DEPARTMENT OF HEALTH AND HUMAN SERVICES

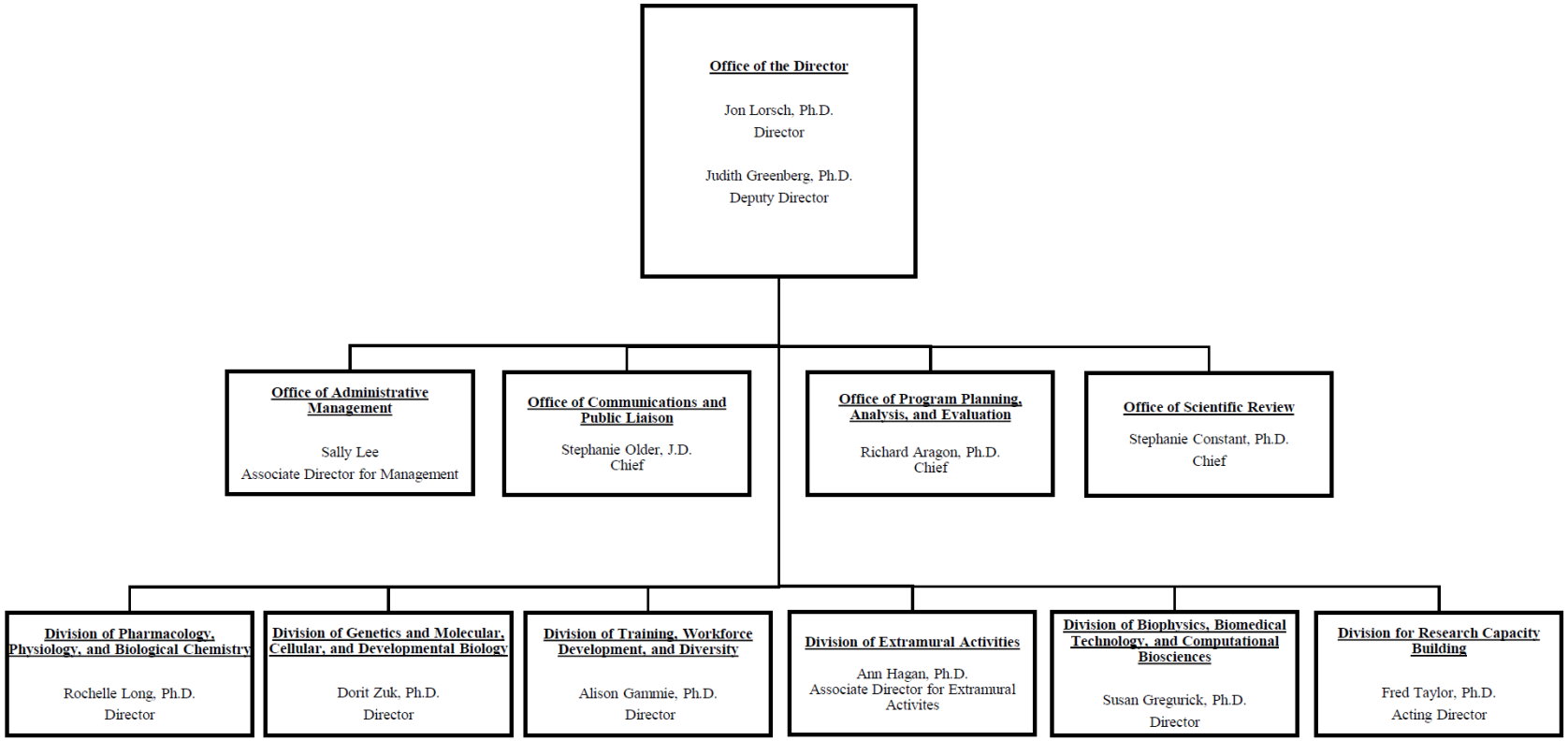
NATIONAL INSTITUTES OF HEALTH

National Institute of General Medical Sciences (NIGMS)

NIGMS-2

NATIONAL INSTITUTES OF HEALTH
National Institute of General Medical Sciences

Organization Structure



NATIONAL INSTITUTES OF HEALTH

National Institute of General Medical Sciences

For carrying out section 301 and title IV of the PHS Act with respect to general medical sciences, $2,572,669,000, of which $741,000,000 shall be from funds available under section 241 of the PHS Act.

