

Massachusetts Space Grant Consortium (MASGC) – Performance Data

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Affiliate Members: Amherst College (through Five-College Astronomy Department)

Boston Museum of Science

Boston University

Christa McAuliffe Challenger Learning Center

College of the Holy Cross

Franklin W. Olin College of Engineering

Harvard University

Holyoke Community College

Marine Biological Laboratory

Mount Holyoke College

Northeastern University

Project Astro

Roxbury Community College

Smith College (through Five-College Astronomy Department)

Tufts University

University of Massachusetts – Amherst

Wellesley College

Williams College

Worcester College

Worcester Polytechnic Institute

Program Description: The National Space Grant College and Fellowship Program consists of 52 state-based, university-led Space Grant Consortia in each of the 50 states plus the District of Columbia and the Commonwealth of Puerto Rico. Annually, each consortium receives funds to develop and implement student fellowships and scholarships programs; interdisciplinary space-related research infrastructure, education, and public service programs; and cooperative initiatives with industry, research laboratories, and state, local, and other governments. Space Grant operates at the intersection of NASA's interest as implemented by alignment with the Mission Directorates and the state's interests. Although it is primarily a higher education program, Space Grant programs encompass the entire length of the education pipeline, including elementary/secondary and informal education. The Massachusetts Space Grant Consortium is a Designated Consortium funded at a level of \$590,000 for fiscal year 2007.

Program Relevance to NASA: Space Grant consortia build human capital and research expertise to support NASA programs and missions, expand NASA's expertise and educational networks, and bring knowledge and awareness of space to a broad range of constituents in every state. MASGC has set as its highest priority funding students at NASA centers, both at the NASA Academies and in NASA internship programs. Massachusetts has one of the best records in the country of students being admitted to these programs, with 20 Massachusetts students participating in NASA programs during the summer of 2007.

Program Benefits to the State:

MASGC provides fellowships for students wishing to pursue aerospace-related research projects at their home institutions in the state. MASGC funded 60 in-state student fellowships in 2007.

At the request of the Massachusetts Department of Education, MASGC has extended its activities into the state's community college system. We are funding outstanding community college students to pursue summer research projects in STEM-related fields at four-year educational institutions. Already, several students have transferred to four-year programs.

MASGC supports in-service and pre-service STEM education teacher training programs, including special needs education for blind children.

MASGC supports a space-related prize for the annual state Science Fair.

Program Goals:

1. Provide opportunities for the maximum possible number of Massachusetts students for STEM education and space-related activities with the intent of interesting them in aerospace careers.
2. Explain NASA's mission and activities to students in order to attract them to NASA's internship programs, which are one of NASA's prime hiring pipelines.
3. Extend Space Grant programs and opportunities to the broadest possible cross-section of the Massachusetts population, particularly encouraging participation by women and minorities.

Program Accomplishments:

- Awarded 80 student fellowships for higher education and research, both at NASA centers and in-state
- Supported aerospace-related seminar series at MIT, Tufts and Roxbury Community College
- Partnered with the Boston Museum of Science to organize Space Day, an annual event featuring presentations by college students who have been funded by MASGC for participation in NASA academies or interns at NASA Centers, enabling high school students to hear first hand from college students about working at NASA
- Supported the 2007 National "Space Vision" Conference of Students for the Exploration and Development of Space (SEDS)
- Sponsored a "10K" Aerospace Entrepreneurship Prize, as part of MIT's 100K annual entrepreneurship competition, in order to harness a cross section of student expertise in various disciplines such as aerospace, material science, computing, and engineering design to compete in aerospace innovation
- Hosted a meeting of the NASA Academies Alumni Association

