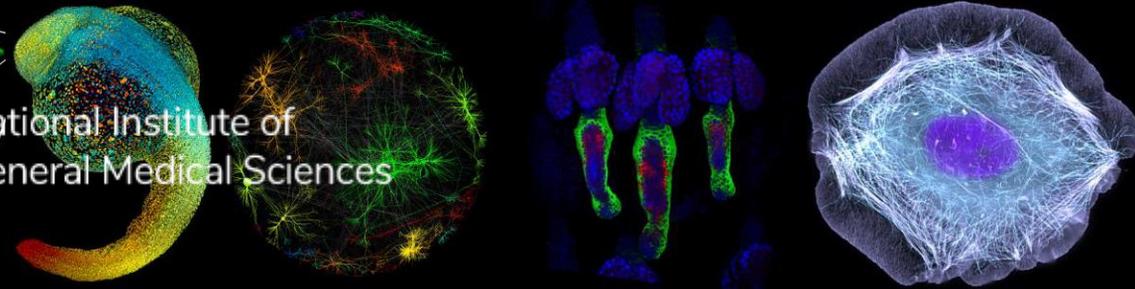




National Institute of  
General Medical Sciences



*“The overarching goal for all of NIH is to advance medical science and improve human health. Through our support of investigator-initiated fundamental research, effective training programs, and the development of new technologies, NIGMS plays a central role in reaching that goal.”*

Dr. Jon R. Lorsch, NIGMS Director

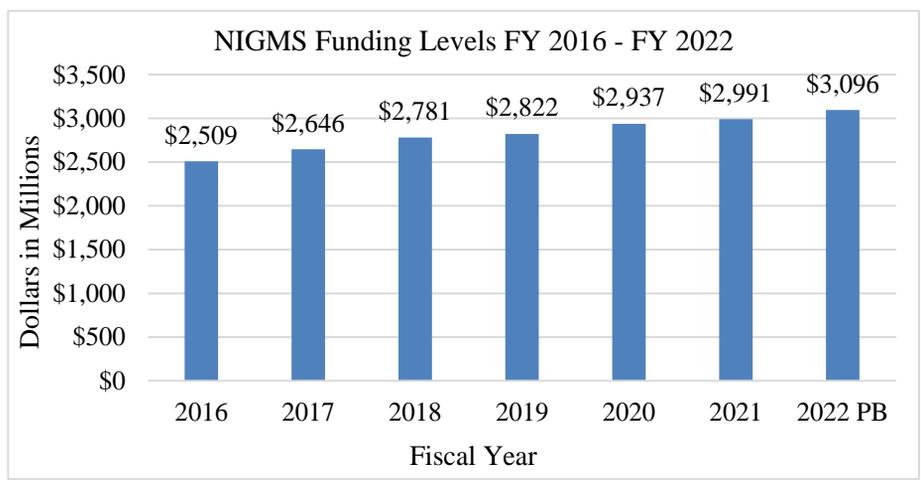
Established in 1962, the National Institute of General Medical Sciences (NIGMS) supports research in basic science, sometimes called “fundamental” science, that helps researchers understand living systems and life processes. This knowledge leads to better ways to predict, prevent, diagnose, treat, and ultimately cure disease.

**NIGMS Strategic Priorities**

- Support a broad and diverse portfolio of highly meritorious research that drives scientific discoveries and advances our understanding of human health and disease.
- Invest in the development of a highly skilled, creative, adaptable, and diverse biomedical research workforce.
- Ensure access to essential tools, technologies, capabilities, and other resources needed to conduct meaningful biomedical research.
- Demonstrate optimal stewardship of public funds by continually evaluating, improving, and communicating returns on investment.