NATIONAL INSTITUTES OF HEALTH
National Institute of General Medical Sciences

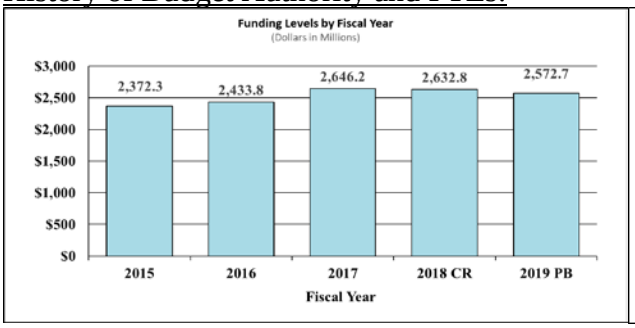
Amounts Available for Obligation[1]
(Dollars in Thousands)

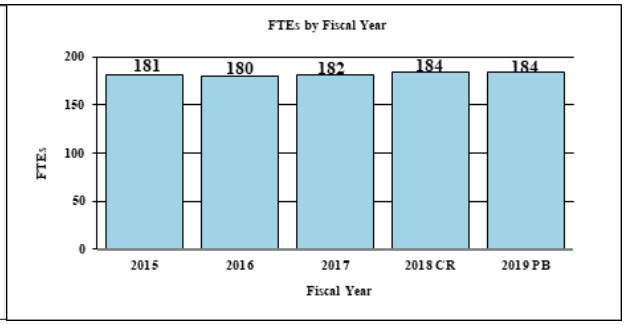
Source of Funding	FY 2017 Final	FY 2018 Annualized CR	FY 2019 President's Budget
Appropriation	$2,650,838	$2,650,838	$2,572,669
Mandatory Appropriation: (non-add)			
Type 1 Diabetes	*(0)*	*(0)*	*(0)*
Other Mandatory financing	*(0)*	*(0)*	*(0)*
Rescission	0	-18,002	0
Sequestration	0	0	0
Secretary's Transfer	-3,976		
Subtotal, adjusted appropriation	$2,646,862	$2,632,836	$2,572,669
OAR HIV/AIDS Transfers	-710	0	0
Subtotal, adjusted budget authority	$2,646,152	$2,632,836	$2,572,669
Unobligated balance, start of year	0	0	0
Unobligated balance, end of year	0	0	0
Subtotal, adjusted budget authority	$2,646,152	$2,632,836	$2,572,669
Unobligated balance lapsing	-83	0	0
Total obligations	$2,646,069	$2,632,836	$2,572,669

[1] Excludes the following amounts for reimbursable activities carried out by this account:
FY 2017 - $1,448 FY 2018 - $5,000 FY 2019 - $5,000

Fiscal Year 2019 Budget Graphs

History of Budget Authority and FTEs:





NATIONAL INSTITUTES OF HEALTH
National Institute of General Medical Sciences

Authorizing Legislation

	PHS Act/ Other Citation	U.S. Code Citation	2018 Amount Authorized	FY 2018 Annualized CR	2019 Amount Authorized	FY 2019 President's Budget
Research and Investigation	Section 301	42§241	Indefinite	$2,632,836,160	Indefinite	$2,572,669,000
National Institute of General Medical Sciences	Section 401(a)	42§281	Indefinite		Indefinite	
Total, Budget Authority				$2,632,836,160		$2,572,669,000

