan Paydar
F04A	Fellowships: Chemistry, Biochemistry and Biophysics A	Dr. Mike Radtke
F04B	Fellowships: Chemistry, Biochemistry and Biophysics B	Dr. Sudha Veeraraghavan
F05-D	Fellowships: Cell Biology, Developmental Biology, and Bioengineering	Dr. Alexander Gubin
F05-U	Fellowships: Cell Biology, Developmental Biology, and Bioengineering	Dr. Raj Krishnaraju
F06	Fellowships: Endocrinology, Metabolism, Nutrition and Reproductive Sciences	Dr. Elaine Sierra-Rivera
F07	Fellowships: Immunology and Area	Dr. Liying Guo
F08	Fellowships: Genes, Genomes and Genetics	Dr. Lystranne Maynard Smith
F09A	Fellowships: Oncological Sciences	Dr. Reigh-Yi Lin
F09B	Fellowships: Oncological Sciences	Dr. Jian Cao
F09C	Fellowships: Oncological Sciences	Dr. Sarita Sastry
F10A	Fellowships: Physiology and Pathobiology of Cardiovascular and Respiratory Systems	Dr. Richard Schneiderman
F10B	Fellowships: Musculoskeletal and Oral Sciences, Imaging, Surgery, and Informatics	Dr. Anshumali Chaudhari
F13	Fellowships: Infectious Diseases and Microbiology	Dr. Tamara McNealy
F16	Fellowships: Risk, Prevention and Health Behavior	Dr. Martha Faraday
F17	Fellowships: AIDS and AIDS Related Applications	Dr. Jingsheng Tuo
F18	Fellowships: Epidemiology and Population Sciences	Dr. Ramona Gianina Dumitrescu

https://public.csr.nih.gov/StudySections/Fellowship

Fellowships: Infectious Diseases and Microbiology – F13

The F13 Special Emphasis Panel reviews fellowship applications involving virology and viral pathogenesis, bacteriology and bacterial pathogenesis, fungal pathogenesis, parasitology and parasitic diseases, vector biology, the innate and adaptive host responses to these microbes and viruses, and the development of anti-infective agents to treat and prevent infectious disease.

https://public.csr.nih.gov/StudySections/DPPS/IDM/F13

CENTER FOR SCIENTIFIC REVIEW SPECIAL EMPHASIS PANEL
ZRG1
11/05/18 - 11/06/18
Meeting Roster

Notice of NIH Policy to All Applicants: Meeting rosters are provided for information purposes only. Applicant investigators and institutiona section members about an application before or after the review. Failure to observe this policy will create a serious breach of integrity in the NOT-OD-14-073 and NOT-OD-15-106, including removal of the application from immediate review.

CHAIRPERSON

VEDANTAM, GAYATRI, PHD
PROFESSOR
SCHOOL OF ANIMAL AND COMPARATIVE
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UNIVERSITY OF ARIZONA
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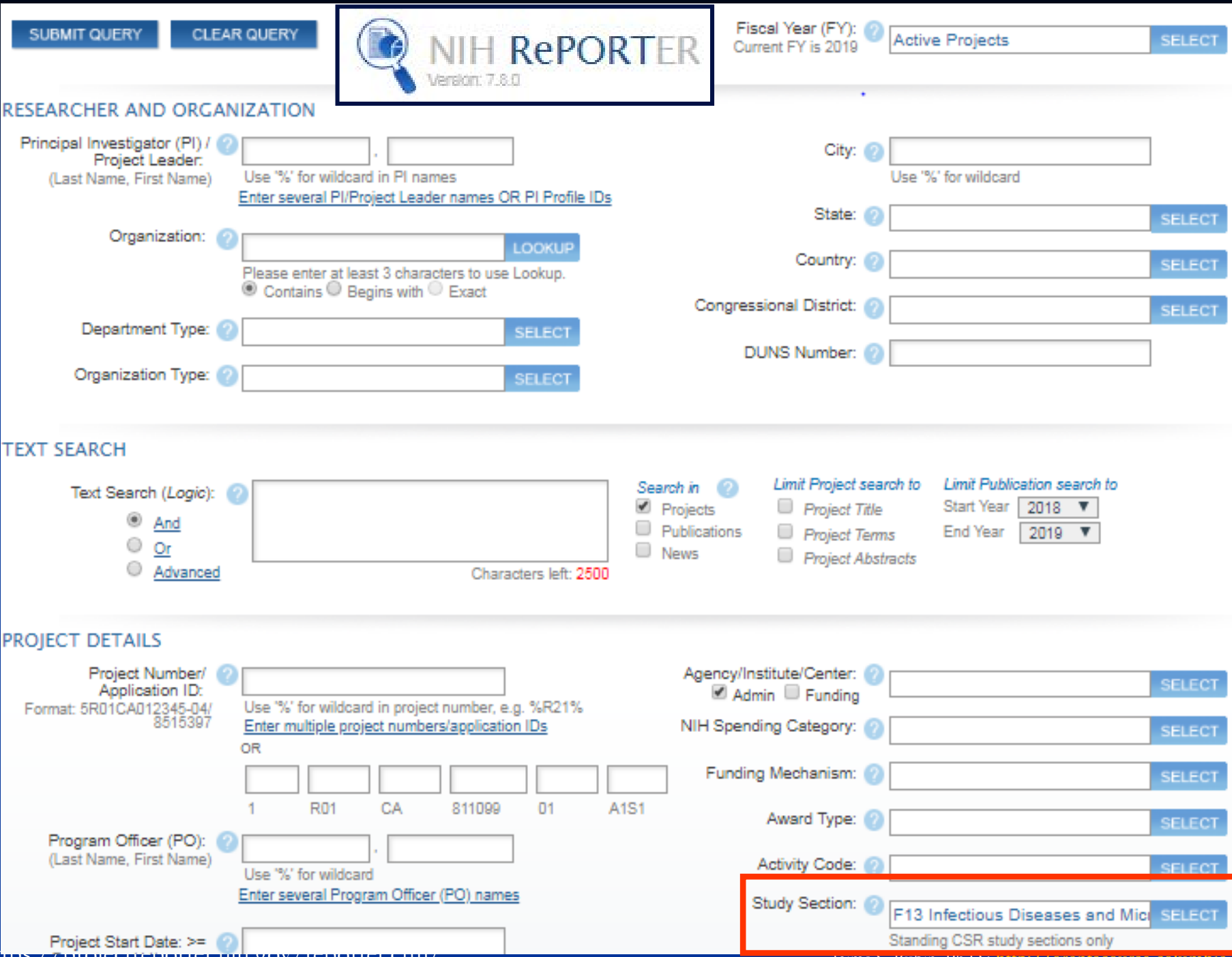
https://public.era.nih.gov/pubroster/jsp/preRosIndex.jsp?CID=101323&AGENDA=353189

Notice of NIH Policy to All Applicants: Meeting rosters are provided for information purposes only. Applicant investigators and institutional officials **must not communicate directly with study section members** about an application before or after the review. Failure to observe this policy will create a **serious breach of integrity** in the peer review process, and may lead to actions outlined in NOT-OD-14-073 and NOT-OD-15-106 including removal of the application from immediate review.

https://public.era.nih.gov/pubroster/jsp/preRosIndex.jsp?CID=101323&AGENDA=353189

Overlaps with Closely Related Study Sections

- **Immunology and Area (F07)** in the area of infectious diseases. Fellowship applications that focus on advancing the understanding of the immune response against microbial pathogens may be reviewed in F07. Fellowship applications that focus on microbial pathogenesis may be reviewed in F13.
- **Genes, Genomes and Genetics (F08)** in the area of microbiology. Fellowship applications that focus on bacterial genetics, DNA replication, recombination/repair, transcriptional regulation, and evolution may be reviewed in F (08). Fellowship applications that explore bacterial physiology or pathogenesis may be reviewed in F13.
- **Risk, Prevention and Health Behavior (F16)** in the area of infectious diseases. Fellowship applications that focus on the epidemiology, implementation science, health informatics or ethical issues as related to infectious diseases may be reviewed in F16. Fellowship applications that address infectious disease transmission and molecular epidemiology may be reviewed in F13.


SUBMIT QUERY
CLEAR QUERY
NIH RePORTER
Version: 7.8.0
Fiscal Year (FY):
Current FY is 2019
Active Projects
SELECT
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
Organization:
LOOKUP
Please enter at least 3 characters to use Lookup.
Contains Begins with Exact
Department Type:
SELECT
Organization Type:
SELECT
City:
Use '%' for wildcard
State:
SELECT
Country:
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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 2018
End Year 2019
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
OR
1 R01 CA 811099 01 A1S1
Program Officer (PO):
(Last Name, First Name)
Use '%' for wildcard
Enter several Program Officer (PO) names
Project Start Date: >=
Agency/Institute/Center:
Admin Funding
SELECT
NIH Spending Category:
SELECT
Funding Mechanism:
SELECT
Award Type:
SELECT
Activity Code:
SELECT
Study Section:
F13 Infectious Diseases and Mic
SELECT
Standing CSR study sections only

There were **125** results matching your search criteria .

