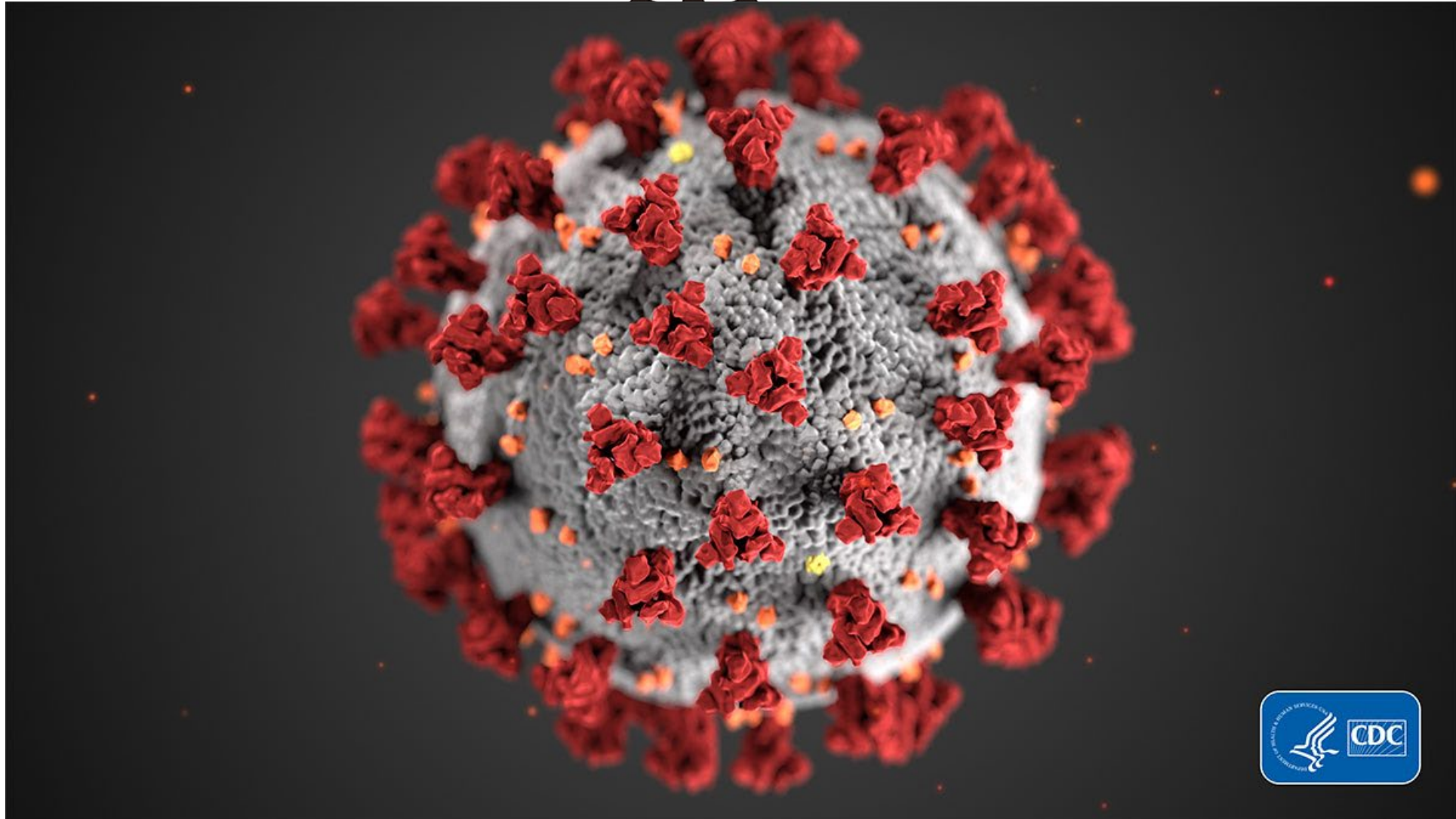