*Jon R. Lorsch, Ph.D.  
Director, NIGMS*

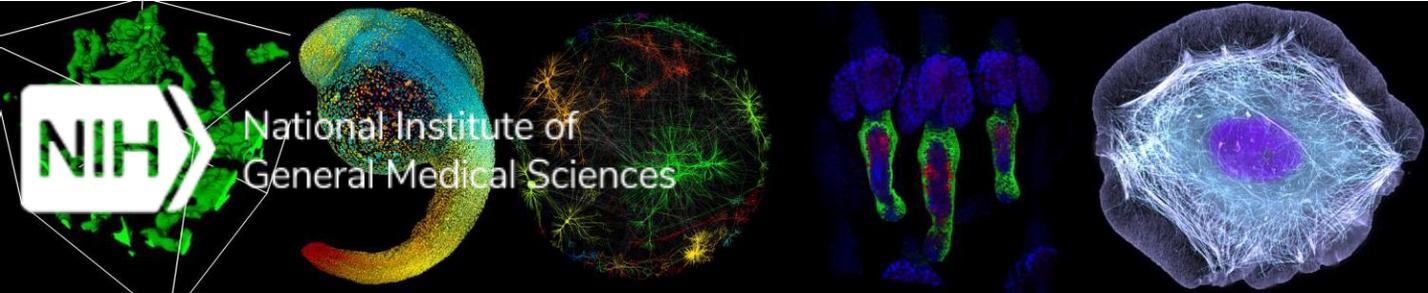


**NIGMS Research Highlights (FY 2020):**

- Responding to a pressing health need by supporting and expanding research on **infectious disease modeling**, including for COVID-19, and using technologies like CryoElectron Microscopy to improve the **imaging of biomolecules** such as the SARS-CoV-2 spike protein.
- Strengthening **rural and women’s health research** through the Institutional Development Awards Clinical and Translational Research infrastructure programs.
- Accelerating **sepsis** research by focusing on mechanistic studies using samples and data from patients.

**NIGMS by the Numbers (FY 2020)**

- 171 Full Time NIGMS Employees
- >4,500 Funded Research Grants
- >5,000 Funded Scientists (competing & non-competing research grants)
- 264 Early Stage Investigators (ESIs) (ROI- equivalent)
- >4,000 Research Trainees
- 165 Institutions supported by Training and Workforce grants



NIH  
National Institute of  
General Medical Sciences

## Recent Accomplishments

- The receipt of the **2020 Nobel Prize in Chemistry** was awarded to a long-time NIGMS grantee and one other scientist for the development of **CRISPR/Cas9 genome editing technology**, which enables researchers to add, delete, or modulate certain genes as well as create animal models for the study of genetic diseases. The ability to precisely target genes in human cells is expected to accelerate progress in developing gene-based therapies and is a critical research tool for understanding how cells function.
- The number of **Early Stage Investigators (ESIs)** receiving their first major competing NIH research project grant (RPG) from NIGMS **increased** from 128 in FY 2015 to 264 in FY 2020, in part due to the successful introduction of the R35 Maximizing Investigators Research Award grant mechanism in FY 2016.
- NIGMS supported a **record number of RPGs** in FY 2020 (4,477 overall, 1,161 competing, and 3,316 noncompeting); these numbers represent an increase of approximately 19 percent above the number of RPGs supported in FY 2015 (3,754 overall, 1,074 competing, and 2,680 noncompeting).

## Current Activities

- NIGMS supports infectious disease modeling through the **Models of Infectious Disease Agents Study (MIDAS)** Coordination Center. The MIDAS Coordination Center has established a portal for COVID-19 modeling, which provides an extraordinary collection of data and information regarding the current COVID-19 pandemic.
- In FY 2019, NIGMS launched the **Maximizing Opportunities for Scientific and Academic Independent Careers (MOSAIC)** program. The aim of MOSAIC is to both facilitate and ensure the successful transition of promising postdoctoral researchers from diverse backgrounds into independent faculty careers at research-intensive institutions.
- The NIGMS-sponsored **Protein Data Bank (PDB)** is a free online repository of protein and nucleic acid structures. With approximately 260,000 visitors each month, the PDB is widely used by the scientific community to study basic biological processes as well as for medically oriented investigations into disease mechanisms and drug design.

## Future Initiatives

- Focus on **Laboratory Safety** – NIGMS has launched a website highlighting laboratory safety training and guidelines. The Institute also recently announced the availability of supplements for research education, training, and career development grants to enhance laboratory safety curricula and to build a culture of safety in biomedical research training environments.
- Support strategic **National and Regional Technology Resources** – NIGMS is aiming to increase access to cutting-edge scientific technologies for researchers across the country. By strategically supporting high-value shared technology resources, NIGMS will improve access to important technologies for researchers from a wide variety of institutions and regions, create efficiencies and economies of scale, and reduce costs and administrative burden for institutions.
- Optimize **diversity and inclusion** in the biomedical research workforce – NIGMS is continuing to make a series of strategic changes aimed at optimizing diversity and inclusion in the biomedical research workforce while catalyzing the modernization of biomedical undergraduate and graduate education. These programs span community college, undergraduate, graduate, postdoctoral, and faculty levels, and apply to research-intensive and lesser-resourced institutions.