Records per page 100

Show/Hide Search Criteria

Click on the column header to sort the results

1 2

Page 1 of 2 Next Last

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

T	Act	Project	Year	Sub #	Project Title	Contact PI/ Project Leader	Organization	FY	Admin IC	Funding IC	FY Total Cost by IC	Similar Projects
5	F32	AI126892	03		THE ROLE OF EPISTATIC NETWORKS IN SHAPING ADAPTIVE LANDSCAPES	ACEVEDO, ASHLEY	ROCKEFELLER UNIVERSITY	2018	NIAID	NIAID	$61,174	
5	F32	AI126660	03		RNA-PROTEIN INTERACTIONS DURING HEPATITIS C VIRUS INFECTION	ADAMS, REBECCA LYNN	YALE UNIVERSITY	2018	NIAID	NIAID	$61,174	
5	F30	EY025981	03		HEPARANASE IN HERPETIC KERATITIS	AGELIDIS, ALEX	UNIVERSITY OF ILLINOIS AT CHICAGO	2018	NEI	NEI	$49,524	
5	F31	AI133952	02		CORONAVIRUS ANTIVIRAL NUCLEOSIDE ANALOGS: INHIBITION AND REDUCED SUSCEPTIBILITY	AGOSTINI, MARIA	VANDERBILT UNIVERSITY	2018	NIAID	NIAID	$29,206	
1	F31	AI138409	01		CATCHING THE PARPS: DEFINING THE ANTIVIRAL MECHANISMS OF ADP-RIBOSYLATION IN SINV INFECTION	AGUILAR, EDUARDO G.	ROCKEFELLER UNIVERSITY	2018	NIAID	NIAID	$44,524	
5	F31	AI129357	02		MOLECULAR DETERMINANTS OF HUMAN ANTIBODY-MEDIATED INHIBITION OF HUMAN NOROVIRUS	ALVARADO, GABRIELA	VANDERBILT UNIVERSITY	2018	NIAID	NIAID	$29,206	
1	F32	GM130003	01		MOLECULAR MECHANISMS OF SPORE GERMINATION	AMON, JEREMY DAVID	HARVARD MEDICAL SCHOOL	2018	NIGMS	NIGMS	$58,654	

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

How to Direct a Grant Application to the Appropriate Study Section

- Review research areas of Study Section
- Review roster of Study Section members
  - Do not contact reviewers
- Review Study Section's funded grants in NIH Reporter
- Discuss with colleagues in similar research area
- Request via Assignment Request Form in Application

View Burden Statement

PHS Assignment Request Form

OMB Number: 0925-0001
Expiration Date: 3/31/2020

Funding Opportunity Number:

Funding Opportunity Title:

Awarding Component Assignment Request *(optional)*

Awarding Component Assignment Request *(optional)*

If you have a preference for an awarding component (e.g., NIH Institute/Center) assignment, use the link below to identify the appropriate short abbreviation and enter it below. All requests will be considered; however, assignment requests cannot always be honored.

Awarding Components: https://grants.nih.gov/grants/phs_assignment_information.htm#AwardingComponents

	First Choice	Second Choice	Third Choice
Assign to Awarding Component:			
Do Not Assign to Awarding Component:			

Study Section Assignment Request *(optional)*

Study Section Assignment Request *(optional)*

If you have a preference for study section assignment, use the link below to identify the appropriate study section (e.g., NIH Scientific Review Group or Special Emphasis Panel) and enter it below. Remove all hyphens, parentheses, and spaces. All requests will be considered; however, assignment requests cannot always be honored.

Study Sections: https://grants.nih.gov/grants/phs_assignment_information.htm#StudySection

	First Choice	Second Choice	Third Choice
Assign to Study Section: *Only 20 characters allowed*			
Do Not Assign to Study Section: *Only 20 characters allowed*			

PHS Assignment Request Form

List individuals who should not review your application and why *(optional)*

Only 1000 characters allowed

Identify scientific areas of expertise needed to review your application *(optional)*

Note: Please do not provide names of individuals

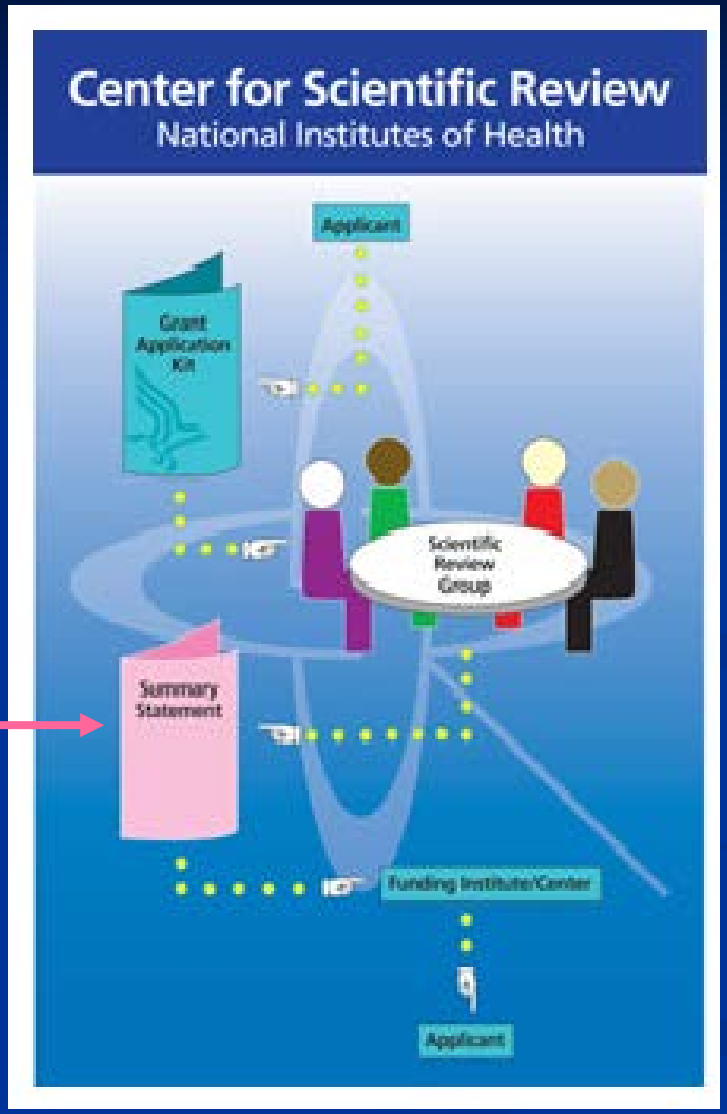
Identify Scientific areas of expertise needed to review your application *(optional)*
Note: Please do not provide names of individuals

	1	2	3	4	5
Expertise: *Only 40 characters allowed*					

Topics to be Discussed

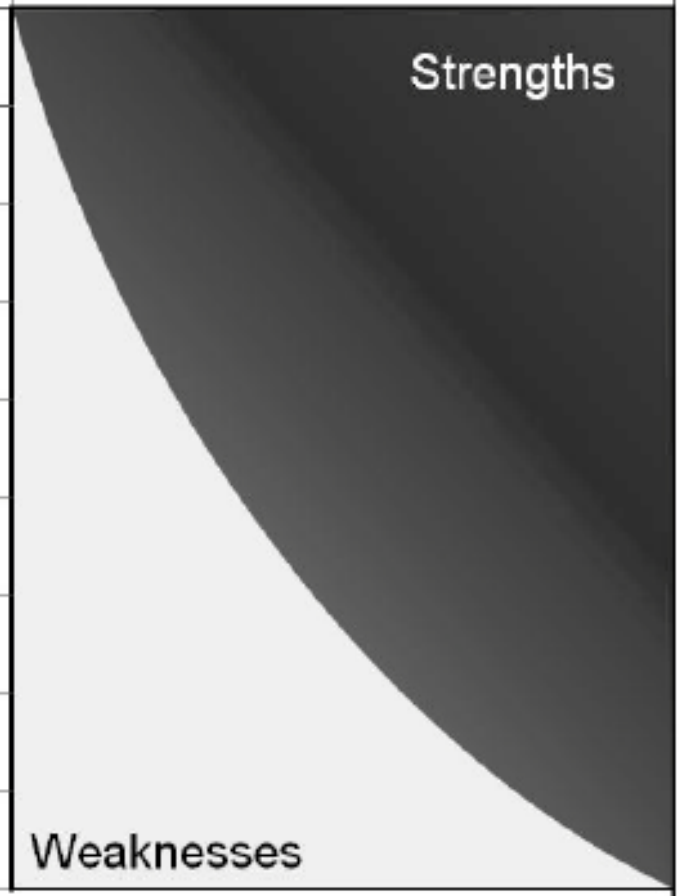
- **NIH Fellowship Overview**
  - Career Timeline
  - Funding Opportunity Announcements
  - Funding Levels and Success Rate
- **Fellowship Application Review Process**
  - Application Submission, Review, and Award Timeline
  - Institutes and Study Sections
  - **Scoring System: Impact Scores**
  - Institute Funding Paylines
- **Fellowship Application Review Criteria**
- **Components of a Fellowship Application**
- **Approaches for Competitive Applications**

Pink Sheet: Reviewers' Comments



NIH's Evaluation System

9-point rating scale (1=exceptional; 9=poor)

Impact	Score	Descriptor	Strengths/Weaknesses
High Impact	1	Exceptional	
	2	Outstanding	
	3	Excellent	
Moderate Impact	4	Very Good	
	5	Good	
	6	Satisfactory	
Low Impact	7	Fair	
	8	Marginal	
	9	Poor	

http://enhancing-peer-review.nih.gov/docs/scoring_and_critique_overview_June2009.pdf

Impact	Score	Descriptor	Additional Guidance on Strengths/Weaknesses
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

Minor Weakness: An easily addressable weakness that does not substantially lessen impact

Moderate Weakness: A weakness that lessens impact

Major Weakness: A weakness that severely limits impact

http://grants.nih.gov/grants/peer/guidelines_general/scoring_system_and_procedure.pdf

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):

Fs
- Applicant
- Sponsor(s)
- Research Training Plan
- Training Potential
- Institutional Environment & Commitment

Ks
- Candidate
- Career Development Plan/Goals*
- Research Plan
- Mentor(s)**
- Environment & Institutional Commitment

and other score influences, e.g. human subjects, animal welfare, inclusion plans, and biohazards

*K05 and K24: Plan to Provide Mentoring
**K02: Consultants/Collaborators

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.

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.

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.

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.

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.