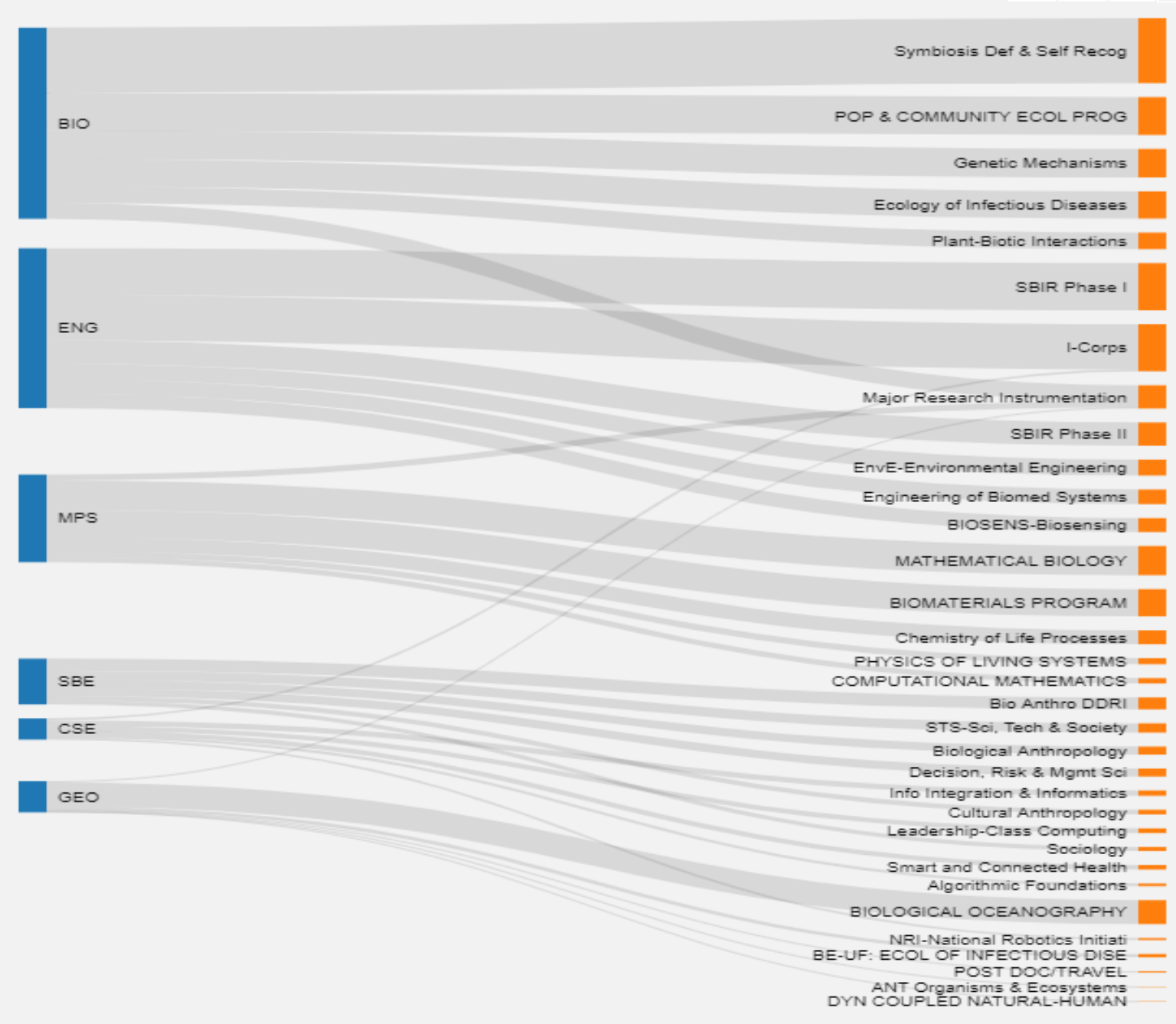


