New Jersey Space Grant Consortium
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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 New Jersey Space Grant Consortium is a Program Grant Consortium funded at a level of $430,000 for fiscal year 2011.

PROGRAM GOALS

Goal 1: To develop a scholarship and fellowship program that provides graduate as well as undergraduate research and educational opportunities to a diverse spectrum of New Jersey students in the disciplines of science, math, technology, and engineering, with emphasis on aerospace, and with research opportunities at NASA centers.

- Objective 1.1: $110,000 will be awarded in fellowships to N.J. students in STEM fields and in a way that reflects the diversity characteristics of N.J. college students.
- Objective 1.2: $30,000 will be awarded through research fellowships to graduate students, through the NASA/NJSGC Graduate Student Fellowship Program.
- Objective 1.3: $12,000 will be awarded as research fellowships to undergraduate New Jersey students to conduct research at a NASA Center or at the NASA Academy.
- Objective 1.4: $36,000 will be awarded as Summer Fellowships to undergraduates in N.J. to conduct research at a NJSGC member university or at an approved industrial corporation.
- Objective 1.5: $32,000 will be awarded as Academic Year Fellowships to New Jersey undergraduate students in STEM. Sixteen $2,000 fellowships will be awarded.
- Objective 1.6: At least 90% of the summer fellowship students and graduate research fellows will present their research at the NJSGC fellowship conference, usually held in late summer.

- Objective 1.7: All of the fellowship recipients will be subject to longitudinal tracking. At least 80% of award recipients will respond to the longitudinal tracking survey.
- Objective 1.8: Based on national statistics on minority enrollment in N.J. colleges, at least 28% of all student awards and other direct support will be awarded to students from underrepresented minorities. At least 45% of all award recipients will be female students and faculty.

Goal 2: To promote research activities in New Jersey that are relevant to NASA and New Jersey industry, to build research networks and to create pipelines from research to industrial development, and support STEM workforce development. To support junior faculty and graduate students in research, to increase diversity among researchers and graduate students.

- Objective 2.1: $0 will be awarded for Support of New Jersey Research Centers to collaborate with their activities in aerospace research and publication (but funds will be awarded to this program from the augmentation budget).
- Objective 2.2: $2,000 will be provided for Travel Support to students (undergraduate and graduate) and faculty in New Jersey universities to attend scientific conferences and technical meetings.
- Objective 2.3: The Research Clusters and Mini Grants Program will provide $40,000 in to research clusters in NJ universities or to junior faculty in STEM.

Goal 3: To produce diverse and well-educated college graduates in STEM fields who will be inspired by their NJSGC experience and who will be motivated to pursue careers in STEM and aerospace, as well as graduate education, thus creating a pipeline to the STEM workforce. To nurture interdisciplinary approaches and to develop higher education networks.

- Objective 3.1: Allocate $6,000 for support of Design Projects that will foster a higher education network in New Jersey and give design and hands-on experience to students.
- Objective 3.2: Allocate $6,000 for a Co-Op Industry University Program for students to receive co-op experience by working half a year in industry and half a year attending college.
- Objective 3.3: $4,000 will be allocated for the Aerospace Course Development Program, for N.J. faculty to develop new college courses in aerospace and teach them.
- Objective 3.4: $15,000 will be allocated for the Princeton University Suborbital Flight Higher Education and Research Program, for Princeton University students and faculty to develop projects and to conduct research that is related to suborbital flight.
- Objective 3.5: $0 will be allocated for the Minority Graduate Student Bridge Program (but funds will be awarded from the augmentation budget).
- Objective 3.6: $13,000 will be allocated for programs for Minority Student Development for Graduate Study.
- Objective 3.7: $16,000 will be provided to New Jersey Universities for Summer Development Programs for entering freshmen and for K12-college bridge programs.
- Objective 3.8: $15,000 will be allocated to support academic teams participating in the NYCRI Summer Institute. Each team will have a high school student, a high school STEM teacher, and an undergraduate or graduate college student, to conduct research at a New Jersey University.

- Objective 3.9: $18,000 will be allocated to the two New Jersey college faculty members and students to participate in the Rock On and Rock Sat Workshops.

Goal 4: Keeping in mind New Jersey's shortage for science teachers and the astronomy standards imposed on the K-12 curriculum statewide, to inspire, motivate, and improve the quality of New Jersey's math and science teachers by means of teacher training, educational outreach and professional development programs.