NATIONAL INSTITUTES OF HEALTH
National Institute of General Medical Sciences

Appropriations History

Fiscal Year	Budget Estimate to Congress	House Allowance	Senate Allowance	Appropriation
2009	$1,937,690,000	$2,004,295,000	$1,991,609,000	$1,997,801,000
Rescission				$0
2010	$2,023,677,000	$2,069,156,000	$2,031,886,000	$2,051,798,000
Rescission				$0
2011	$2,125,090,000		$2,121,783,000	$2,051,798,000
Rescission				$18,016,009
2012	$2,102,300,000	$2,102,300,000	$2,347,309,000	$2,434,637,000
Rescission				$4,601,464
2013	$2,378,835,000		$2,387,112,000	$2,430,035,536
Rescission				$4,860,071
Sequestration				($121,971,075)
2014	$2,401,011,000		$2,435,570,000	$2,364,147,000
Rescission				$0
2015	$2,368,877,000			$2,371,476,000
Rescission				$0
2016	$2,433,780,000	$2,439,437,000	$2,511,431,000	$2,512,073,000
Rescission				$0
2017[1]	$2,512,437,000	$2,538,851,000	$2,633,755,000	$2,650,838,000
Rescission				$0
2018	$2,185,509,000	$2,713,775,000	$2,887,194,000	$2,650,838,000
Rescission				$12,403,049
2019	$2,572,669,000			

[1] Budget Estimate to Congress includes mandatory financing.

Justification of Budget Request
National Institute of General Medical Sciences

Authorizing Legislation: Section 301 and Title IV of the Public Health Service Act, as amended.
Budget Authority (BA):

	FY 2017 Actual	FY 2018 Annualized CR*	FY 2019 PB	FY 2019 + / - FY 2018
BA	$ 2,646,152,000	$2,632,836,000	$2,572,669,000	-$60,167,000
FTE	182	184	184	0

*This amount is rounded.

Program funds are allocated as follows: Competitive Grants/Cooperative Agreements; Contracts; Direct Federal/Intramural and Other.

Director's Overview

The National Institute of General Medical Sciences (NIGMS) focuses on supporting fundamental or "basic" biomedical research. At its core, fundamental science seeks to elucidate and expand scientific knowledge about how living systems work, from individual molecules to cells, organs, whole organisms, and populations. A strength of fundamental science is that it is neither disease nor organ specific. Rather, fundamental science creates the very foundation upon which an understanding of normal life processes and the diseases that disrupt them are built.

Fundamental research is essential for achieving medical and technological breakthroughs. This year's Nobel Prizes in both chemistry and in physiology or medicine, for instance, were awarded to multiple NIGMS grantees.[1] The Nobel Prize in chemistry was awarded to an NIGMS grantee and two others for the development of cryo-electron microscopy (cryo-EM), a technique that simplifies and improves the imaging of biomolecules.[2] This improved imaging allows researchers to make unprecedented advances in understanding the dynamics of various cellular processes that can, in turn, lead to the development of new drugs and vaccines. Similarly, the Nobel Prize in physiology or medicine was awarded to three NIGMS grantees for their work on molecular mechanisms controlling circadian rhythms, more commonly known as the "biological clock." [3] Biological clocks influence a variety of physiological conditions such as alertness, hunger, metabolism, fertility, and mood; clock dysfunction is associated with various disorders, including insomnia, diabetes, and depression. The award for this work serves as yet another example of how studying fundamental biological processes in model organisms such as fruit flies can reveal important principles that underlie human biology, health, and disease.

[1] Lorsch, J., Four NIGMS Grantees Recognized with 2017 Nobel Prizes. *NIGMS Feedback Loop Blog*, October 4, 2017. https://loop.nigms.nih.gov/2017/10/four-nigms-grantees-recognized-with-2017-nobel-prizes/
[2] NIH Grantee Wins 2017 Nobel Prize in Chemistry, *NIH News Releases*, October 4, 2017. https://www.nih.gov/news-events/news-releases/nih-grantee-wins-2017-nobel-prize-chemistry#overlay-context
[3] NIH Grantees Win 2017 Nobel Prize in Physiology or Medicine, *NIH News Releases*, October 2, 2017. https://www.nih.gov/news-events/news-releases/nih-grantees-win-2017-nobel-prize-physiology-or-medicine

Supporting the Capacity for Creative and Ambitious Research: NIGMS' Maximizing Investigator's Research Award (MIRA)