- Sponsored the second annual Massachusetts scientific ballooning program, run by a former NASA Explorer School
- Co-sponsored science teaching workshops for teachers of the visually impaired with the Perkins School for the Blind. The workshops will cover Earth & Space, Life Sciences and Physical Sciences.
- Co-sponsored a conference at Boston University on the “Future of Space Exploration: Solutions to Earthly Problems”. Speakers included:
 - His Excellency Dr. Abdul Kalam, President of India, previously Head, Indian Space Research Organization
 - Dr. Roger M. Bonnet, Executive Director, International Space Science Institute
 - Mr. Randolph Brinkley, CEO Kistler Aerospace Corporation
 - Dr. C. Z. (Frank) Cheng, Chief Scientist, National Space Organization, Taiwan
 - Dr. Steven Dick, Chief Historian, NASA
 - Professor Freeman Dyson, Institute for Advanced Study, Princeton, NJ
 - Ms. Susan Eisenhower, President, Eisenhower Group Inc.
 - Dr. Jean-Jacques Favier, European Astronaut (ret.)
 - Dr. Hans J. Haubold, UN Office for Outer Space Affairs
 - Lt. Col. Peter L. Hays (USAF Ret.), National Security Space Office
 - Dr. Jeffrey Hoffman, Professor of Aerospace Engineering, MIT; Shuttle Astronaut (ret.)
 - Dr. Sergei Khrushchev, Institute for International Studies, Brown University
 - Dr. John Logsdon, Director, Space Policy Institute; George Washington University
 - Dr. Mark Lupisella, Goddard Space Flight Center, NASA
 - Dr. John C. Mather, Nobel Prize Winner (Physics) 2006, Goddard Space Flight Center, NASA
 - Lord Rees of Ludlow (Prof. Martin J.), HM Astronomer Royal; Cambridge, UK
 - Dr. Roald Sagdeev, Director Emeritus, Space Research Institute, Russian Academy of Sciences
 - Dr. Harrison Schmitt, Chair, NASA Advisory Council; Apollo Astronaut (ret.)
 - Dr. Russell L. Schweickart, Chairman, Association of Space Explorers Near Earth Object Committee; Apollo Astronaut (ret.)
 - Dr. William R. Stoeger, S.J., Vatican Observatory
 - Dr. Yvegeny Zvedre, Head, Science and Technology, Embassy of the Russian Federation

Student Accomplishments:

MA Space Grant allowed me to attend a Small Satellite conference, where I met great contacts in industry and in the government. I was also able to refine my presentation skills and to learn more about what work is going on in both industry and at other universities.

MIT Graduate now working at NASA JPL

I am currently looking into taking a full-time position at JPL in their Science division as a result of my internships there, funded by the Massachusetts Space Grant Consortium. My mentor and I keep in touch, and I have made invaluable contacts there. As a result, JPL has targeted me for their early hire process. The result of my Space Grant funding was undoubtedly the most influential piece of my Undergraduate career.

MIT undergraduate currently pursuing a MS at UCo Boulder

My Space Grant funding allowed me to participate in the NASA Academy at Ames. The Academy was a great experience for me, because it allowed me to see what NASA is like as an organization and how the US space program works. It allowed me to meet many influential leaders, which may have a drastic impact on my future. The Academy has given me a greater interest in the aerospace industry and solidified my desire to participate professionally in the space program. Overall, I had a great experience and it was made possible by the MA Space Grant.

MIT undergraduate student

MA Space Grant funding allowed me to continue working on my thesis and not drop out.

UMass Amherst PhD Student

The MA Space Grant award helped support research that has guided my interests towards a career in space engineering, possibly with NASA. The projects I have worked on have taught me how to practically apply my skills to NASA projects that I truly enjoy being a part of.

Tufts MS Student

I plan to pursue a post-doctorate research position in observational astronomy once I finish my PhD, and MA Space Grant funding allowed me to complete a key part of my thesis work.

UMass Amherst PhD Student

The opportunity that MA Space Grant provided allowed me to better understand what I am looking for in a career and gave me valuable experience that I now use as a reference for other positions. Overall, I felt like the opportunity this grant provided was an extremely valuable one.

Olin undergraduate student

The Space Grant funding definitely encouraged me to further pursue my goal of working for NASA. With the funding, I was able to purchase components that assisted me in my research throughout the semester and will continue to assist my efforts further down the road.

UMass Amherst undergraduate student

I have recently accepted a full time position, effective this June, at the NASA Jet Propulsion Laboratory in Pasadena, CA. My experiences at Kennedy Space Center in January '06, made possible by the Massachusetts Space Grant, gave me valuable insight into what a career at NASA would be like.

MIT MS Student

After obtaining the Space Grant fellowship, I had the opportunity to do research with a faculty member. This was my first research experience. After seeing what research is like, I have decided to obtain an advanced degree instead of entering industry immediately after graduation.

UMass Amherst undergraduate student

With the support of the MA Space Grant, I was able to explore numerous opportunities at NASA while I was in my internship. I was able to view various career paths, along with gaining different perspectives to see what is right for me. Overall, Space Grant gave me a chance to see what an engineer can do in the field.

MIT undergraduate

My experience at the NASA Academy was a life-altering internship, and the support from MA Space Grant allowed me to go. I wouldn't have been able to accept the position unless I received support for the summer.

Worcester Polytechnic Institute undergraduate