- Objective 4.1: Allocate $23,500 to support science Teacher Training Programs taught at Raritan Valley Community College (RVCC) as well as at other institutions.
- Objective 4.24: At least 80% of teachers will respond to our survey. At least 75% of teachers will have used their training within a year and 90% within two years of receiving their training. At least 75% of participating teachers will have used their training within a year of receiving their training and 90% will have used their training within two years of receiving their training (PART Measure).

Goal 5: To stimulate a broad interest in, and an understanding of, various scientific and technical disciplines of interest to NASA by supporting informal education STEM programs. Promote awareness of NASA's mission and its contribution to society.

- Objective 5.1: $2,000 will be allocated for support of planetarium programs.
- Objective 5.2: Up to $2,000 will be allocated to fund new informal education programs.

Goal 6: NJSGC will be a proactive and diverse organization that is run efficiently and effectively. All activities will continuously be monitored and new initiatives will be pursued.

- Objective 6.1: NJSGC will have an effective, efficient and frugal office which continuously monitors itself, and whose documents are up to date. NJSGC will have well-defined operational policies and procedures for all of its activities.
- Objective 6.2: NJSGC will have a set of active affiliates who contribute to the programs of the consortium by serving on committees, publicizing NJSGC activities at their organizations, and by recruiting students and faculty to apply for our awards.
- Objective 6.3: NJSGC will actively seek alliances with aerospace and educational organizations in New Jersey, with NASA centers and with New Jersey elected officials.
- Objective 6.4: NJSGC will advertise its programs statewide and administer its programs competitively and fairly. Applicants will be evaluated without bias or any artificial criteria.
- Objective 6.5: NJSGC will track all its award recipients to monitor their progress and to evaluate the effectiveness and success of its programs. We will administer satisfaction surveys.
- Objective 6.6: NJSGC will continuously monitor its offerings and modify or discontinue programs that are not effective, have run their course or have not met our expectations.

Goal 7: NJSGC will strive for diversity in all of its programs and will make its awards in a way that reflects the diversity of the state of New Jersey. NJSGC will inspire members of the minority community to choose careers in STEM and will work with minority serving institutions in New Jersey and other states, supporting them with funding, fellowships

and internships.

- Objective 7.1: Based on national statistics on minority enrollment in New Jersey colleges, at least 28% of all student awards and other direct support will be awarded to students from underrepresented minorities. At least 45% of all award recipients will be female students and faculty.
- Objective 7.2: NJSGC will actively engage and support minority serving institutions in New Jersey and in nearby states, universities with sizable minority populations, such as Rutgers Newark and Rutgers Camden, as well as community colleges.

PROGRAM/PROJECT BENEFIT TO OUTCOME (1, 2, OR 3)

Outcome 1 - Educate and Employ: We have responded to affiliate requests to tailor our research programs to their needs. For example, the research cluster program has now become a dominant part of the research clusters and mini grants program. Faculty members requested that the funding go to students in their clustered research programs instead of summer salary for themselves in the mini research grants program. We have accepted their requests and in the summer of 2012 we are only funding students and no faculty.

Outcome 1 - Educate and Employ: We have allocated more funding to the academic year fellows program. This is because NJSGC has increased its network of affiliates and added small colleges without major research or graduate STEM programs. Bloomfield College is the latest institution to join, and NJSGC has supported it with academic year fellowships.

Outcome 1 - Mr. Michael Creech began participating in the NYCRI summer program in 2008 as a high school sophomore. He returned again in 2009, 2010 and 2011. During fall 2010 Mike transitioned from High Tech High School to Stevens as a freshman. During 2012, Michael accepted his first Co-Op job by working the Micro Stamping Corporation. During his first internship, he helped engineers put multiple projects into production for multiple customers, with a lot of the time contributing to solving corrective actions. The products that he was involved with were medical grasper products.

Outcome 2 - Engage and Educate: Three of the six Rock-On students who participated in the program last year have graduated into the Rock Sat program and have increased their expertise and have gained experience in building and integrating rocket payloads. They plan to mentor Rock On students in 2013.

PROGRAM ACCOMPLISHMENTS

Outcome 1 Activities

Over 80% of NJSGC's programmatic expenditures are for Outcome 1 activities.

In the area of fellowships, NJSGC runs four fellowship programs: Undergraduate Academic Year Fellowships (16 at $2,000 each), Undergraduate Summer Fellowships (6 at $6,000 each), Graduate Fellowships (4 at $7,500 each), and NASA Academy/Centers and the Goddard program (2 at $6,000 each). LARRS student didn't accept. While fellowship programs do not require match, NJSGC asks the institutions of the students receiving graduate fellowships to provide one-to-one match. This is because the maximum fellowship amount we can allocate, $7,500, is much lower than the cost of graduate education.