SARS-CoV-2 Virus and COVID-19 Disease



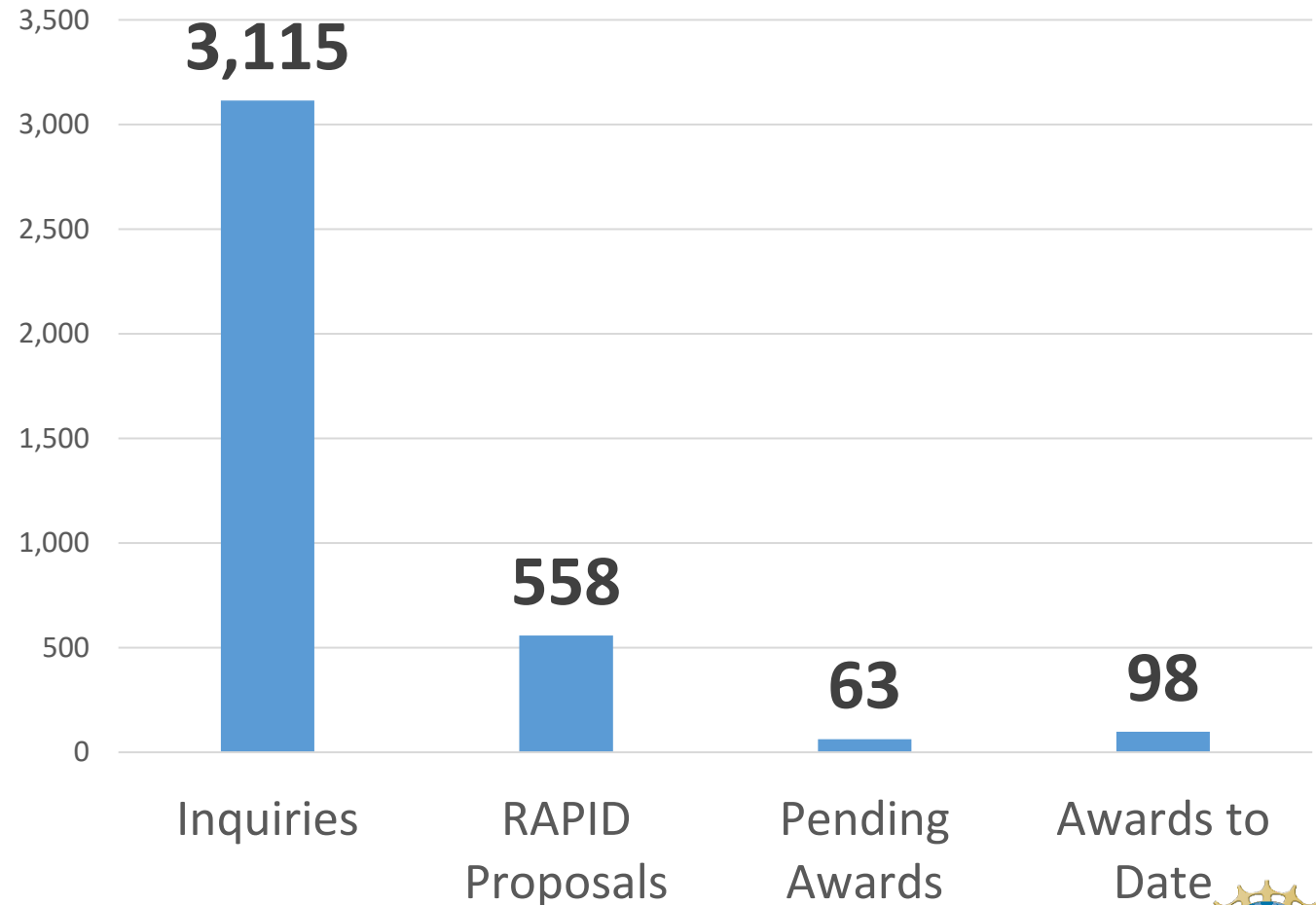
trends in microbiology



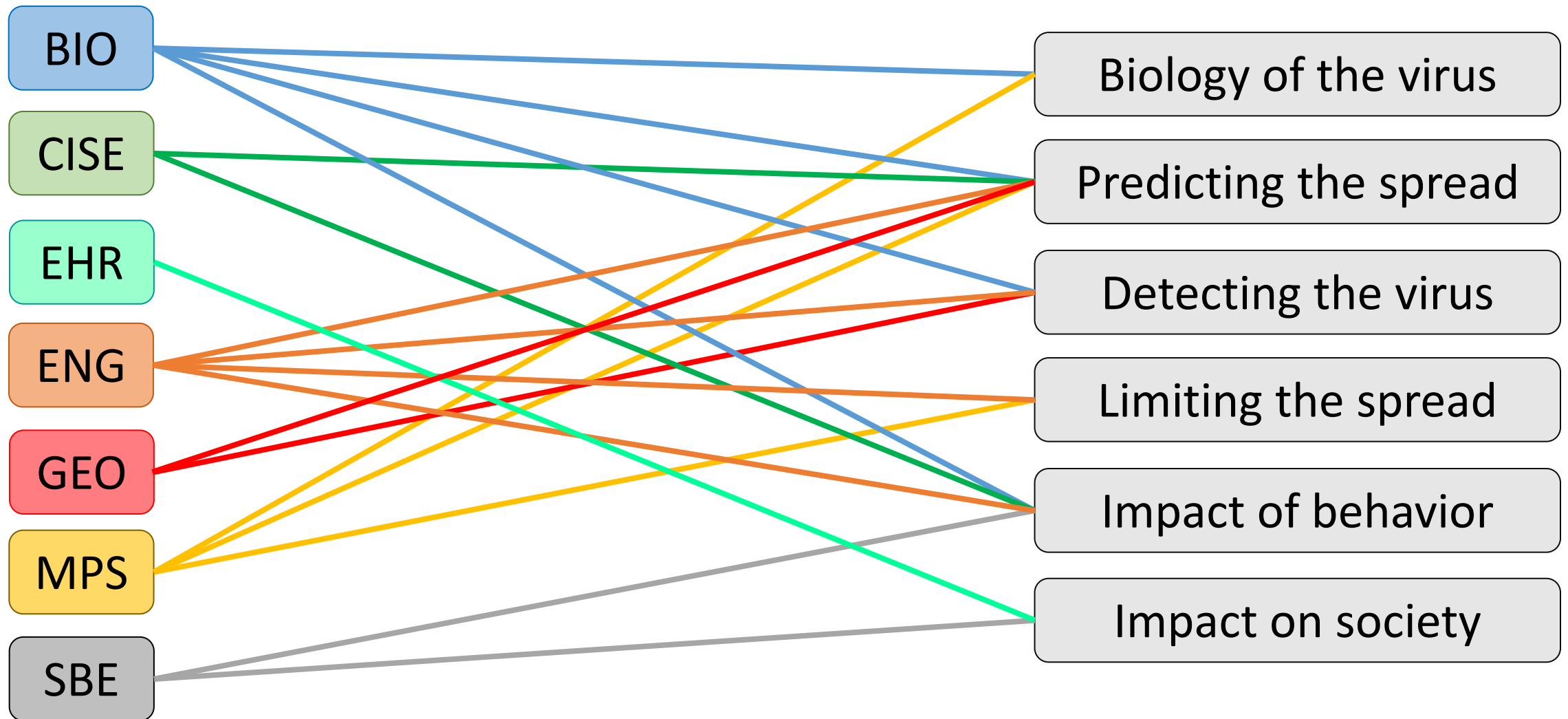
Understanding of Disease Systems – Foundational Funding Programs

Dear Colleague Letter on COVID-19 (NSF 20-052)

- Model and understand spread
- Inform and educate about transmission and prevention
- Develop process and actions to address global challenge



COVID-19 RAPIDs – Thematic Overview



COVID-19 RAPIDs – Examples

**Biophysical characterization of the
native SARS-CoV-2 virion by
atomistic simulations**

COVID-19 RAPIDs – Examples

Biophysical characterization of the native
SARS-CoV-2 virion by atomistic simulations

**Coronavirus persistence,
transmission, and circulation in the
environment**

COVID-19 RAPIDs – Examples

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Biophysical characterization of the native SARS-CoV-2 virion by atomistic simulations

Development of Rapid POC SARS-2019-nCoV LAMP-OSD Assay System

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Uncertain Risk and Stressful Future: A National Study of the COVID-2019 Outbreak in the U.S.