A central tenet of the 2015–2020 NIGMS Strategic Plan is to maximize investments in investigator-initiated biomedical research that advance our understanding of human health and disease.[4] To help achieve this important objective, a signature program of the Institute, known as Maximizing Investigators' Research Award (MIRA), was piloted in 2015. MIRA seeks to transform how fundamental biomedical research is supported by providing investigators with a heightened level of both scientific stability and flexibility, allowing investigators to follow new research directions and insights in real-time while simultaneously providing an extra year of financial support as part of a more coordinated scientific program (versus project) focus. In addition, the peer review process for MIRA applicants considers early stage investigators (ESIs) independently from well-established investigators (EIs), thus allowing each group of applicants to be examined relative to their peers. Since the creation of the program, NIGMS has awarded 231 MIRAs to EIs and 192 MIRAs to ESIs. The MIRA program is especially beneficial for ESIs, as evidenced by the increase in the number of ESI applications from 393 in 2015 (prior to MIRA) to 649 in 2017. The mean age of an ESI MIRA awardee is 36.8 years, which is younger than that of 38.4 years for an ESI R01 awardee.[5] ESI MIRA awardees are also increasingly located throughout the Nation, including in Institutional Development Award (IDeA) states.

Promoting Scientific Inclusion Through Geographic Diversity

The IDeA program administered by NIGMS helps to broaden the geographic distribution of biomedical research funding by enhancing the competitiveness of investigators located at educational institutions in states with historically low NIH funding. The program seeks to build institutional capacity within these states by supporting faculty development and research infrastructure enhancement. One of IDeA's initiatives, the Centers of Biomedical Research Excellence (COBRE) program, aims to develop thematic, multidisciplinary centers to augment and strengthen institutional biomedical research capabilities (see Program Portrait below for a detailed description of the Mt Desert Island COBRE). Another important aspect of the IDeA program is its ability to promote medical research for rural and underserved communities. The IDeA Clinical and Translational Research Network (CTR), for instance, provides support for clinical and translational research that addresses health conditions such as cancer, cardiovascular disease, substance abuse, and other conditions that are prevalent among local populations.

Team Science: Harnessing the Power of Communication, Collaboration, and Coordination

In 2017, NIGMS issued a Collaborative Program Grant announcement to fund highly integrated research teams of three to six investigators to tackle ambitious projects with a single, shared goal.[6] This new grant program replaces the complex constellation of mechanisms the Institute

[4] NIGMS 5-Year Strategic Plan, March 2015. https://publications.nigms.nih.gov/strategicplan/NIGMS-strategic-plan.pdf

[5] Early-Stage Investigator MIRA Review Analysis. Presented at the National Advisory General Medical Sciences Council, September 15, 2017. https://videocast.nih.gov/summary.asp?Live=26224&bhcp=1

[6] Collaborative Program Grant for Multidisciplinary Teams (RM1). https://grants.nih.gov/grants/guide/pa-files/PAR-17-340.html.

previously used to support team science. The Collaborative Program grants also allow support for pilot projects for early career researchers with a goal of helping them launch their careers and obtain independent funding. NIGMS expects to award four to six collaborative program grants per year.

Investing in People: Creating A Multi-Talented 21st Century Workforce

Supporting the development of a highly skilled, creative, diverse, and multi-talented biomedical research workforce represents a cornerstone of the NIGMS' strategic efforts.[7] As NIGMS strives to reach this goal and simultaneously keep pace with the rapid evolution of biomedical research, the Institute has begun to catalyze changes in biomedical graduate education. For instance, NIGMS recently convened a symposium of stakeholders from the biomedical graduate education community to discuss modernization of graduate education and to assess the effectiveness of associated educational innovations.[8] To operationalize concepts discussed and refined during this symposium, a completely revised Funding Opportunity Announcement has been issued for the Institute's T32 predoctoral training grants that emphasizes the development of research skills, heightened scientific rigor and reproducibility, responsible research conduct, and diversity/inclusion as its primary objectives.[9]

Because supporting a well-trained research workforce begins with early outreach and education, NIGMS was proud to welcome the NIH Science Education Partnership Award (SEPA) program to the Institute in 2017. The goal of the SEPA program is to invest in educational activities at the *pre-kindergarten to grade 12 (P-12) level* as an early intervention in ensuring that the nation's biomedical, behavioral, and clinical research needs continue to be met. SEPA supports diversity in the workforce by providing opportunities for students from underserved communities to consider careers in basic or clinical research. It does so by providing hands-on scientific experiences and learning opportunities for students, as well as professional development material and opportunities in biomedical sciences for teachers. It also improves community health literacy through science center and museum exhibits. Almost every state in the Nation has benefited from this program by having a SEPA-sponsored project. Ten of the 14 SEPAs in IDeA states are currently in partnerships with IDeA COBREs or IDeA Networks of Biomedical Research Excellence (INBREs). These activities and accomplishments place NIGMS within reach of its goal of having at least one SEPA in every state.