NJSGC holds two fellowship conferences each year to feature the activities of its award recipients. One meeting is held in the spring, with all the academic year fellows highlighting their work in a poster session. The poster session is preceded by the NJSGC annual affiliate meeting, to which legislators at the state and national levels are invited. The second meeting is held in August, where the summer fellows and research cluster participants make presentations. Also, NJSGC supported students in other programs, such as RiSE and NYCRI make presentations at those organizations conferences. Thus, there are four (poster & presentation) venues for NJSGC students to make research presentations.

NJSGC considers all fellowship recipients as direct funded and tracks them.

In the research area, NJSGC continued with its existing programs and shifted the focus of its research clusters - mini grants program to be primarily a research program supporting students. In summer 2012, the research clusters support students at Rowan, College of New Jersey, Princeton University, as well as Ramapo College students at NJIT. The total number of students supported is 17 in this program. NJSGC will be sending eight students to conferences (some conferences are during the summer and early fall). The Industry-University research program is making one award this year, based on leftover funds from FY 2010. No funding was requested for this program in the FY2011 budget.

Among Outcome 1 programs in higher education, NJSGC supported the following:

- The Senior or Multiyear Design Project Program provided support to eight design projects in New Jersey universities for project supplies.
- The NJSGC Co-Op Program integrates learning with hands-on development work at a NASA contractor or other aerospace company. Hamilton Sundstrand has been our primary partner. We supported three students in this program in FY 2011, one from FY2011 funding and two using leftover funds from FY2010. One student in this program accepted an offer from an aerospace contractor. We are currently developing co-op programs with other companies.
- The Course Development Program awards grants to higher education institutions to develop new STEM courses, especially related to astronomy, aeronautics and space sciences. NJSGC is supporting one such course in FY 2011.
- Because of the contacts established with EOF offices at Rutgers (EOF, or Equal Opportunity Fund, is a program established by the state of New Jersey to improve minority college enrollment and retention rates. In the last four years, their funding has gone down, as a result of the budget crisis in the state. NJSGC has stepped in to provide

funding so these offices can continue functioning.) NJSGC supports summer courses and curricula for incoming first-year science and engineering minority students.

- The suborbital science research program is continuing at Princeton. Students are working on designing payloads and analyzing several aspects of suborbital flight.
- The Minority Student Support for Graduate Study Program currently supports the Research in Science and Engineering (RiSE) program, run by the Graduate School, New Brunswick, offices of Rutgers University. Through a focused summer program, RiSE recruits, trains and encourages promising underrepresented, disadvantaged and underserved undergraduate students (minority, female) in STEM disciplines, and prepares them for graduate school and to pursue research careers. The program is supporting three students in FY2011 with the base funding.

Outcome 2 Activities

The NJSGC Outcome 2 activities consist of Higher Education and Pre-College Programs. NJSGC has increased its outcome 2 activities, especially involving teacher training to improve the teaching of science in K12.

- In higher education, we continued with the New York City Research Initiative (NYCRI) program, which brings together high school students, college students and high school teachers in a hands-on research environment during the summer. While this program is run out of the NYCRI offices in New York City, the participants that NJSGC sponsors are New Jersey students. We are supporting two groups of students in FY2011 with the base funding for a total of five individuals.
- During 2010 NJSGC participated in the Rock-On program for the first time by sending Joseph Miles, NJSGC's Space Grant Coordinator, as a scout to evaluate the program. In summer of 2011, six New Jersey students attended the first phase of the program, Rock-On. Three of the original six students have attended the 2012 Rock Sat event; they intend to mentor six new students in 2013.
- NJSGC has increased its bridge programs that provide a link between high school and college, college to graduate school, as well as summer experiences for entering college freshmen in New Jersey universities. We have used FY2010 funding, as well as unspent course development funds and unspent administrative funds (for various reasons, both Aiesha Long and Joseph Miles got on NJSGC payroll late in FY 2009) to fund two outcome 2 bridge activities:
    - The GIST (Girls Involved in Science and Technology) program at Georgian Court University runs a summer science program for girls in the Lakewood, N.J. school district. Lakewood middle and high school students are disproportionately minority students. The emphasis during this one week program is hands-on, inquiry-based learning in the areas of biology, chemistry, physics, ecology, mathematics and computer sciences. Over 25 middle and high school girls are participating this summer, with follow-up and mentoring by GCU students and faculty until they graduate.
    - The TARGET (The Academy at Rutgers for Girls in Engineering and Technology) program at Rutgers School of Engineering sponsors female high school students during the summer and introduces them to a hands-on engineering experience.