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

Impact Score

- Preliminary Impact Scores determine which applications discussed at study section
- Impact Score given by each member of the study section
- Overall Impact Score (for discussed applications): Mean of reviewers' Impact Scores x10
- 81 possible overall Impact Scores
  (10 – 90, whole numbers)

Initial Review Group or Study Section Actions

- **Discussed applications:**
  - Receives Impact/Priority Scores
  - Receives Scores for individual core review criteria
- **Not Discussed**
  - Receives Scores for individual core review criteria
- Not Recommended for Further Consideration (NRFC)
- Other: e.g. Deferred

Topics to be Discussed

- **NIH Fellowship Overview**
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Fellowship Payline: NIAID

Grant Type	Payline	Status	Description
F30	18 overall impact/priority score	Interim	NRSA Individual Predoctoral M.D./Ph.D. or Other Dual-Doctoral Degree Fellowships
F31	18 overall impact/priority score	Interim	NRSA Individual Predoctoral Fellowships
F32	20 overall impact/priority score	Interim	NRSA Individual Postdoctoral Fellowships

FY19

https://www.niaid.nih.gov/grants-contracts/niaid-paylines

Fellowship Payline: NIAID

FY	Overall Impact Score		
	F30	F31	F32
2018	20	19	20
2017	15	17	19
2016	14	21	20
2015	18	22	20
2014	13	30	25
2013	N/A	30	25
2012	N/A	24	22
2011	N/A	26	24
2010*	N/A	28	28

https://www.niaid.nih.gov/grants-contracts/archive-paylines-fiscal-year

Fellowship Payline: NHLBI

Payline			
Grant Program	**Grant Program Description**	**Percentile**	**Priority Score**
R01	Research Project Grant	16	N/A
R01 ESI	Early Stage Investigators	26	N/A
K awards	Career Development Awards	N/A	32
F30	Pre-doctoral NRSA	N/A	20
F31, F32, F33	Pre- and Post-doctoral NRSA	39	N/A

FY19

https://www.nhlbi.nih.gov/node-general/fy-2019-funding-and-operating-guidelines

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Application Review Information from the Fellowship Funding Opportunity Announcements

"A fellowship application has a research project that is integrated with the training plan. The review will emphasize the applicant's potential for a productive career, the applicant's need for the proposed training, and the degree to which the research project and training plan, the sponsor(s), and the environment will satisfy those needs."

https://researchtraining.nih.gov/programs/fellowships

Overall Impact/Merit Score

Reviewer's assessment "that the fellowship will enhance the applicant's potential for, and commitment to, a productive independent scientific research career…"

Overall Impact/Merit *Write a paragraph summarizing the factors that informed your Overall Impact score.*

https://researchtraining.nih.gov/programs/fellowships

Reviewers will consider each of the five review criteria below in the determination of scientific and technical merit, and give a separate score for each.

1. Fellowship Applicant
Strengths • **Weaknesses** •

2. Sponsors, Collaborators, and Consultants
Strengths • **Weaknesses** •

3. Research Training Plan
Strengths • **Weaknesses** •

4. Training Potential
Strengths • **Weaknesses** •

5. Institutional Environment & Commitment to Training
Strengths • **Weaknesses** •

1. Fellowship Applicant

- "Are the applicant's academic record and research experience of high quality?
- Does the applicant have the potential to develop into an independent and productive researcher?
- Does the applicant demonstrate commitment to a research career in the future?"
- Post-docs: "Does the research project reflect a significant contribution of the candidate to the originality of the project idea, approach and/or hypotheses?"

https://researchtraining.nih.gov/programs/fellowships

1. Fellowship Applicant

- Dual-Degree (MD/PhD): Are the applicant's interests consistent with a career as a physician-scientist or other clinician-scientist?
- Dual-Degree (MD/PhD): Does the applicant have the potential to develop into an independent, productive contributor to biomedical, behavioral or clinical science as a physician-scientist or other clinician-scientist?
- Dual-Degree (MD/PhD): Does the applicant demonstrate commitment to a career as a physician-scientist or other clinician-scientist?

https://researchtraining.nih.gov/programs/fellowships

2. Sponsors, Collaborators, and Consultants

- "Are the sponsor(s') research qualifications (including recent publications) and track record of mentoring individuals at a similar stage appropriate for the needs of the applicant?
- Is there evidence of a match between the research and clinical interests (if applicable) of the applicant and the sponsor(s)?
- Do(es) the sponsor(s) demonstrate an understanding of the applicant's training needs as well as the ability and commitment to assist in meeting these needs?"

https://researchtraining.nih.gov/programs/fellowships

2. Sponsors, Collaborators, and Consultants

- "Is there evidence of adequate research funds to support the applicant's proposed research project and training for the duration of the research component of the fellowship?
- If a team of sponsors is proposed, is the team structure well justified for the mentored training plan, and are the roles of the individual members appropriate and clearly defined?"

https://researchtraining.nih.gov/programs/fellowships

2. Sponsors, Collaborators, and Consultants

- "Are the qualifications of any collaborator(s) and/or consultant(s), including their complementary expertise and previous experience in fostering the training of fellows, appropriate for the proposed project?
- If the applicant is proposing to gain experience in a clinical trial as part of his or her research training, is there evidence of the appropriate expertise, experience, resources, and ability on the part of the sponsor(s) to guide the applicant during the clinical trial research experience?"

https://researchtraining.nih.gov/programs/fellowships

2. Sponsors, Collaborators, and Consultants

- Post-docs: "Does the sponsor's research and training record, as well as mentoring statement, indicate that the applicant will receive outstanding training in the proposed research area and have the opportunity to publish high quality papers and present research data at national meetings as the project progresses?"

https://researchtraining.nih.gov/programs/fellowships

3. Research Training Plan

- "Is the proposed research project of high scientific quality, and is it well integrated with the proposed research training plan?"
- "Based on the sponsor's description of his/her active research program, is the applicant's proposed research project sufficiently distinct from the sponsor's funded research for the applicant's career stage?"
- "Is the research project consistent with the applicant's stage of research development?
- Is the proposed time frame feasible to accomplish the proposed training?"

https://researchtraining.nih.gov/programs/fellowships

3. Research Training Plan

- "If proposed, will the clinical trial experience contribute to the proposed project and/or the applicant's research training?"
- Post-docs: "Does the training plan provide adequate opportunities to present and publish research findings and meet with scientists in the community at national meetings as the work progresses?"
- Post-docs: "Will the training plan provide the professional skills needed for the applicant to transition to the next stage of his/her research career?"

https://researchtraining.nih.gov/programs/fellowships

3. Research Training Plan

- Dual-Degree (MD/PhD): "Is the training plan well-reasoned, and likely to provide an effective, integrated research and clinical training experience and ease the transitions between the phases of the dual-degree program?

https://researchtraining.nih.gov/programs/fellowships

4. Training Potential

- "Are the proposed research project and training plan likely to provide the applicant with the requisite individualized and mentored experiences in order to obtain appropriate skills for a research career?
- Does the training plan take advantage of the applicant's strengths and address gaps in needed skills?
- Does the training plan document a clear need for, and value of, the proposed training?
- Does the proposed training have the potential to serve as a sound foundation that will clearly enhance the applicant's ability to develop into a productive researcher?"

https://researchtraining.nih.gov/programs/fellowships

4. Training Potential

- Dual-Degree (MD/PhD): Are the proposed research project and research and clinical training plan likely to provide the applicant with an integrated perspective and appropriate skills for a physician-scientist or other clinician-scientist?
- Dual-Degree (MD/PhD): If applicable to the dual-degree program, are appropriate opportunities for electives, early and longitudinal clinical experiences, or other enhanced clinical training available to the applicant? Are appropriate opportunities available to ease the transition to clinical clerkships and for research electives during clinical training?

https://researchtraining.nih.gov/programs/fellowships

5. Institutional Environment & Commitment to Training

- "Are the research facilities, resources (e.g., equipment, laboratory space, computer time, subject populations, clinical training settings), and training opportunities (e.g. seminars, workshops, professional development opportunities) adequate and appropriate?
- Is the institutional environment for the applicant's scientific development of high quality?
- Is there appropriate institutional commitment to fostering the applicant's mentored training?"

https://researchtraining.nih.gov/programs/fellowships

5. Institutional Environment & Commitment to Training

- Post-docs: "Does the institutional and/or lab environment provide appropriate and sufficient opportunities for the applicant to gain the professional skills needed for a successful research career?"

https://researchtraining.nih.gov/programs/fellowships

5. Institutional Environment & Commitment to Training - Dual-Degree (MD/PhD)

- Given the integrated nature of the training program, will appropriate advising be available to the applicant as he/she transitions between the research and clinical components of the integrated training program and to the next career stage?

5. Institutional Environment & Commitment to Training - Dual-Degree (MD/PhD)

- Is there appropriate institutional commitment to fostering the applicant's integrated training as a physician-scientist or other clinician-scientist?
- Does this commitment extend to support the applicant's research and training, if needed, for the duration of the proposed award?

https://researchtraining.nih.gov/programs/fellowships

Additional Review Criteria

Evaluated for the overall impact score, but not given an individual score

- Protections for Human Subjects
- Inclusion of Women, Minorities, and Individuals Across the Lifespan (as of Jan 25, 2019)
- Vertebrate Animals
- Biohazards
- Resubmissions
  - Response to previous reviewers' comments and subsequent changes made to the proposal

https://researchtraining.nih.gov/programs/fellowships

Additional Review Considerations

Not given an individual score and not considered for the overall impact score

- Training in the Responsible Conduct of Research
  - Address required components
- Select Agent Research
- Resource Sharing Plans
  - 1) Data Sharing Plan; 2) Sharing Model Organisms; and 3) Genomic Data Sharing Plan
- Budget and Period of Support

https://researchtraining.nih.gov/programs/fellowships

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FORMS VERSION E SERIES
Released: September 25, 2017
Revised: December 7, 2018

FELLOWSHIP INSTRUCTIONS FOR NIH AND OTHER PHS AGENCIES

SF424 (R&R) APPLICATION PACKAGES

GENERAL APPLICATION GUIDE FOR NIH AND OTHER PHS AGENCIES

SF424 (R&R) - Forms Version E
Released: September 25, 2017
Revised: December 7, 2018

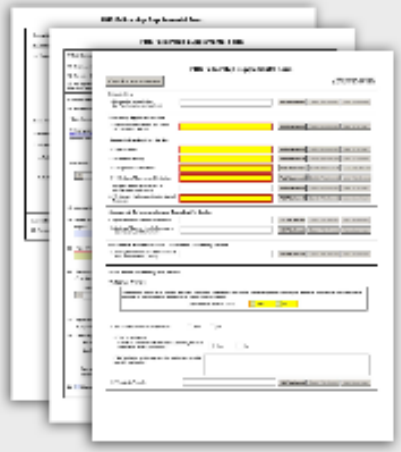
G.430 - PHS Fellowship Supplemental Form

The PHS Fellowship Supplemental Form is used only for fellowship applications.

This form includes fields to upload several attachments including the Specific Aims, Research Strategy, and Applicant Background and Goals.

The attachments in this form, together with the rest of your application, should include sufficient information needed for evaluation of the project and fellow, independent of any other documents (e.g., previous application). Be specific and informative, and avoid redundancies.