[7] NIGMS 5-Year Strategic Plan, March 2015, Goal 2: Support the development of a highly skilled, creative and diverse biomedical research workforce. https://publications.nigms.nih.gov/strategicplan/NIGMS-strategic-plan.pdf
[8] Faupel-Badger, J., Gibbs, K. NIGMS Symposium on Catalyzing the Modernization of Graduate Education. *NIGMS Feedback Loop Blog*, February 26, 2016. https://loop.nigms.nih.gov/2016/02/nigms-symposium-on-catalyzing-the-modernization-of-graduate-education/
[9] NIGMS Ruth L. Kirschstein National Research Service Award (NRSA) Predoctoral Institutional Research Training Grant (T32). https://grants.nih.gov/grants/guide/pa-files/PAR-17-341.html

Program Portrait on Data Science in Medicine

The recent explosion of computing power is propelling biomedical research into new areas. Researchers, including those with MIRA funding, are beginning to make discoveries by harnessing computers to analyze vast data sources, such as anonymized electronic health records from large clinical centers. One research group used this sort of data-mining approach to comb through 16 million electronic records of 2.9 million patients in two separate databases. The analysis uncovered a correlation between taking commonly prescribed heartburn medications, known as proton-pump inhibitors, and heart attacks. Specifically, people who take a proton-pump inhibitor appeared 16 percent to 21 percent more likely to suffer a heart attack when compared with patients who did not take that kind of medication. Although more work needs to be done to determine the mechanism of this effect, the study shows the power of "big data" to point scientists in new directions. Scientists also use computational approaches known as deep-learning algorithms to analyze features in images. With the technique, pharmaceutical scientists hope to visualize the impact of potential drugs on the shape and biochemistry of cells. Clinicians expect to use it to diagnose diseases such as diabetic retinopathy and cancer. Basic researchers plan to apply it to study patterns of gene activity in cells exposed to various chemical environments. Researchers are also leveraging computers to do the heavy lifting in drug design. One interdisciplinary team of researchers applied the power of computation to the problem of opioid overdose. Starting with a newly deciphered atomic structure of the brain's morphine receptor, the scientists designed a substance that, in mice, blocked pain as effectively as morphine, but lacked the potentially deadly side effects. In particular, the new molecule did not interfere with breathing—the main cause of death in opioid overdoses—or cause constipation, a common opioid side effect. Researchers are investigating whether this compound is less addictive than traditional opioids, and will also need to test it for safety in humans. Powerful computers are also being used to model the detailed, three-dimensional structure of disease-related molecules and to scan through databases of genomic and drug data to predict new uses for medicines that are already on the market. Using this approach, called drug repositioning, researchers are evaluating whether drugs approved by the FDA to treat one disease might be equally effective on a completely different disease. Because this approach avoids the need to re-test drugs for human safety, it promises to save billions of dollars in drug development costs. At a more fundamental level, by evaluating patterns of gene activity in various disease states, researchers hope to learn more about how certain diseases progress and how some drugs work at the molecular level.

