NSGA
National Space Grant Alliance

Inspiring and preparing the next generation STEM workforce 2021

REQUEST FOR FY 2022 APPROPRIATIONS

Request that Congress provide $60 million to the National Space Grant College and Fellowship Program. The Committee directs amounts be allocated to State consortia for competitively awarded base grants to support local, regional, and national STEM needs, and directs all 52 participating jurisdictions receive no less than $1 million each. The Committee allocates $1.7 million for special programs operated by Space Grant institutions to further the science and education mission of NASA and the states. The remaining funds, not to exceed 10 percent, shall be for administration of the program.

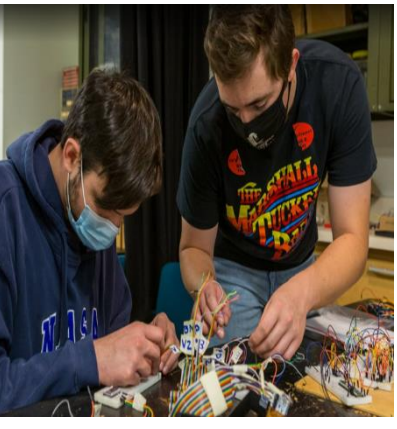
SPACE GRANT HIGHLIGHTS

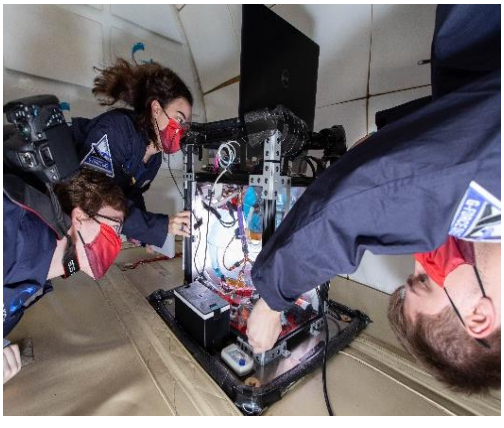
Established by Congress in 1989. Competitive, highly effective national partnership program responsive to NASA-aligned state, regional, and national priorities.

Administered by State consortia. Catalysts to enhance STEM literacy, and prepare students for careers in STEM fields to meet future national workforce needs.

Engages students in authentic STEM-based learning experiences. Programs comprise internships, fellowships, and apprenticeships involving NASA staff and facilities and industry partnerships. Hands-on experiences consist of launch vehicle and payload development; engineering challenges; space flight operations; UAVs; remote sensing; and engagement in STEM research.

Leverages partnerships across State consortia and with NASA. Relies on state-based networks in partnership with NASA to cultivate a diverse, inclusive, and broad-based high-technology workforce in academia, industry, and government.





FUNDING JUSTIFICATION

The requested $60 million provides additional funding to:

- **Strengthen and promote our national network** of state-based programs in partnership with NASA; developing and sustaining a diverse, adaptable, and competitive STEM workforce.
- **Improve student accessibility** to a widening range of STEM-based authentic learning opportunities, researchers, and mentors.
- **Broaden, extend, and accelerate participation** of underrepresented minority, women, rural, low-income, first-generation, and nontraditional students in diverse and inclusive STEM-based academic programs and careers.
- **Advance the nation's STEM literacy, education, and workforce pipeline** to further the progress of space and earth sciences and engineering that transforms our future and sustains our leadership.

The NATIONAL SPACE GRANT ALLIANCE exists to enhance the capacity of the United States of America to carry out education, research, and public outreach activities in science, technology, engineering, and mathematic (STEM) disciplines; particularly in fields related to space, aeronautics, and earth system science.

Inspiring and preparing the next generation STEM workforce

SCIENCE AND ENGINEERING WORKFORCE CRISIS

18th, 37th U.S. ranking in science and math literacy for 15-year-old students among 78 countries.

27.8, 10.4 Percent of U.S. 15-year-old boys and girls, respectively, at highest academic proficiency level in science or math who expect to work as science and engineering professionals at age 30.

1.4, 10.5 Percent of U.S. academically proficient advantaged and disadvantaged 15-year-old students, respectively, not expecting to complete post-secondary education.

8.0, 3.4 Projected percentage growth in STEM and non-STEM occupations, respectively, from 2019-2029.

$5.8B Private sector record-high investments in 178 commercial space startups in 2019, up 38 percent from 2018.

SPACE GRANT STUDENTS

4,423 **COLLEGE STUDENTS** received Space Grant funding

93% **Space Grant COLLEGE STUDENTS** remain in STEM fields

FY20

SPACE GRANT PARTICIPANTS

1,065 **AFFILIATES and COLLABORATORS**

52 **CONSORTIA in all 50 states, DC, and PR,** plus partnerships with Guam and USVI

FY20

OUTREACH

30,787 **EDUCATORS ENGAGED**

348,150 **PRECOLLEGE STUDENTS REACHED**

References at: https://spacegrantalliance.org/

FY20

DIVERSITY

28% **UNDERREPRESENTED MINORITY PARTICIPANTS**

41% **FEMALE PARTICIPANTS**

FY20

A few notable Space Grant alumni

K. Megan McArthur, Ph.D., Oceanography
Active Astronaut, NASA
Career Field: Oceanography, aerospace engineering

Ben Kellie, M.S., Mechanical Engineering
Founder & CEO, The Launch Company
Career Field: New space hardware & engineering

Alan Hale, Ph.D., Astronomy
Co-discoverer of Comet Hale–Bopp
Career Field: Astronomy, physics

Christina Koch, M.S., Electrical Engineering
Active Astronaut, NASA
Career Field: Space instruments, field engineering

Tessa Rundle, M.S., Aerospace Engineering
Space Suit Life Support System Engineer, NASA
Career Field: Crew survival engineering

Jessica Watkins, Ph.D., Geology
Active Astronaut, NASA
Career Field: Aeronautics, geomorphology

Loral O'Hara, M.S., Aeronautics and Astronautics
Active Astronaut, NASA
Career Field: Deep-ocean submersibles, robots

Zena Cardman, M.S., Marine Sciences
Active Astronaut, NASA
Career Field: Microbial ecology, geosciences

Examples of Space Grant student internships and career placements

SPACEX, BOEING, DELTA, Raytheon, AXIOM SPACE, NASA, BLUE ORIGIN, UTC Aerospace, NORTHROP GRUMMAN, Gulfstream, Cessna A Textron Company, THE AEROSPACE CORPORATION, LORD Aerospace Products, SPIRIT AEROSYSTEMS, 3M, Chevron, GM, NOAA, FAA, GE Aviation, LOCKHEED MARTIN, L3 communications, intel, Google, ExxonMobil, SCALED COMPOSITES, THE LAUNCH COMPANY, SIKORSKY A LOCKHEED MARTIN COMPANY, IBM, BAE SYSTEMS, JOHN DEERE, SAIC, U.S. AIR FORCE, EPA, AEROJET ROCKETDYNE, Johnson & Johnson, Schlumberger, Peace Corps, Honeywell, MERCK, Microsoft, amazon, DOW, CATERPILLAR