View larger image



Quick Links

https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.430-phs-fellowship-supplemental-form.htm

For all Fellowship (F) Applications

Page Limits

Project Summary/Abstract	30 lines of text
Project Narrative	Three sentences
Introduction to Resubmission or Revision Application (when applicable)	1
Applicant's Background and Goals for Fellowship Training	6
Specific Aims	1
Research Strategy	6
Respective Contributions	1
Selection of Sponsor and Institution	1
Training in the Responsible Conduct of Research	1
Sponsor and Co-Sponsor Statements	6
Letters of Support from Collaborators, Contributors, and Consultants	6
Description of Institutional Environment and Commitment to Training Note: This page limit includes the Additional Educational Information required for F30 and F31 applications.	2
Applications for Concurrent Support (when applicable)	1
Biographical Sketch	5

PHS Fellowship Supplemental Form

Introduction

1. Introduction to Application (for Resubmission applications)		Add Attachment

Fellowship Applicant Section

2. * Applicant's Background and Goals for Fellowship Training		Add Attachment

Research Training Plan Section

3. * Specific Aims		Add Attachment
4. * Research Strategy		Add Attachment
5. * Respective Contributions		Add Attachment
6. * Selection of Sponsor and Institution		Add Attachment
7. Progress Report Publication List (for Renewal applications)		Add Attachment
8. * Training in the Responsible Conduct of Research		Add Attachment

Sponsor(s), Collaborator(s), and Consultant(s) Section

9. Sponsor and Co-Sponsor Statements		Add Attachment
10. Letters of Support from Collaborators, Contributors, and Consultants		Add Attachment

Institutional Environment and Commitment to Training Section

11. Description of Institutional Environment and Commitment to Training		Add Attachment

Introduction

1. Introduction to Application
   (for Resubmission applications)

Fellowship Applicant Section

2. * Applicant's Background and Goals
   for Fellowship Training

Research Training Plan Section

3. * Specific Aims

4. * Research Strategy

5. * Respective Contributions

6. * Selection of Sponsor and Institution

7. Progress Report Publication List
   (for Renewal applications)

https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.430-phs-fellowship-supplemental-form.htm

PHS Fellowship Supplemental Form

Introduction

1. Introduction to Application (for Resubmission applications) — Add Attachment

Fellowship Applicant Section

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Research Training Plan Section

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4. * Research Strategy — Add Attachment
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Sponsor(s), Collaborator(s), and Consultant(s) Section

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10. Letters of Support from Collaborators, Contributors, and Consultants — Add Attachment

Institutional Environment and Commitment to Training Section

11. Description of Institutional Environment and Commitment to Training — Add Attachment

PHS Fellowship Supplemental Form

2. Applicant's Background and Goals for Fellowship Training (6 pages)

A. Doctoral Dissertation and Research Experience:

- In chronological order, summarize previous research and scientific experiences, (not courses)
  - Include results and conclusions, publications, presentations
  - Relationship to proposed fellowship
- Graduate students:
  - Undergraduate research
  - Graduate lab rotations
  - Preliminary description of doctoral thesis research
- Post-doctoral fellows:
  - Predoctoral research
  - Previous post-doctoral research

https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.430-phs-fellowship-supplemental-form.htm

PHS Fellowship Supplemental Form

2. Applicant's Background and Goals for Fellowship Training (6 pages)

B. Training Goals and Objectives:

- Overall career goals
- How the fellowship will help you reach these goals
- Identify specific "skills, theories, conceptual approaches, etc." that will be acquired or expanded upon during the fellowship period
  - Didactics (e.g. statistics), Research and Technical Skills, Career Development Skills (e.g. presentations, writing)
- How the fellowship will "facilitate your transition to the next career stage"

PHS Fellowship Supplemental Form

2. Applicant's Background and Goals for Fellowship Training (6 pages)

C. Activities Planned Under this Award:

- Fellowship activities (by year)
  - Specific for applicant and integrated with proposed research project
  - e.g., Research, Didactics, Teaching
  - Skills and techniques to be learned
  - Relate non-research activities (e.g., professional development) to the proposed research training
- Timeline of research training and related activities
- Estimate % of time devoted to each activity

https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.430-phs-fellowship-supplemental-form.htm

PHS Fellowship Supplemental Form

Introduction

1. Introduction to Application (for Resubmission applications)		Add Attachment

Fellowship Applicant Section

2. * Applicant's Background and Goals for Fellowship Training		Add Attachment

Research Training Plan Section

3. * Specific Aims		Add Attachment
4. * Research Strategy		Add Attachment
5. * Respective Contributions		Add Attachment
6. * Selection of Sponsor and Institution		Add Attachment
7. Progress Report Publication List (for Renewal applications)		Add Attachment
8. * Training in the Responsible Conduct of Research		Add Attachment

Sponsor(s), Collaborator(s), and Consultant(s) Section

9. Sponsor and Co-Sponsor Statements		Add Attachment
10. Letters of Support from Collaborators, Contributors, and Consultants		Add Attachment

Institutional Environment and Commitment to Training Section

11. Description of Institutional Environment and Commitment to Training		Add Attachment

PHS Fellowship Supplemental Form

3. Specific Aims (1 page)

- Goals of the proposed research
- Expected outcome(s)
- Impact of proposed research on your field(s)
- Specific objectives
  - Test of a stated hypothesis
  - Create a novel design
  - Solve a specific problem
  - Challenge an existing paradigm or clinical practice
  - Address a critical barrier to progress in the field
  - Develop new technology

PHS Fellowship Supplemental Form

4. Research Strategy (6 pages total)

- (1) Significance
  - "Importance of the problem or critical barrier to progress that the proposed project addresses"
  - "How the proposed project will improve scientific knowledge, technical capability, and/or clinical practice"
  - "How the concepts, methods, technologies, treatments, services, or preventative interventions that drive this field will be changed if the proposed aims are achieved"

https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.430-phs-fellowship-supplemental-form.htm

PHS Fellowship Supplemental Form

4. Research Strategy (6 pages total)

- (2) Approach
  - "Overall strategy, methodology, and analyses to be used"
  - "How the data will be collected, analyzed, and interpreted"
  - "Potential problems [challenges], alternative strategies, and benchmarks for success"
  - Strategies "to establish feasibility, and address the management of any high risk aspects"
  - Preliminary studies and results (including those collected by others in the research group)
  - Relevant previous experiences
  - Additional: Clinical trials, hESC's, hazardous situations

PHS Fellowship Supplemental Form

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PHS Fellowship Supplemental Form

5. Respective Contributions (1 page)

- "Describe the collaborative process between you and your sponsor/co-sponsor(s) in the development, review, and editing of this Research Training Plan."
- "Discuss the respective roles in accomplishing the proposed research."

PHS Fellowship Supplemental Form

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PHS Fellowship Supplemental Form

6. Selection of Sponsor and Institution (1 page)

- "Explain why the sponsor, co-sponsor (if any), and institution were selected to accomplish the research training goals."
- Post-doctoral Fellows: "Training is expected to broaden a fellow's perspective. Therefore, if you are requesting training at either your doctorate institution or any institution where you have been training for more than a year, you must explain why further training at that institution would be valuable."

PHS Fellowship Supplemental Form

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PHS Fellowship Supplemental Form

8. Training in the Responsible Conduct of Research (1 page)

- Five required instructional components:
  - Format: on-line only is not acceptable
  - Subject Matter: e.g., required topics
  - Faculty Participation
    - e.g., Role of the Mentor and other faculty
  - Duration of Instruction (e.g., contact hours)
  - Frequency of Instruction
    - At every career stage, at least once every four years
    - Document any prior instruction
- https://grants.nih.gov/grants/guide/notice-files/NOT-OD-10-019.html

PHS Fellowship Supplemental Form

Introduction

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PHS Fellowship Supplemental Form

9. Sponsor(s) and Co-Sponsor(s) (6 pages)

- A. Research Support Available
  - Table containing detailed information on all current and pending research and research training support available to the applicant (contingency plan if there is a gap in funding)
  - Role of Sponsor(s) in the proposed integrated research and training plan.
  - If more than one Sponsor, then include a plan describing their individual and coordinated roles and efforts

https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.430-phs-fellowship-supplemental-form.htm

PHS Fellowship Supplemental Form

9. Sponsor(s) and Co-Sponsor(s) (6 pages)

- B. Sponsor's/Co-Sponsor's Previous Fellows/Trainees
  - Total number of predoctoral and postdoctoral fellows previously mentored.
  - For representative five, provide information on time in sponsor's research group and on current positions

https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.430-phs-fellowship-supplemental-form.htm

PHS Fellowship Supplemental Form

9. Sponsor(s) and Co-Sponsor(s) (6 pages)

- C. Training Plan, Environment, Research Facilities
  - Fellow-specific individualized research training plan
  - Didactics, courses, seminars, workshops
  - Research environment (e.g. core facilities, equipment, laboratory, computers, research patient population)
  - Relationship of the Fellow's research/career goals to the proposed research training plan
  - Specific new skills and techniques to be acquired
  - Professional development (e.g. grant writing, presentation skills)
  - How training plan will facilitate the applicant's transition to the next career stage

https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.430-phs-fellowship-supplemental-form.htm

PHS Fellowship Supplemental Form

9. Sponsor(s) and Co-Sponsor(s) (6 pages)

- D. Number of Fellows/Trainees to be Supervised During the Fellowship
  - Number of pre- and postdoctoral fellows to be mentored during the award period
- E. Applicant's Qualifications and Potential for a Research Career
  - Relate applicant's academic record and previous research experiences to the proposed research training opportunity
  - Describe how the proposed research training plan, and sponsor's expertise as a mentor, will "assist in producing an independent researcher"

https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.430-phs-fellowship-supplemental-form.htm

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PHS Fellowship Supplemental Form

10. Letters of Support from Collaborators, Contributors, and Consultants (6 pages)

- Collaborators, consultants, advisors, director of core facility, statistician, provider of unique research resource, instructor of unique technique/technology, referring physician, etc.
- Letter describing their role and contribution to the applicant's proposed project, research training, career development, and future career goals
- Signed on letterhead stationery

https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.430-phs-fellowship-supplemental-form.htm

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PHS Fellowship Supplemental Form

11. Description of Institutional Environment and Commitment to Training (2 pages)

- Description of a robust research program relevant to the applicant's areas of interest
- Opportunities for collaborations, courses, journal clubs, seminars, workshops, presentations, etc.
- Appropriate facilities and resources available for academic, research, and career development activities
- Refer to "Facilities/Resources" and "Sponsor's Statement" sections

https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.430-phs-fellowship-supplemental-form.htm