Program Portrait on Regeneration

If salamanders and starfish can regrow lost limbs, why can't we? Researchers around the globe, including several at Mount Desert Island Biological Lab in Maine, are tackling that question. Re-growing human arms and legs is unlikely anytime soon, but the research has more immediate implications for healing tissues destroyed by heart disease, chronic wounds, and musculoskeletal diseases. By studying regeneration in various organisms, scientists strive to learn which molecules and genes might help us heal and regrow lost tissues. In humans and many other animals, scars form at injury sites, hampering regeneration. As scars thicken and tighten, they can prevent normal movement and functioning. Much of the death and disability caused by heart disease, the world's top killer, is a direct result of scarring following a heart attack. Unlike humans, the adult axolotl, or Mexican salamander, can build new heart muscle. Researchers discovered that doing so requires a type of white blood cell called a macrophage. Lacking macrophages, axolotls developed permanent scar tissue that blocked regeneration. The scientists hope eventually to find a way to trigger production of macrophages and promote scar-free healing in humans. Other researchers have zeroed in on a particular molecule, dubbed MSI-1436 that promotes regrowth of heart muscle in mice. Mice are genetically similar to humans and share our problem with scarring. When administered 24 hours after an artificially induced heart attack in mice, MSI-1436 greatly increased survival, improved heart function, reduced scarring, and stimulated the production of heart muscle cells. The researchers obtained a patent and formed a company to explore MSI-1436 as a potential regenerative treatment for heart attack patients. Earlier clinical trials for unrelated conditions indicate that MSI-1436 is safe in humans, further bolstering its potential in regenerative medicine. Chronic wounds are another major public health threat—and one that is increasing in the U.S. with the rise in diabetes, obesity, and average age. Treating chronic wounds costs $50 billion a year,[10] not including untold costs in lost productivity and life quality. Key to wound repair is replacing lost cells, a process typically attributed to cell division. Scientists are now learning about other healing strategies, such as polyploidy, in which cells increase their size and DNA content. In most mammalian cells, polyploidy—actually, extra genetic material—is a sign of disease. But some mammalian cells in the liver, heart, and cornea become polyploid after injury. An early-career investigator with MIRA funding and her group are studying the role polyploidy plays in wound healing using the fruit fly,[11] a common research organism. They aim to find genetic or pharmacological targets that could promote healing in humans. Other scientists focus not on natural healing processes, but on developing new materials on which to grow tissue for implantation into humans. A team at Boise State University in Idaho are studying whether graphene foam—a 3D material made of carbon—is suitable for growing muscle tissue. In addition to its relevance for growing implantable tissue, such work could improve our understanding of musculoskeletal disorders.

[10] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5421512/
[11] https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4876532/

Program Descriptions and Accomplishments

Genetics and Molecular, Cellular, and Developmental Biology (GMCDB): The GMCDB division supports research to understand the structure and function of cells and cellular components, and the cellular and molecular mechanisms that underlie inheritance, gene expression, and development. The results of this research form the foundation for advances in diagnosing, preventing, treating, and curing a wide variety of diseases. Most of the projects supported by the division make use of research organisms, which advance the general understanding of biological processes. To complement GMCDB's large investment in research that is performed in a wide variety of research organisms, GMCDB will also employ FY 2019 funds to bolster human research studies aimed at revealing the generalizable principles of the genetics of human biology and human disease.

Pharmacology, Physiology, and Biological Chemistry (PPBC): The PPBC program supports a broad spectrum of research aimed at improving the molecular-level understanding of fundamental biological processes and discovering approaches to their control. Research supported by the division takes a multifaceted approach to problems in pharmacology, physiology, biochemistry, and biological chemistry that are very basic in nature. The goals of supported research include an improved understanding of drug action and of anesthesia; mechanisms underlying responses to drugs; new methods and targets for drug discovery; advances in natural products synthesis; an enhanced understanding of biological catalysis; knowledge of metabolic regulation and fundamental physiological processes; and the integration and application of basic physiological, pharmacological, and biochemical research to clinical issues in anesthesia, clinical pharmacology, and trauma and burn injury. Research approaches are state-of-the-art and employ the optimal research organisms for the problems being addressed. In FY 2019, PPBC will implement new NIH policies for clinical trials oversight to ensure that supported studies will enhance safety for patients and hasten new research discoveries. Additionally, projects at the interface of chemistry and biology are expected to yield new understanding of life processes.

Biophysics, Biomedical Technology, and Computational Biosciences (BBCB): BBCB facilitates advances in basic biomedical research by supporting the development of biophysical and computational methods and tools for understanding basic biological questions; physical and theoretical methodologies, bioinformatics tools, and sophisticated quantitative approaches to lay a foundation for advances in disease diagnosis, treatment, and prevention in health and disease; and the creation of innovative tools and new technologies for the study of macromolecular, cellular, and organelle processes and function. A major new effort in BBCB is the Emerging and Focused Technology Research and Development initiative to support pioneering technology development that will impact a broad range of basic biomedical research on living systems ranging from molecules and cells to tissues, organs, and organisms. Programs and resources in BBCB empower thousands of NIH-supported scientists each year.