On-mask Chemical Modulation of
Respiratory Droplets

Accelerated Testing for COVID-19
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nCoV LAMP-OSD Assay System



Coronavirus Information

NSF encourages you to take extra precautions to protect yourselves and your families against COVID-19. If you are an NSF employee looking for guidance, please visit InsideNSF. If you are a member of the public, please visit [cdc.gov](https://www.cdc.gov).

Federal Guidance on Coronavirus (COVID-19)

- [US Government Response to Coronavirus, COVID-19](#)
- [Centers for Disease Control and Prevention \(CDC\) guidance](#)
- [Department of State \(DOS\) travel information](#)

NSF Guidance

- [Important Notice No. 146 - NSF Letter to Community Regarding COVID-19](#)
- [NSF Implementation of OMB Memorandum M-20-20](#)
- [NSF Implementation of OMB Memorandum M-20-17](#)
- [Impact on Existing Deadline Dates](#)
- [NSF Guidance on the Effects of COVID-19 on Human Subjects Research](#)
- [NSF Guidance on the Effects of COVID-19 on Vertebrate Animal Research](#)
- [NSF Guidance for Major Facilities and Contracts Regarding COVID-19](#)

Frequently Asked Questions (FAQs) on NSF Guidance

- [FAQs About the Coronavirus Disease 2019 \(COVID-19\) for NSF Proposers and Awardees](#)
- [FAQs About the Coronavirus Disease 2019 \(COVID-19\) for NSF SBIR and STTR Grantees](#)
- [FAQs About the Coronavirus Disease 2019 \(COVID-19\) for REU Sites, RET Sites, IRES Sites, and Similar Activities](#)
- [FAQs About the Coronavirus Disease 2019 \(COVID-19\) for NSF Panelists](#)

Research on Coronavirus (COVID-19)

- [Dear Colleague Letter on the Coronavirus Disease 2019 \(COVID-19\) — RAPID](#)
 - [FAQs regarding the NSF Dear Colleague Letter on the Coronavirus Disease 2019 \(COVID-19\) \(NSF 20-052\)](#)
- [Dear Colleague Letter: Request for SBIR/STTR Phase I Proposals Addressing COVID-19](#)
- [NSF Supporting Research to Address Coronavirus Disease blog](#)
- [NSF Coronavirus RAPID Awards](#)



UTILIZING NSF-FUNDED RESEARCH IN THE FIGHT AGAINST COVID-19

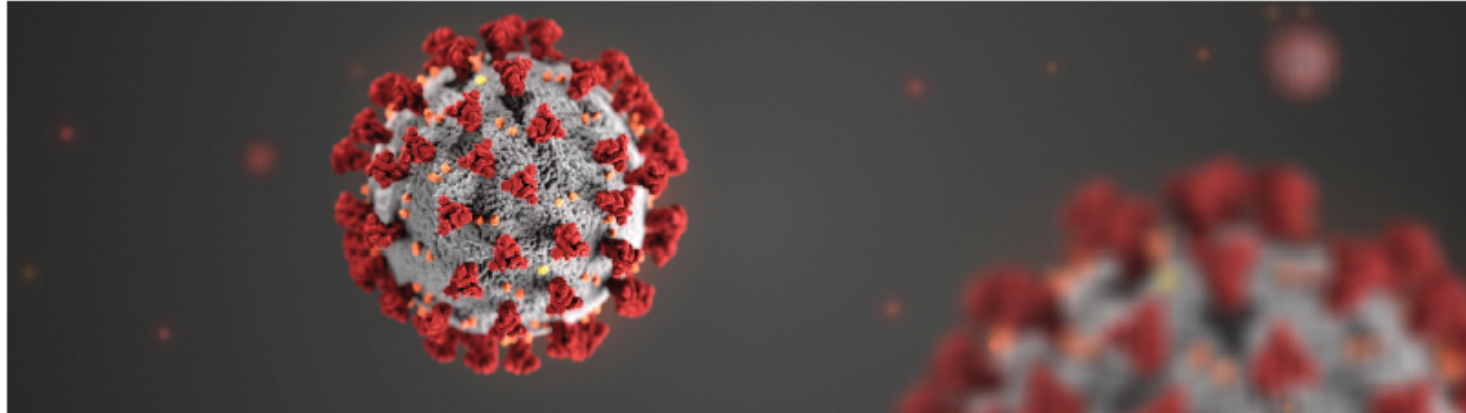


Image credit: CDC

For 70 years, NSF has supported basic research that enhances our economy and national defense, and advances the health, prosperity, and well-being of the nation. As the nation responds to the COVID-19 pandemic, NSF-funded research is playing a crucial role. From the science and engineering behind critical diagnostic tools and medical devices, to novel solutions that help communities, businesses, and individuals navigate the challenges of this difficult time, NSF's investments in science and technology are making a difference.