PHS Fellowship Supplemental Form

11. Description of Institutional Environment and Commitment to Training (2 pages)

- Instruction in "rigorous experimental design to ensure reproducibility"
- Institution-wide resources
  - Students: Office of Graduate Affairs
  - Post-doctoral Fellows: Office of Post-doctoral Affairs

https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.430-phs-fellowship-supplemental-form.htm
http://grants.nih.gov/grants/guide/notice-files/NOT-OD-16-034.html

PHS Fellowship Supplemental Form

11. Description of Institutional Environment and Commitment to Training (2 pages)

- Additional Educational Information – F31 applications
  - Description of graduate/degree-granting program
    - Structure of the program
    - Description of and time line of required milestones
      - Courses, Teaching, Clinical requirements, (e.g., F30), Qualifying exams
  - Average time to degree over the past 10 years
  - Applicant's progress in relation to the program's time line
  - Frequency and method by which the program formally monitors and evaluates a student's progress
  - Usually provided by the graduate program's director/department chair (include name and title)

https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.430-phs-fellowship-supplemental-form.htm

PHS Fellowship Supplemental Form

11. Description of Institutional Environment and Commitment to Training (2 pages)

- Additional Educational Information – F30 applications
  - Clinical didactic programs during the graduate research years
  - Programs to facilitate the transition from graduate/ research training (PhD) to the clinical training (MD) of the dual-degree program
  - Research-related programs during the clinical years of the dual-degree program

Biomedical Workforce Task Force

Improving graduate student and postdoctoral training

- A. Put individual development plans in place for all trainees
- **B. Reduce the length of graduate training**
- C. Provide F30 and F31 awards from all Institutes/Centers
- D. Increase postdoctoral stipends and consider policies on benefits
- E. Increase support for K99/R00 and shorten eligibility period
- F. Increase support for Early Independence Awards

http://acd.od.nih.gov/bwf.htm

Advanced Notice of Coming Requirements for Formal Instruction in Rigorous Experimental Design and Transparency to Enhance Reproducibility: NIH and AHRQ Institutional Training Grants, Institutional Career Development Awards, and Individual Fellowships

Individual fellowship applications will be required to summarize in the research strategy section plans to ensure rigorous, well-controlled experiments that consider all relevant biological variables, use authenticated biological and chemical resources, and apply appropriate statistical tests for data analyses. In addition more detailed description of instruction in rigorous experimental design to ensure reproducibility will be required in the section on Institutional Environment and Commitment to Training. The impacted programs will include the following individual fellowships: F05, F30, F31, F32, F37, F38, and FI2.

Biomedical Workforce Task Force

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- **A. Put individual development plans in place for all trainees**
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http://acd.od.nih.gov/bwf.htm

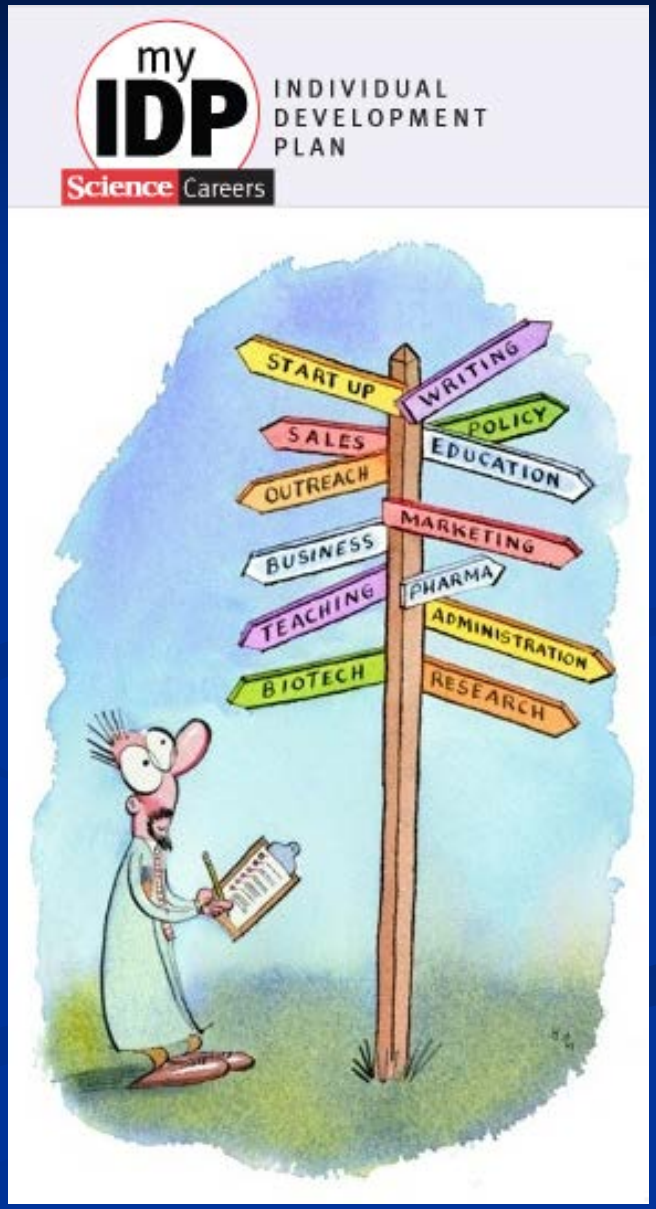
Individual Development Plans

- "NIH encourages institutions to assist graduate students and postdoctoral researchers to achieve their career goals within the biomedical research workforce through the use of Individual Development Plans (IDPs)"
- "is required for all T, F, K… and other awards or award components designed to provide training and professional development opportunities for graduate students and postdoctoral researchers."

https://grants.nih.gov/grants/guide/notice-files/NOT-OD-13-093.html
https://grants.nih.gov/grants/guide/notice-files/not-od-14-113.html

Individual Development Plans

- Science Careers: myIDP:
- "Exercises to help you examine your skills, interests, and values
- A list of 20 scientific career paths with a prediction of which ones best fit your skills and interests
- A tool for setting strategic goals for the coming year, with optional reminders to keep you on track
- Articles and resources to guide you through the process"



http://myidp.sciencecareers.org/

RESEARCH & RELATED Other Project Information

OMB Number: 4040-0001
Expiration Date: 6/30/2016

1. Are Human Subjects Involved? ☐ Yes ☐ No

1.a. If YES to Human Subjects

Is the Project Exempt from Federal regulations? ☐ Yes ☐ No

If yes, check appropriate exemption number. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6

If no, is the IRB review Pending? ☐ Yes ☐ No

IRB Approval Date:

Human Subject Assurance Number:

2. Are Vertebrate Animals Used? ☐ Yes ☐ No

2.a. If YES to Vertebrate Animals

Is the IACUC review Pending? ☐ Yes ☐ No

IACUC Approval Date:

Animal Welfare Assurance Number:

12. Other Attachments

3. Is proprietary/privileged information included in the application? ☐ Yes ☐ No

4.a. Does this Project Have an Actual or Potential Impact - positive or negative - on the environment? ☐ Yes ☐ No

4.b. If yes, please explain:

4.c. If this project has an actual or potential impact on the environment, has an exemption been authorized or an environmental assessment (EA) or environmental impact statement (EIS) been performed? ☐ Yes ☐ No

4.d. If yes, please explain:

5. Is the research performance site designated, or eligible to be designated, as a historic place? ☐ Yes ☐ No

5.a. If yes, please explain:

6. Does this project involve activities outside of the United States or partnerships with international collaborators? ☐ Yes ☐ No

6.a. If yes, identify countries:

6.b. Optional Explanation:

7. Project Summary/Abstract		Add Attachment	Delete Attachment	View Attachment
8. Project Narrative		Add Attachment	Delete Attachment	View Attachment
9. Bibliography & References Cited		Add Attachment	Delete Attachment	View Attachment
10. Facilities & Other Resources		Add Attachment	Delete Attachment	View Attachment
11. Equipment		Add Attachment	Delete Attachment	View Attachment
12. Other Attachments	Add Attachments	Delete Attachments	View Attachments	☐

R&R Other Project Information:

12. Other Attachments

Certification Letter for Predoctoral Fellowships to Promote Diversity

- Institutional letter certifying eligibility of the applicant for the diversity fellowship program
  - Signed by institutional official
    - e.g., Graduate Affairs Office, Grants Office
  - On institutional letterhead
- Do not include "sensitive personal information" (e.g., specific racial/ethnic background, disability)

RESEARCH & RELATED Other Project Information

OMB Number: 4040-0001
Expiration Date: 10/31/2019

1. Are Human Subjects Involved? ☐ Yes ☐ No

1.a. If YES to Human Subjects

Is the Project Exempt from Federal regulations? ☐ Yes ☐ No

If yes, check appropriate exemption number. ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8

If no, is the IRB review Pending? ☐ Yes ☐ No

IRB Approval Date:

Human Subject Assurance Number:

2. Are Vertebrate Animals Used? ☐ Yes ☐ No

2.a. If YES to Vertebrate Animals

Is the IACUC review Pending? ☐ Yes ☐ No

IACUC Approval Date:

Animal Welfare Assurance Number:

10. Facilities & Other Resources

3. Is proprietary/privileged information included in the application? ☐ Yes ☐ No

4.a. Does this Project Have an Actual or Potential Impact - positive or negative - on the environment? ☐ Yes ☐ No

4.b. If yes, please explain:

4.c. If this project has an actual or potential impact on the environment, has an exemption been authorized or an environmental assessment (EA) or environmental impact statement (EIS) been performed? ☐ Yes ☐ No

4.d. If yes, please explain:

5. Is the research performance site designated, or eligible to be designated, as a historic place? ☐ Yes ☐ No

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R&R Other Project Information:

10. Facilities & Other Resources

Scientific/Technical Resources

- Facilities to be used for the conduct of the proposed research
  - Laboratory
  - Animal
  - Computer
  - Office
  - Clinical [patient/research subject populations]
  - Other: Core facilities [e.g. research pharmacy, biostatistics, technical cores (microscopy, biomarkers), biohazards]
- Discuss how the proposed studies will benefit from unique features of the scientific environment, subject populations, or collaborative arrangements

R&R Other Project Information:

10. Facilities & Other Resources

Career Development Resources

- More complete descriptions of programs referenced in:
  - 2. Applicant's Background and Goals for Fellowship Training - C. Activities Planned Under this Award
  - 6. Selection of Sponsor and Institution
  - 9. Sponsor(s) and Co-Sponsor(s) - C. Training Plan, Environment, Research Facilities
  - 11. Description of Institutional Environment and Commitment to Training

R&R Other Project Information:

10. Facilities & Other Resources

Career Development Resources

- Career development programs
  - Institutional (e.g. Office of Postdoctoral or Graduate Affairs)
  - Departmental
  - Professional societies
- Formal degree programs and other didactics
  - Degree program
  - Scientific courses: e.g., Statistics
  - Career Development courses: e.g., Funding & Grantsmanship
- Workshops, webinars, other training programs

Letters of Reference

- Include a list of Referees in the Cover Letter
- 3-5 Letters of References are required
- Individuals who know you well from a research perspective (qualifications, training, and interests)
- Individuals not directly involved in the research project
- Mentor(s) cannot be one of the confidential Letters of Reference ("letter" in main body of application)
- Helpful to include at least one referee who is not in your current department/institution

Letters of Reference

- "Research ability and potential to become an independent researcher
- Adequacy of scientific and technical background
- Written and verbal communication abilities including ability to organize scientific data
- Quality of research endeavors or publications to date, if applicable
- Perseverance in pursuing goals
- Evidence of originality
- Need for further research experience and training
- Familiarity with research literature"

SF 424 (R&R) APPLICATION FOR FEDERAL ASSISTANCE Page 2

21. Cover Letter Attachment | Add Attachment

21. Cover Letter Attachment

- Must include
- Title of application
- Title of funding opportunity announcement
- List of Referees (name and affiliation)
- Administrative document – not seen by reviewers

GENERAL APPLICATION GUIDE FOR NIH AND OTHER PHS AGENCIES

SF424 (R&R) - Forms Version E

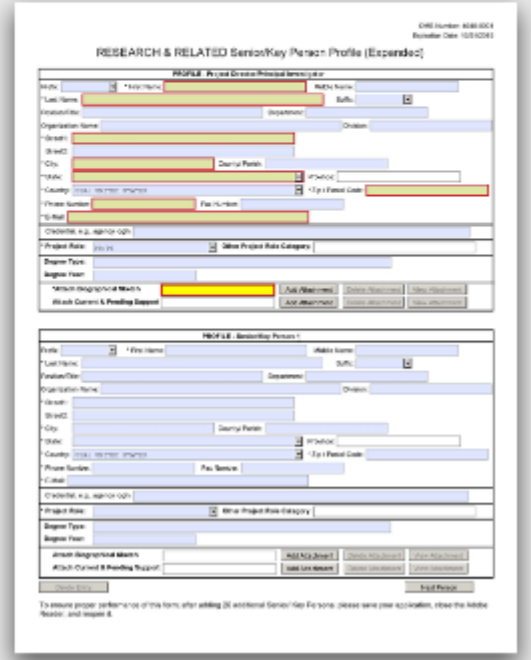
Released: September 25, 2017

Revised: December 7, 2018

G.240 - R&R Senior/Key Person Profile (Expanded) Form

The R&R Senior/Key Person Profile (Expanded) Form is used for all grant applications, and allows the collection of data for all senior/key persons associated with the project. Some information for the PD/PI may be pre-populated from the SF424 (R&R) form. See instructions in G.200 - SF 424 (R&R) Form if these fields are empty.

View larger image



Quick Links

- Profile - Project Director/Principal Investigator
- Instructions for a Biographical Sketch
- Profile - Senior/Key Person 1
- Additional Senior/Key Person Profile(s)

Biosketch Format Pages, Instructions and Samples

Form Name	Form Number	Description	How to Access	Instructions	Additional Information	Updated Date
Biographical Sketch Format Page (non-fellowship)		Prepare biographical sketches for applications and progress reports for non-fellowship applications and awards.	Blank biosketch format page – non-fellowship	Biosketch instructions – non-fellowship	Sample of non-fellowship biosketch Try SciENcv to help you develop your biosketch and automatically format it according to NIH requirements.	September 2017
Biographical Sketch Format Page (fellowship)		Prepare biographical sketches for applications and progress reports for fellowship applications and awards.	Blank biosketch format page - fellowship	Biosketch instructions – fellowship	Sample for Predoctoral Fellowship Sample for Postdoctoral Fellowship Try SciENcv to help you develop your biosketch and automatically format it according to NIH requirements.	September 2017

https://grants.nih.gov/grants/forms/biosketch.htm

Biographical Sketch

- Keep Yours Current!
- Include all information that is relevant – even if mentioned/discussed elsewhere in the application
- "Stand alone" document that conveys to the reviewers everything you want them to know about you
- Make sure that the NIH Biosketches others give you for your application are current and programmatically appropriate
- 5 pages in length total
- https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.240-r&r-seniorkey-person-profile-(expanded)-form.htm#Instructions

Biosketch for Fellowship Applications

- "Special" NIH Biosketch for Fellowship (F) applicants
- C. Contributions to Science
  - High School Research:
  - Undergraduate Research:
  - Graduate Research:
  - Post-doctoral Research:
- Additional section - Scholastic Performance (courses and grades) [D. Additional Information]
- https://grants.nih.gov/grants/forms/biosketch.htm

OMB No. 0925-0001 and 0925-0002 (Rev. 09/17 Approved Through 03/31/2020)

BIOGRAPHICAL SKETCH

Provide the following information for the Senior/key personnel and other significant contributors.
Follow this format for each person. **DO NOT EXCEED FIVE PAGES.**

NAME: Robertson-Chang, Leilani

eRA COMMONS USER NAME (credential, e.g., agency login): RobertsonL

POSITION TITLE: Graduate Student Research Assistant

EDUCATION/TRAINING *(Begin with baccalaureate or other initial professional education, such as nursing, include postdoctoral training and residency training if applicable. Add/delete rows as necessary.)*

INSTITUTION AND LOCATION	DEGREE *(if applicable)*	START DATE MM/YYYY	END DATE MM/YYYY	FIELD OF STUDY
Swarthmore College	BA	08/2008	05/2012	Biology
UC San Diego	PHD	08/2012	05/2018	Molecular Biology

https://grants.nih.gov/grants/forms/biosketch.htm

A. Personal Statement

My long term research interests involve the development of a comprehensive understanding of key developmental pathways and how alterations in gene expression contribute to human disease. My academic training and research experience to date have provided me with an excellent background in molecular biology and microbiology. While in high school I was awarded an NIH Diversity Supplement award to work as a research technician for two summers in Dr. Indira Creative's lab at the University of Hawaii. As an undergraduate at Swarthmore College, I conducted research with Dr. Xavier Factor on the mechanisms of action of a new class of antibiotics. This resulted in a co-authorship publication, as well as an invitation to present a poster at the annual Antibiotica meeting in Denver, Colorado. For my graduate training at UC San Diego, I have moved into the fields of genetics and biochemistry by studying the regulation of transcription in yeast, under Dr. Tanti Auguri. Dr. Auguri is an internationally recognized leader in the field of yeast genetics and has an extensive record for training predoctoral and postdoctoral fellows. Along with giving me new conceptual and technical training, the proposed training plan outlines a set of career development activities and workshops – e.g. public speaking, literature analysis, biomedical ethics, and career options. For my initial project I am currently developing a novel protocol for the purification for components of large transcription complexes which I hope to submit as a first author publication in the next few months. As a native Hawaiian, I am the first in my family to graduate from college so I am excited to keep pushing forward with my education. Overall, I feel that my choice of sponsor, research project, and the training I will get from this fellowship will give me a solid foundation for my long-term goal to become an academic researcher.

1. Robertson-Chang L, Factor X. Testing the ability of antibiotic Gen Y to kill Gram-negative bacteria. Antibiotica annual meeting; 2011 September; Denver, CO.
2. Robertson-Chang L, Auguri T. A tandem affinity purification tag approach allows for isolation of interacting proteins in Saccharomyces cerevisiae. Yeast Genetics and Molecular Biology Meeting; 2013 September; Seattle, WA.

https://grants.nih.gov/grants/forms/biosketch.htm

B. Positions and Honors

Positions and Employment

2007 - 2008	Lab Technician, University of Hawaii
2012 -	Graduate Student Research Assistant, UC San Diego

Other Experience and Professional Memberships

2007 -	Member, Association for Women in Science
2009 -	Member, Sigma Xi

Honors

2007 - 2008	Diversity Supplement, National Institutes of Health
2008	Scholarship, Daughters of Hawaii Society
2008 - 2012	Scholarship, National Merit Scholarship Program
2012	Paula F. Laufenberg award for best senior project in the Biology Department, Swarthmore College

https://grants.nih.gov/grants/forms/biosketch.htm

C. Contribution to Science

1. **High School Research:** I spent two summers doing research in the laboratory of Dr. Indira M. Creative at University of Hawaii, funded by a NIH Diversity Supplement award. Dr. Creative has developed several new anti-fungal drugs that might protect against skin infections. Over the course of two summers I set up in vitro cultures of skin cell lines and conducted a wide range of toxicity assays. We were excited to find that one of the new agents showed almost no toxicity, even at fairly high doses. Dr. Creative is now testing the drug in animals exposed to different types of fungal infections, including *Candida albicans*.
    a. Footman B, Eisser JK, Robertson-Chang L, Creative IM. Testing XXH for toxicity in vitro. University of Hawaii Research Symposium; 2008 May; Manoa, HI.
2. **Undergraduate Research:** I was part of a project in the laboratory of Dr. Xavier Factor at Swarthmore College. Dr. Factor's laboratory studies the mechanisms of action of antibiotics. During my time in his lab I was looking at how a new antibiotic, Gen Y, is able to unravel bacterial DNA. My contributions to this work were included in a publication recently accepted in Cellular and Molecular Biology. The work was particularly exciting because it looks like the mechanism used by Factor Y might be completely novel, making it a potential candidate for treating patients infected with antibiotic resistant organisms. Dr. Factor was recently awarded a patent for this new drug.
    a. Nieman PY, Robertson-Chang L, Factor X. Gen Y: a novel antibiotic with DNA unwinding abilities. Cellular and Molecular Biology. In press.
    b. Robertson-Chang L, Factor X. Testing the ability of antibiotic Gen Y to kill Gram-negative bacteria. Antibiotica annual meeting; 2011 September; Denver, CO.

https://grants.nih.gov/grants/forms/biosketch.htm

3. **Graduate Research**: My ongoing predoc research is focused on transcriptional gene regulation in Saccharomyces cerevisiae. I believe the results from my research will likely be highly relevant to human health as they will provide new details into the workings of complex biological systems, which will allow for further extrapolations into the development of certain diseases and their progression. I am currently developing a novel protocol for the purification of components of large transcription complexes which I hope to submit as a first author publication in the next few months.
    a. Robertson-Chang L, Auguri T. A tandem affinity purification tag approach allows for isolation of interacting proteins in Saccharomyces cerevisiae. Yeast Genetics and Molecular Biology Meeting; 2013 September; Seattle, WA.