Division of Training, Workforce Development, and Diversity (TWD): The TWD program is responsible for supporting the training of an outstanding and diverse biomedical research workforce for the future. TWD supports training of Ph.D. and M.D.-Ph.D. students, as well as postdoctoral fellows in basic, translational, and clinical research. TWD also supports student-

development programs focused on enhancing diversity in undergraduate STEM training leading to research careers. TWD will continue its support for specialized programs in the biomedical sciences that recruit and train students from diverse backgrounds.

Division for Research Capacity Building (DRCB): DRCB supports research, research training, faculty development, and research infrastructure improvement in states and institutions that have been historically underrepresented in NIH funding. DRCB administers four major programs. The IDeA program broadens the geographic distribution of NIH funding for biomedical research in 23 states and Puerto Rico through four initiatives: (1) the *Centers of Biomedical Research Excellence [COBRE]* initiative aims to develop thematic, multidisciplinary centers (119 total COBRE awards were supported in FY 2017, 24 are new awards); (2) the *IDeA Networks of Biomedical Research Excellence [INBRE]* initiative supports the establishment of statewide networks for expanding research access and capabilities (24 total INBRE awards were supported in FY 2017); (3) the *IDeA Program Infrastructure for Clinical and Translational Research [IDeA-CTR]* initiative promotes the advancement of clinical and translational research that addresses regional health concerns (10 total IDeA-CTR awards were supported in FY 2017, one is a new award); and (4) the *IDeA Co-funding* initiative aims to increase the pool of NIH funded investigators (60 total IDeA Co-funding awards were supported in FY 2017, 32 are new awards). The Support of Competitive Research (SCORE) program seeks to increase the research competitiveness of faculty at institutions that have an explicitly stated historical mission focused on serving students from underrepresented groups (192 total SCORE awards were supported in FY 2017, 63 of which are new awards). The Native American Research Centers for Health (NARCH) program supports partnerships between American Indian/Alaska Native tribes or tribally-based organizations and institutions that conduct intensive biomedical research (27 total NARCH awards were supported in FY 2017, seven are new awards). In May 2017, following congressional directive, the Science Education Partnership Award (SEPA) program moved to NIGMS for administration by DRCB. The SEPA program invests in educational activities that complement or enhance the training of a workforce to meet the nation's biomedical, biobehavioral, and clinical research needs (81 total SEPA awards were supported in FY 2017, 15 are new awards). In response to a FY 2016 Senate Labor/HHS report directing NIGMS to allocate funds for shared innovation incubator in each of the four IDeA regions, concept clearance was obtained from the NIGMS council in FY 2017 for the publication of a Funding Opportunity Announcement (FOA). The FOA (STTR UT2 Mechanism) for creation of Regional Tech Transfer Accelerator Hubs for IDeA States is anticipated for release in early FY 2018.

Intramural: NIGMS has a small but unique intramural research training program, the NIGMS Postdoctoral Research Associate (PRAT) Program. PRAT postdoctoral research fellows are supported for up to three years. They pursue independent research in intramural NIH laboratories under the guidance of tenured/tenure-track investigators, and they receive specialized training and career mentoring from NIGMS staff. Fellows in this highly regarded program have received numerous honors and awards for their innovative research in areas ranging from cell and molecular biology to pharmacology and genetics.

Research Management and Support (RMS): RMS provides administrative, budgetary, logistical, and scientific support toward the review, award, and monitoring of research grants, training awards, and research and development contracts. The program also encompasses

strategic planning, coordination, and evaluation of NIGMS programs; regulatory compliance; and coordination and liaison with other Federal agencies, Congress, and the public. RMS funds improvements in information technology tools to facilitate the paylist process where grant applications are discussed and prioritized for possible funding. NIGMS used RMS funds to migrate NIGMS systems and services to the "cloud." Such activities resulted in significant cost savings, enhanced information technology security and disaster recovery, as well as ensured compliance with the Federal Information Technology Acquisition Reform Act (FITARA). RMS funds were also used to update critical infrastructure platform components and support technologies. Extending beyond technological improvements, NIGMS continues to enhance its public outreach and transparency through a redesigned website and resources for the scientific community and general public.

