

Congress of the United States
Washington, DC 20515

March 28, 2019

The Honorable Jose Serrano
Chairman
Subcommittee on Commerce, Justice,
Science, and Related Agencies
H-307, The Capitol
Washington, D.C. 20515

The Honorable Robert Aderholt
Ranking Member
Subcommittee on Commerce, Justice,
Science, and Related Agencies
1016 Longworth House Office Building
Washington, D.C. 20515

Dear Chairman Serrano and Ranking Member Aderholt:

We write to respectfully request that the National Science Foundation (NSF) receive an appropriation of **\$9 billion** in the Fiscal Year (FY) 2020 Commerce, Justice, Science, and Related Agencies Appropriations bill.

The NSF is an independent federal agency created by Congress in 1950 to promote the progress of science, secure the national defense, and to advance the nation's health, prosperity, and welfare. The scientific research and educational programs supported by NSF are integral to the continued success of America's innovation enterprise. NSF funded research has produced transformative scientific discoveries that have led to new industries, products, services, and enhanced to lives of all Americans. For example, NSF-funded research has supported technological advancements such as artificial intelligence, nanotechnology, 3-D printing, next generation computer chips, patient-friendly MRI scans, and threat detection devices. It has also funded research that addresses societal challenges such as the opioid epidemic, post-disaster resiliency, learning disabilities and autism. Many more examples of the impact of NSF-funded research are available in the second edition of [Transforming the World Through Science](#).

For the United States to remain a global leader in scientific research, engineering, and technology development, the nation must provide greater investment in its people and overall R&D funding. According to the National Science Board's (NSB) 2018 Science and Engineering Indicators report, "the number of jobs in the United States requiring substantial science, technology, engineering, and mathematics (STEM) expertise has grown nearly 34% over the past decade. As of 2015, nearly one in seven workers with a four-year degree said that their job required a bachelor's level of STEM expertise." Moreover, 16 million skilled technical jobs require significant technical expertise. Given these statistics, it is essential for the United States to invest in NSF's education programs, including K-12 STEM education, undergraduate and graduate education and training, and informal education programs. When making these critical investments in STEM education programs, we must invest in programs such as NSF INCLUDES and the Established Program to Stimulate Competitive Research (EPSCoR). NSF INCLUDES has provided access to research and STEM education opportunities for women and underrepresented minorities, while EPSCoR has provided similar opportunities to all Americans regardless of where they live in the United States.

In addition to investing in people, the United States must continue to invest in Research and Development (R&D). Competitor nations are making great advancements in science and technology due to their significant investment in R&D. Some Asian and European countries are investing heavily in R&D and the STEM education and training of their workforces. According to the 2018 Science and Engineering Indicators report, “the U.S. investment in R&D of \$497 billion was closely followed by China at \$409 billion – accounting for 26% and 21%, respectively in R&D funding worldwide.” Should that trend continue, the NSB expects China to surpass the United States in R&D investments by the end of 2019. To remain globally competitive, the United States must continue to invest in fundamental scientific research; the very research that NSF funds across the scientific disciplines.

NSF is the only federal research agency that supports fundamental research in these important fields – biology, computer science, economics, engineering, educational research, geosciences, mathematics, and social and behavioral sciences. Given the breath of the research funded by NSF, the 116th Congress must appropriate \$9 billion for the agency in FY 2020. It is important to note that one out of every four basic research projects at higher learning institutions across the United States is supported by the NSF. All NSF grant proposals are critically reviewed to ensure they meet the intellectual merit and broader impacts criteria. The NSF’s expert merit review process is the international gold-standard for the review and evaluation of grant proposals and relies upon the expertise and knowledge of leading scientists and engineers to ensure that the best research is being funded across the scientific disciplines. Full funding of the NSF will enable more than 350,000 researchers, including teachers and students nationwide, to address some of our society’s most pressing concerns through more than 11,000 competitive awards and 8,400 research grant awards.