https://grants.nih.gov/grants/forms/biosketch.htm

D. Additional Information: Research Support and/or Scholastic Performance

Scholastic Performance

YEAR	COURSE TITLE	GRADE
	SWARTHMORE COLLEGE	
2008	Cellular and Molecular Biology	A
2008	Foundations of Chemical Principles	A
2009	Organismal and Population Biology	B
2009	Omics	B
2008	First Year Seminar: Nation and Migration	A
2009	Statistics, Probability, and Reliability	A
2009	Calculus I	B
2009	General Physics I	B
2009	Introductory Chemistry	A
2009	Organic Chemistry	B

https://grants.nih.gov/grants/forms/biosketch.htm

YEAR	COURSE TITLE	GRADE
	UC SAN DIEGO	
2012	Seminar in Genetics	P
2013	Statistics for the Life Sciences	P
2013	Ethics in Biological Research	CRE
2014	Seminar in Physiology and Behavior	P

Except for the scientific ethics course, UC San Diego graduate courses are graded P (pass) or F (fail). Passing is C plus or better. The scientific ethics course is graded CRE (credit) or NC (no credit). Students must attend at least seven of the eight presentation/discussion sessions for credit.

https://grants.nih.gov/grants/forms/biosketch.htm

NIH "F" Sites of Interest

- Program Announcements for Dual Degree: F30, Pre-Doc: F31 and F31-Diversity, and Post-doc: F32 grant mechanisms
  https://researchtraining.nih.gov/programs/fellowships
- Fellowship Application Instructions
  https://grants.nih.gov/grants/how-to-apply-application-guide.html

  https://grants.nih.gov/grants/how-to-apply-application-guide/forms-e/general/g.100-how-to-use-the-application-instructions.htm
- Reference Letters
  https://grants.nih.gov/grants/how-to-apply-application-guide/submission-process/reference-letters.htm

NIH "F" Sites of Interest

- Application Page Limits
  https://grants.nih.gov/grants/how-to-apply-application-guide/format-and-write/page-limits.htm
- NIH Biosketch Format Pages, Instructions and Samples
  https://grants.nih.gov/grants/forms/biosketch.htm
- Instruction in the Responsible Conduct of Research
  https://grants.nih.gov/grants/guide/notice-files/NOT-OD-10-019.html

NIH "F" Sites of Interest

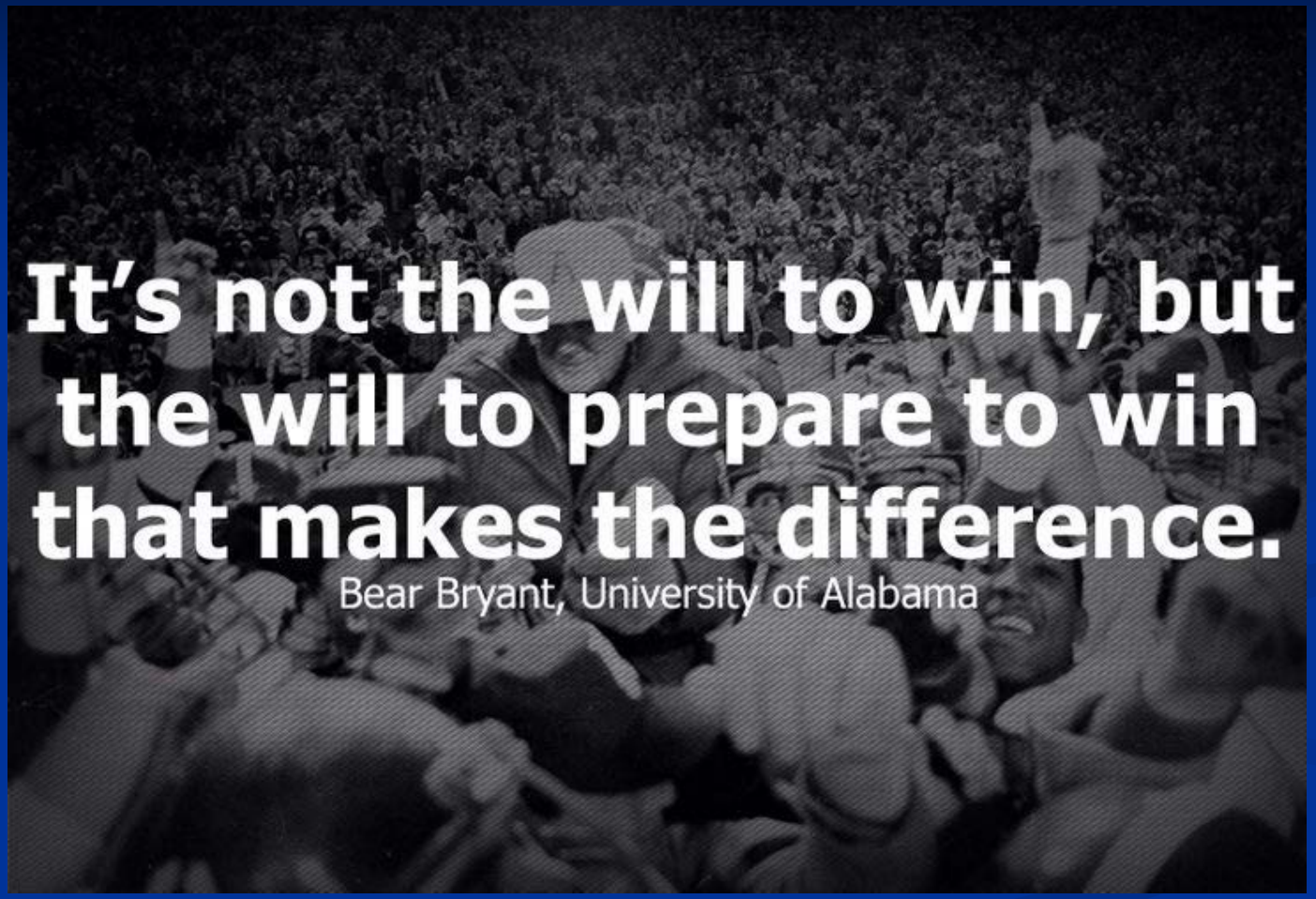
- NIH Research Training and Career Development Programs
  https://researchtraining.nih.gov/
- Research Training and Career Development Programs at Specific Institutes
  https://researchtraining.nih.gov/institute

Topics to be Discussed

- **NIH Fellowship Overview**
  - **Career Timeline**
  - Funding Opportunity Announcements
  - Funding Levels and Success Rate
- **Fellowship Application Review Process**
  - Application Submission, Review, and Award Timeline
  - Institutes and Study Sections
  - Scoring System: Impact Scores
  - Institute Funding Paylines
- **Fellowship Application Review Criteria**
- **Components of a Fellowship Application**
- **Approaches for Competitive Applications**

Approaches for Competitive Applications

- Identify Funding
- **Prepare to Complete the Grant Application**
- Complete the Grant Application



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Prepare to Complete the Grant Application

- Speak with Agency Program Officer
- Speak with colleagues who are/were awardees
- Review funded applications if possible
- Review agency's review criteria
- Identify what will make the application more competitive
  - Research and/or career development arrangements
  - Access to core facilities/research resources
- Strengthen "Preliminary Work/ Pilot Data"
- Who will write confidential letters of reference?

Research and Career Development Arrangements

- Multiple Principle Investigators (research awards)
- Multiple Mentors (mentored awards)
- Advisors (mentored awards)
- Co-investigators/Collaborations
- Subcontracts to other institutions
- Multidisciplinary/Interdisciplinary

Prepare to Complete the Grant Application

- Identify and meet with Co-investigators, Collaborators, Consultants, Advisors
  - Identify roles and responsibilities
  - Administrative requirements (e.g. if other countries/institutions are involved)
- Identify necessary core facilities and other research resources
- Meet with research administrators
- Human subjects, lab animals, and any other regulatory issues?

Approaches for Competitive Applications

- Identify Funding
- Prepare to Complete the Grant Application
- **Complete the Grant Application**

Complete the Grant Application

- Review the application instructions
- Identify the different components
- Create a checklist (sequence/date of completion)
- Create an outline
  - Content, Length of section (*vis a vis* page limits)
- Identify and delegate responsibilities for the different components
  - Technical/Scientific
  - Administrative – e.g. budget
  - Regulatory
  - Draft letters of collaboration/support

Complete the Grant Application

- Confirm page limits for each component
- Create a schedule for any required meetings
- Determine:
  - Shared computer drive/folders
  - Naming of files (e.g., by version # or date)
  - Track changes?
  - Font, margin, format of literature citation
- Set a firm time-line for each responsibility
  - Writing milestones
  - Absolute deadline date for final compilation

Complete the Grant Application

- Read instructions
- Never assume that reviewers "will know what you mean"
- Refer to literature thoroughly and thoughtfully
- Explicitly state the rationale of the proposed investigation ("the hypothesis of my study is…")
- Discuss limitations and potential "challenges" and how these will be addressed (e.g., "alternate approaches")
- Include well-designed tables and figures
- Present an organized, lucid write-up (use an outline)
- Ask colleagues ("pseudo reviewers") to review and comment

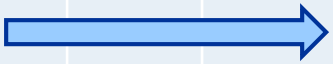
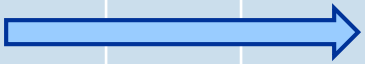
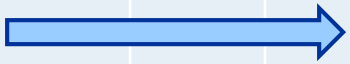
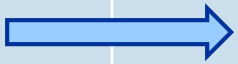
Complete the Grant Application

- Read instructions
- Never assume that reviewers "will know what you mean"
- Refer to literature thoroughly and thoughtfully
- Explicitly state the rationale of the proposed investigation ("the hypothesis of my study is…")
- Discuss limitations and potential "challenges" and how these will be addressed (e.g., "alternate approaches")
- **Include well-designed tables and figures**
- Present an organized, lucid write-up (use an outline)
- Ask colleagues ("pseudo reviewers") to review and comment

Include Well-Designed Tables and Figures

- Include explanatory caption with the figure (not buried in text)
- Not overly complicated
- Informative, even if printed in black and white
- Easy for the reviewers to read
- Tips:
  - Bold label in text (e.g., **Fig. 4**) so it's easier for reviewers to locate relevant text for individual Figure
  - Try to have Figure and relevant text on the same page

Timeline for Specific Aims and Benchmarks/Milestones of Research Progress

Benchmarks/ Milestones	Year 1	Year 2	Year 3
Summary of Specific Aim 1a			
Summary of Specific Aim 1b			
Summary of Specific Aim 2a			
Summary of Specific Aim 2b			
Summary of Specific Aim 3			

Don't Do the Minimum

- "Optional": Does not mean don't do
  - PHS Assignment Request Form
    - e.g., Request an Institute, specific Study Section, reviewers' areas of expertise
- When appropriate, fill the page – ½ of page of text means you have nothing more to say
  - "Description of Institutional Environment"

Anticipate Questions
and
Answer them before
they are asked

Not everything that can be counted counts.