NATIONAL INSTITUTES OF HEALTH
National Institute of General Medical Sciences

Detail of Full-Time Equivalent Employment (FTE)

OFFICE/DIVISION	FY 2017 Final			FY 2018 Annualized CR			FY 2019 President's Budget		
	Civilian	Military	Total	Civilian	Military	Total	Civilian	Military	Total
Division for Research Capacity Building									
Direct:	10	-	10	10	-	10	10	-	10
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	10	-	10	10	-	10	10	-	10
Division of Biophysics, Biomedical Technology, and Computational Biosciences									
Direct:	10	-	10	14	-	14	14	-	14
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	10	-	10	14	-	14	14	-	14
Division of Cell Biology and Biophysics[1]									
Direct:	11	-	11	-	-	-	-	-	-
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	11	-	11	-	-	-	-	-	-
Division of Genetics and Molecular, Cellular, and Developmental Biology									
Direct:	12	-	12	18	-	18	18	-	18
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	12	-	12	18	-	18	18	-	18
Division of Pharmacology, Physiology and Biological Chemistry									
Direct:	10	-	10	13	-	13	13	-	13
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	10	-	10	13	-	13	13	-	13
Division of Training, Workforce Development and Diversity									
Direct:	12	-	12	12	-	12	12	-	12
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	12	-	12	12	-	12	12	-	12
Office of Administrative Management									
Direct:	32	-	32	32	-	32	32	-	32
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	32	-	32	32	-	32	32	-	32
Office of Extramural Activities									
Direct:	52	-	52	52	-	52	52	-	52
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	52	-	52	52	-	52	52	-	52
Office of Scientific Review									
Direct:	14	-	14	14	-	14	14	-	14
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	14	-	14	14	-	14	14	-	14
Office of the Director									
Direct:	19	-	19	19	-	19	19	-	19
Reimbursable:	-	-	-	-	-	-	-	-	-
Total:	19	-	19	19	-	19	19	-	19
Total	182	-	182	184	-	184	184	-	184
Includes FTEs whose payroll obligations are supported by the NIH Common Fund.									
FTEs supported by funds from Cooperative Research and Development Agreements.	0	0	0	0	0	0	0	0	0

FISCAL YEAR	Average GS Grade
2015	0.0
2016	0.0
2017	12.6
2018	12.7
2019	12.7

[1]Reflects FTEs moved to other divisions due the recently approved NIGMS re-organization to eliminate the Division of Cell Biology and Biophysics.

NATIONAL INSTITUTES OF HEALTH
National Institute of General Medical Sciences

Detail of Positions[1]

GRADE	FY 2017 Final	FY 2018 Annualized CR	FY 2019 President's Budget
Total, ES Positions	1	1	1
Total, ES Salary	171,614	174,960	175,800
GM/GS-15	20	21	21
GM/GS-14	57	64	64
GM/GS-13	50	49	49
GS-12	10	6	6
GS-11	4	3	3
GS-10	0	0	0
GS-9	2	3	3
GS-8	5	5	5
GS-7	14	13	13
GS-6	1	1	1
GS-5	1	1	1
GS-4	0	0	0
GS-3	0	0	0
GS-2	1	1	1
GS-1	0	0	0
Subtotal	165	167	167
Grades established by Act of July 1, 1944 (42 U.S.C. 207)	0	0	0
Assistant Surgeon General	0	0	0
Director Grade	0	0	0
Senior Grade	0	0	0
Full Grade	0	0	0
Senior Assistant Grade	0	0	0
Assistant Grade	0	0	0
Subtotal	0	0	0
Ungraded	21	21	21
Total permanent positions	166	168	168
Total positions, end of year	187	189	189
Total full-time equivalent (FTE) employment, end of year	182	184	184
Average ES salary	171,614	174,960	175,800
Average GM/GS grade	12.6	12.7	12.7
Average GM/GS salary	116,535	118,807	119,377

[1] Includes FTEs whose payroll obligations are supported by the NIH Common Fund.