For these reasons, we respectfully request your support to ensure that the National Science Foundation receive \$9 billion for Fiscal Year (FY) 2020. This amount is the minimum level of funding needed to ensure future generations of Americans are prepared to help our nation remain a world economic leader.

Thank you very much.

Very truly yours,


G. K. Butterfield
Member of Congress


David B. McKinley, P.E.
Member of Congress

DM Payne Jr.
DONALD M. PAYNE, JR. (NJ-10)

Alan Lowenthal
Alan Lowenthal (CA-47)

V B M Gonzalez
vicente gonzalez (TX-15)

Debbie Dingell
MI-12

Abby Finkenauer
Abby Finkenauer (IA-01)

Dreg Stanton
(AZ-09)

Madeline Dean
PA-04

Benjamin Adamson
VT-04

Anna G. Eshoo
Anna G. Eshoo CA18

J. P. ...
CA-20

Josh Gottheimer
Josh Gottheimer (NJ-05)

Thomas R. Suozzi
(NY-03)

Ro Khanna
Ro Khanna (CA-17)

Andy Levin
Andy Levin (MI-09)

Ad Lewis
CA-05

Film Vela
TX 34

J 7-7
MA-04

A. Donald McEakin
VA-04

Mike Df
PA-18

Ann Mary Jane Foster
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Chris Pappas
NH-01

Tom O'Halloran
AZ-01

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CA-41

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IL-06 Sean Casten

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LA-02

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J. Louis Coma
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OR-03

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Scott Hall
MA-06

Katie Hill
CA-25

Ruben Mallozo
AZ-07

Brendan J. Bap
PA-02

Burke
VA-03

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KS-02

Mike
NJ-11

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IA-02

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CA-53

Greg Wynn
VA-10

Christy Houlahan
PA-06

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CO-07

A. J.
CT 04

Bob Hachtel
NM-01

Abigail D. Spanberger
VA-07

Joseph D. Manak
NY-25

Deren Horsford
NV-04

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MD-04

Tulsi Gabbard
HI-02

Bradley J. Schneider
IL-10

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CO-02

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CT05

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FI-05

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CT-01

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KS-03

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PR-AtLarge

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Ami Bern
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CA-01

Neilson
WA-02

Arnold Radtke
NY-10

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OR-04

AC
IN-07

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IL-7

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VT-A.L.

Chick
ME-02

Jenni Sewell
AL-07

Joyanna Benavente
OR-01

Cadyn B. Malony
NY-12

Richard E. Hall
MA-1

Don's Matsui
CA-06

An Yang
AK-00

Ben R. Lyp
NM03

Linda J. Sanchez
CA-38

Anders
WA-01

[Signature]

NV-18

Emanuel Cleaver
MO-5

Joe Courtney
CT-02

Jim De
CA-52

[Signature]
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OH-11

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IL-03

Al Mur
TX-09

Max D. Hastings
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IL-11

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IL-09

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CA-03

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NY-20

John P. Lusher
MD-03

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VT-00

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CT-03

Paul D. Kelly
IL-02

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CA-27

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NY-16

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NY-08

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IL-01

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MO-07

W. H. A
DC-AL

AE
IN-07

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NY-07

Wanted Naranjo
NJ-01

Andy Bon
KY-06

[Signature]
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PA-17

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IL-17

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IL-04

[Signature]
VA-02

[Signature]
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GA-04

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Owen Luwe
WI-04

Jimmy M. King
CA-00

James Price
NJ-08

Jayce Beatty
OH-03

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NC-12

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CA-29

Did Rouze
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NY-1

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FL-22

Benny Heck
WA-10

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NY-26

Anna Tetlow
NV-01

Justin Speier
CA-14

Barbara Lee
CA-13

Frankly
MA-9

Pete Star
MN-08

Elina Slotki
MI-08

Rail M. Hijdon
AZ-03

May Gay Scanlon
PA-05