Not everything that counts can be counted.

Research Plan Section

3. Specific Aims

4. * Research Strategy

Fellowship Applicant Section

2. * Applicant's Background and Goals for Fellowship Training

Quote Investigator suggests crediting sociologist William Bruce Cameron
http://quoteinvestigator.com/2010/05/26/everything-counts-einstein/

Investigator

- Competent
- Enthusiastic
- Thorough
- Professional

Personal Statement/ Candidate's Background

When describing a previous research experience:

- What was the hypothesis/scientific question?
- Why was the study important?
- What were the findings and conclusions?
- What were your role and responsibilities?
- What did you learn and accomplish?
  - "Intellectual aspects"
  - Do not focus on technical aspects
- Cite any resulting publications
- Describe any honors/awards and conference/workshop presentations

Possible Problems Specific for Mentored Fellowship & Career Development Awards

Mentor

- Too many other responsibilities (e.g. administrative, clinical)
- Too many other mentees (e.g. students, post-docs)
- Not appropriate scientifically
- Too junior
- Limited experience as a mentor
- Limited funds to support proposed research

Possible Problems Specific for Mentored Fellowship & Career Development Awards

Institution

- Limited scientific/technical resources
- Limited career development opportunities
- Limited opportunities for career advancement

Elements of a Good Proposal

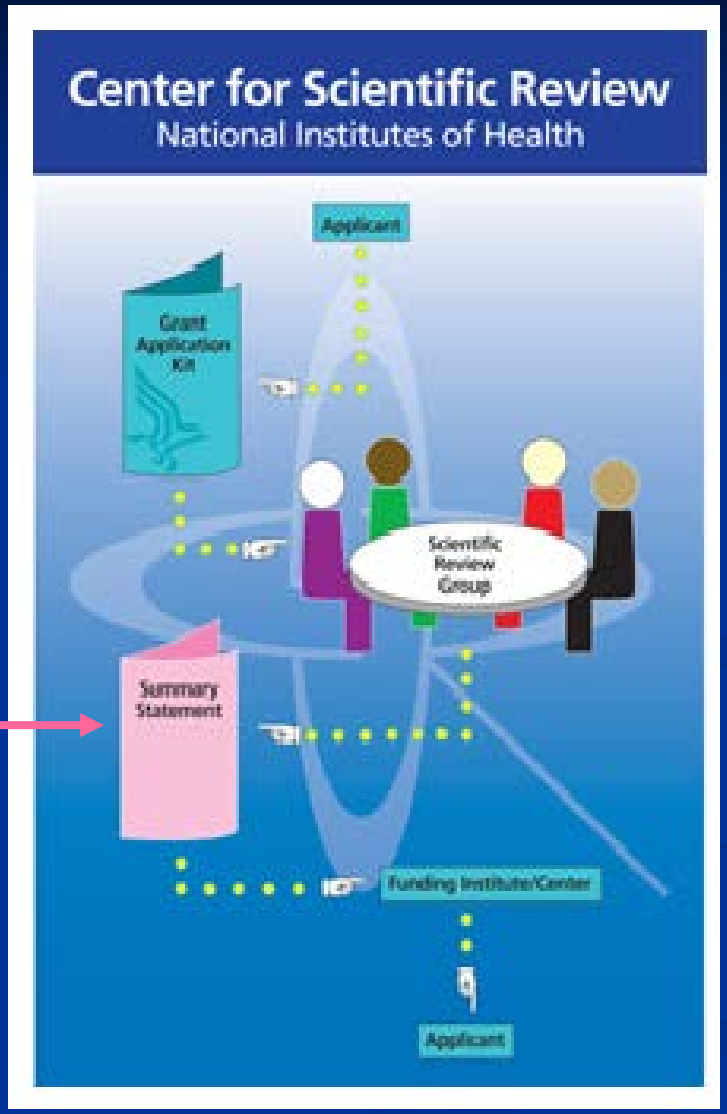
- Feasible
- Relevant
- Unique
- Innovative
- Clear
- Brief
- Consistent

Common Problems with Grant Applications from New Investigators

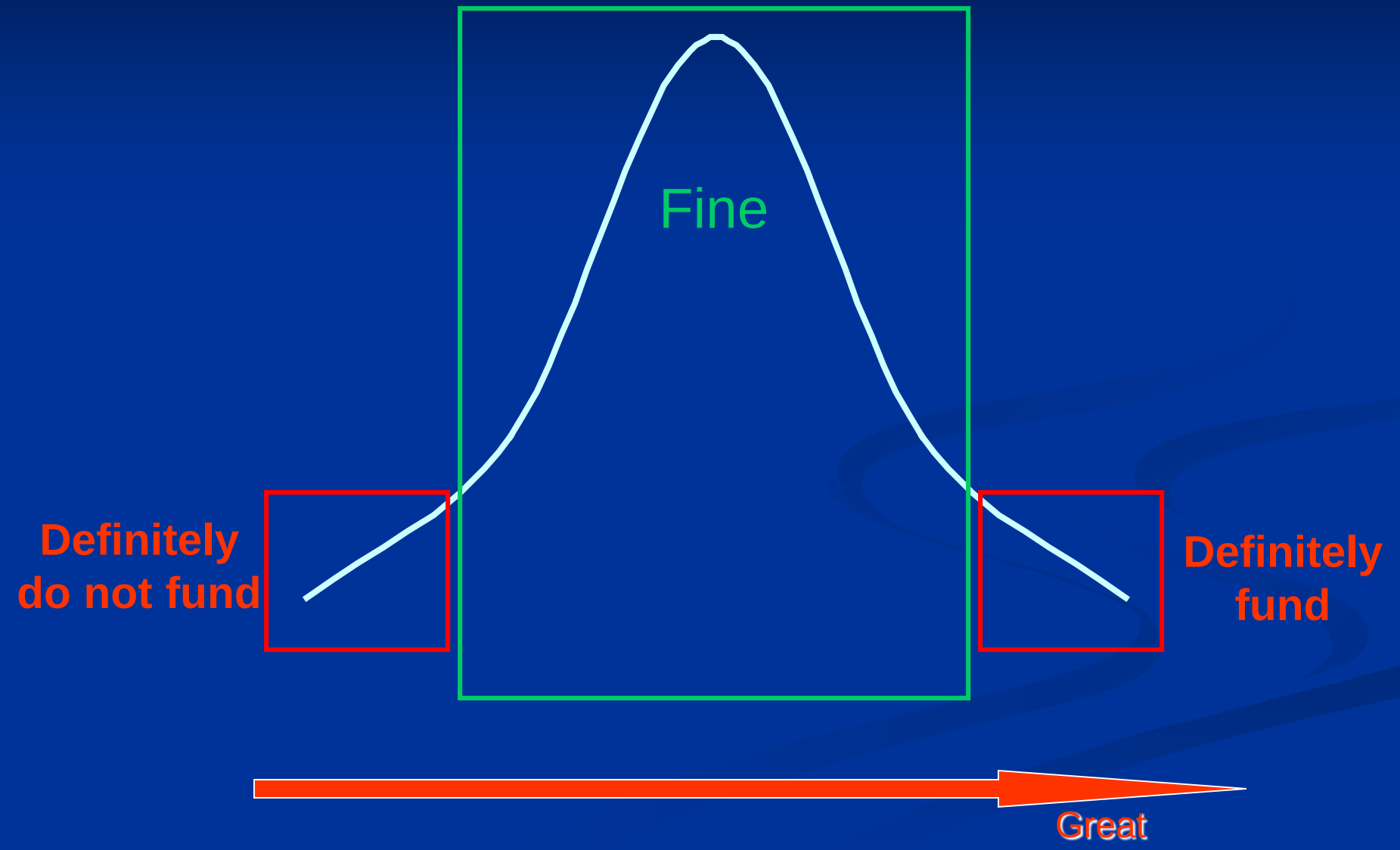
- Does not address/follow funding agency's mission, specific instructions, budget limits, etc.
- Overly ambitious (e.g., $, time, expertise, career level)
- Fishing expedition
- Not hypothesis driven
- Descriptive, not mechanistic project
- Study design (e.g., Control groups(s), Unfocussed)
- Issues with Statistical aspects/Power analysis/Data analysis
- No or insufficient preliminary data
- Does not adequately describe access to "research resources"
- Unrealistic budget
- Methodologies beyond the expertise of investigator or research team
- Not independent of previous mentor's research

NIH: one round of applications

Pink Sheet: Reviewers' Comments



Bell Curve of Reviewer's Grant Applications

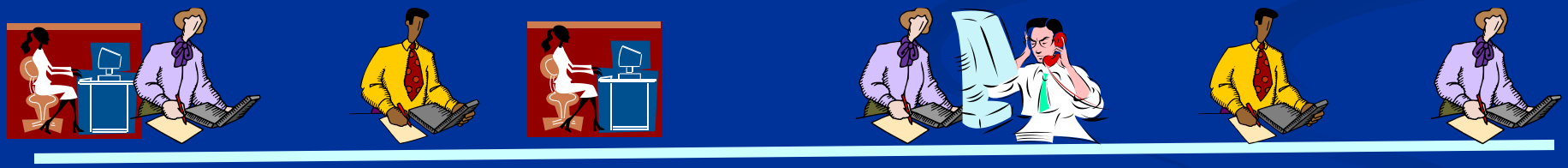


Poor Statistics

Research Resources not Adequately Described

Career Development/ Research Training Plan not Comprehensive

Figure Caption Font too Small



All Components of the Application are as Strong as Possible

Good Luck!