DECADES OF NSF INVESTMENTS ARE BEING USED IN THE RESPONSE TO COVID-19

3D PRINTED PPE PROTECTS HEALTHCARE WORKERS

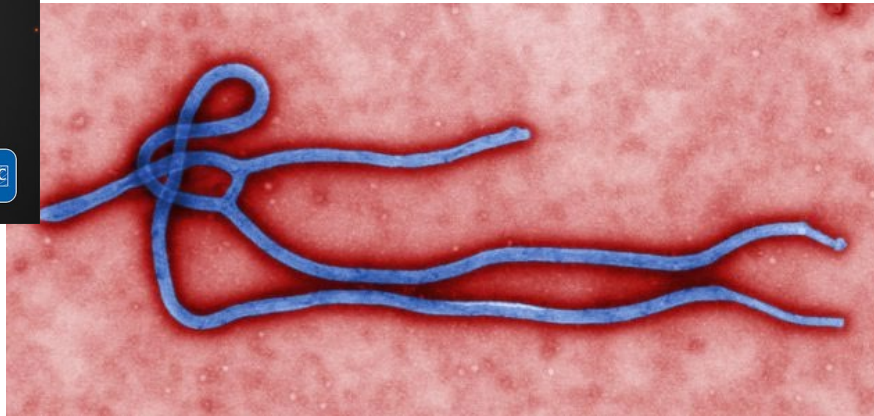
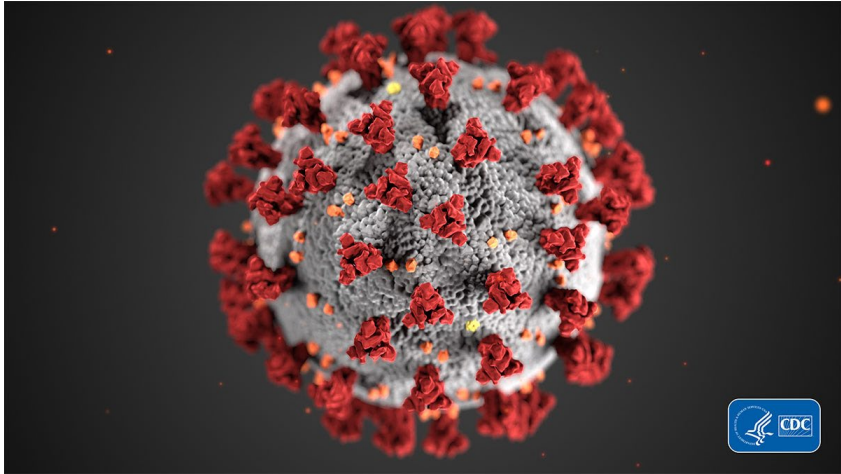
NSF's investments in 3D printing and additive manufacturing—going back to the 1980s—are enabling students and educators at community colleges in Tennessee, Kentucky and Connecticut to produce life-saving personal protective equipment (PPE). NSF is continuing to fund research to expand advanced manufacturing capabilities and efficiency, and NSF plays a key role in STEM training that opens these fields up to students and workers across the nation.

UNDERSTANDING THE BIOLOGY OF VIRUSES TO MITIGATE TRANSMISSION

Decades of investments in genetics, cyberinfrastructure and fundamental biology enabled the rapid sequencing and identification of the novel coronavirus weeks after its discovery in late 2019. This finding allowed infectious disease experts to quickly realize its similarity to the 2002 SARS coronavirus and begin work on combatting its spread. Continued work in



Learnings: Preparing for the Next Pandemic



From reactive to predictive;
segmented to interdisciplinary and coordinated