

Annual Grantee Performance Data for NASA Space Grant:

General Information:

- Consortium : Alaska Space Grant Program (ASGP)
- Director : Neal Brown (email: nbrown@alaska.net)
- Program specialist : Rebecca Lees (email: rebecca.lees@gi.alaska.edu)
- Telephone number : 907 474-6833
- Consortium web site : www.uaf.edu/asgp

Affiliate Members:

- Museum of the North, University of Alaska Fairbanks
- The Imaginarium - Anchorage, Alaska
- University of Alaska Anchorage - Anchorage, Alaska
- Alaska Pacific University - Anchorage, Alaska
- Alaska Challenger Learning Center - Kenai, Alaska
- University of Alaska Southeast – Juneau, Alaska

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 Alaska Space Grant Program is funded by NASA as a Program Grant Consortium at \$410,000 for fiscal year 2007 plus match funds put forward by the University, industry partners, and other non-federal sources of \$306,000.

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.

1. *Relevance to NASA's Overall Mission:* NASA's mission is to "pioneer the future in space exploration, scientific discovery and aeronautics research". Through funding provided to faculty and students in our research campuses of Fairbanks, Anchorage and Juneau, we promote new and transformative aerospace research.
2. *Relevance to Aeronautics Mission Directorate:* Through supporting research and development for the university owned Unmanned Aerial Vehicle (UAV), newly developing small satellite program, and BalloonSat program, we align ourselves with the interests of the Aeronautics Mission Directorate to "pioneer and prove new flight technologies that improve our ability to explore and which have practical applications on Earth".

3. *Relevance to Science Mission Directorate:* By promoting literacy in geospatial sciences and through the geospatial workforce development programs targeted at using NASA satellite data for studying the changing Earth surface, we strengthen the Science Mission Directorate interest in “reaping the benefits of Earth and space exploration for society”.
4. *Relevance to NASA’s Education Strategic Coordination Framework:* Working with museums and other affiliate programs states, we reach out to geographically distant, underserved minority and native communities, to all levels from ‘K through grey”, bringing awareness of NASA science and promoting STEM literacy.

Program Benefits to the State:

By promoting education and research in the fields of Earth and Space sciences, ASGP helps to create a new generation workforce that is better aligned to meet the growing technical needs of Alaska’s private and State industries. ASGPs geospatial workforce program and industry partnership efforts are particularly targeted to benefit the State. By investing in research in UAVs and space platforms from which to monitor the sustainability of Alaska’s natural resources, we also make it possible to remotely acquire data over the vast state of Alaska that covers an area one-fifth the size of the continental United States.

Program Goals:

- To enhance teaching, research, and educational outreach within aerospace-related disciplines throughout Alaska
- To engage and retain students in STEM education programs and create a workforce aligned to the needs of NASA and Alaska’s industries.
- To increase diversity in all programs by consciously seeking and engaging native Alaskans and other minority students

Program Accomplishments in 2007:

- *Hosted Western Alliance Conference of Directors of Planetariums:* Conference brought together 74 planetarium directors and staff from the United States and was honored by the Fairbanks Chamber of Commerce.
- *Alaska Summer Research Academy (ASRA):* We successfully completed the first 10 day Earth and Space Science Module for the Alaska Summer Research Academy. Details of the module and activities are provided at <http://www.cs.uaf.edu/~olawlor/2007/asra/> .
- *Balloon Survey of UAF Campus:* We acquired excellent campus photography using a digital camera mounted on a Helium filled balloon, that set the base for other future education outreach programs.
- *Geospatial Workforce Development Program:* We continued support of geospatial research, teaching and outreach activities, especially at postsecondary levels.
- *Industry based Graduate Student Support:* We developed new partnerships with State industries and supported industry based student interns with fellowships.
- *NASA Science for Alaska Program:* We invited Dr. Ken Jezek to UAF to foster new partnerships and collaborations in International Polar Year (IPY) and NASA science related areas.

- *Postsecondary Educational Web Site:* Website on Polar Remote Sensing received ‘Outstanding’ reviews by NASA educational product review panel: www.polar-remotesensing.alaska.edu
- *Updated Suite of Earth and Space Observation Programs:* This included updating Dynamic Aurora Summer Shows, School Programs, Family Programs, Rocket Science Program, and Observing Earth from Space and Aurora Borealis by our Fairbanks Museum of the North affiliate.
- *Rural AK Teachers Training:* Through supplemental funding to the EDGE program: www.edge.alaska.edu we helped to train 10 teachers and 19 students from middle and high schools around the State in geospatial science.
- *Distance Delivery of Alaska Native Knowledge based Science and Math Program:* This was conducted through our Kenai affiliate partners.
- *Rural Teaching Practicum:* In 2007, estimated 60 parents attended school with their children for a community activities showcase event focusing on strengthening STEM education. Audience was largely native/rural Alaskans.
- *Planetarium Shows and Facilitated 45 Minute Workshops:* on outer space topics of NASA’s interest, were conducted by our Imaginarium affiliates.

Student Accomplishments in 2007:

- *Students Supported:* ASGP supported thirty-three students through fellowships and scholarships. 51% male, 49% female, and 6% from underrepresented groups.
- *Refereed Journal Publications with ASGP sponsored Native American Student:* Antony Berthelote (Tony) published 2 refereed journal articles.
- *Scholarships received:* 6 undergraduate students received scholarships and participated in the 8 week long Juneau Icefield Research Program. Another 6 undergraduate students and 4 graduate students researched scholarship and enhanced the ‘Seamster’ sensor web deployment in Alaska.
- *High School Student Travel Support:* 6 students traveled to INTEL international Science Fair in Albuquerque, NM
- *High-Altitude BalloonSat Program:*
- *Student Team Formed:* Students proposed an experiment to the NASA Microgravity University. Proposal, Investigation of Small Satellite Attitude Control Systems, was accepted by NASA.
- *Students Continue to Enhance Student Rocket Program:* 2 masters students, Sujith Nair and Niladri Si, contributed greatly to the current SRP-5 payload.
- *ASGP student Nick Korzen says:* ‘When I came to Juneau, Alaska in January of 07 I never thought I would get such a great opportunity working for Seamster. Within the first couple weeks I was building weather stations, and solar panel mounts, which were then deployed in the surrounding Juneau area.....’
- *ASGP student Tess Caswell says:* ‘On June 2, 2007 I arrived at Goddard Space Flight Center with no idea what the “NASA Academy” was all about. I was in for a pleasant surprise as over ten intense weeks of research, leadership training, networking, and familiarization I was exposed to the varied aspects of NASA that make America’s space program the foremost in the world.....’

For more details, check out the ASGP Annual Progress Report for FY07.