Mentoring is provided by engineering faculty during the summer. During the academic year, female engineering students provide mentoring. NJSGC is funding about 15% of the program during the summer of 2012.

- In FY2011, NJSGC has provided support to MEET (Minority Engineering Education Task), a student group at Rutgers that promotes the study of engineering. NJSGC has supported an outreach fair at Rutgers, where minority high school students are invited to the Rutgers campus and MEET members take them around and show them labs and other research facilities.

The Pre-College programs consist of teacher training. NJSGC has diversified its support of our teacher training activities. In FY 2011, besides the New Jersey Astronomy Center for Education at Raritan Valley Community College, NJSGC is also funding:

- The NASTAR Center, which provides astronaut training in a specially designed flight simulator. We are using unspent pre-college funds from FY 2009 to support the NASTAR Center program and 15 teachers. More details on the NASTAR Center is given in the non-affiliates section.
- Pre-service science teacher training program, jointly run by Rutgers School of Education and Rutgers School of Engineering. Over 10 students will be supported in this program, which will run in Fall 2012.

Outcome 3 Activities

NJSGC supports informal education programs only minimally, about 1% of its budget. Our informal education programs are primarily planetarium support, which include the Edelman Planetarium at Rowan University and the planetarium at Raritan Valley Community College. Both planetariums provide formal education in astronomy to students, and to the public on a weekly basis as public planetarium shows. We will be considering other planetariums for funding in the future, such as the Ocean County Planetarium, which has an excellent relationship with our affiliate Georgian Court University.

Activities that can be classified under All Outcomes

- During the 2011 program year, the New Jersey Space Grant Consortium hosted the annual Mid-Atlantic regional meeting at Princeton University in Princeton, NJ. The conference was held for two full days with presentations of the mid-Atlantic regions accomplishments during the previous year. Over 20 presentations were made with the conference concluding with a walking tour of Princeton University.
- The NJSGC management team made personal visits to numerous organizations throughout the state. Since July 2011, we have visited Ramapo College, Bloomfield College, the FAA, and Essex County Community College. We have made countless efforts to reach our constituents.
- We visited two EOF offices (Educational Opportunity Fund, a New Jersey Program that provides support for the college education of minority students) at Rutgers University. We will soon be visiting an EOF office at Rowan University and another EOF office at Rutgers.

- NJSGC continues to enhance the databases that it uses in the management of the consortium and for longitudinal tracking. We maintain files with our pledge forms that all direct funded students are required to complete. These students agree to provide information regarding their whereabouts and career progressions for 10 years after the completion of their projects, or though their first job.

PROGRAM CONTRIBUTIONS TO NASA EDUCATION PERFORMANCE MEASURES

Student Data and Longitudinal Tracking:

Because the NJSGC award year begins in September, many of the awards are made during the summer before the end of the award year. As such, our affiliates have not reported on the statistics of the award recipients. Hence, the data we have at this time is largely incomplete. This incomplete data, based on 35 tracked students, shows a 29% minority (, 10/35, target 28%) and 40% female (14/38, target 45%) participation. The female percentages are stronger than last year (34%) and the minority participation is the same.

NJSGC has also supported two faculty with funding in FY2011; both are female and African American.

NJSGC has in place an aggressive longitudinal tracking program. We summarize that 85% of our FY 2011 awardees were continuing in STEM fields, 10% were not, and 5% of the awardees were unreachable. Some of our awards for FY2011 have not been made yet, especially those involving minority students. We will have more details when we complete the requisite spreadsheets that are due by the in July 2012.

Diversity:

New Jersey is a very diverse state, with a college population that is 28% minority. Most universities in the state have enrollments that reflect this. All the major universities with sizable STEM programs are members of NJSGC, so that NJSGC is able to reach almost all minority college students in STEM subjects.

Minority-Serving Institutions:

There are no historically black or other minority institutions in New Jersey. However, because of their location, there are two four-year institutions classified as minority-serving. The largest is the New Jersey City University, which is an affiliate of NJSGC. The second, St. Peter's College, has been contacted by NJSGC but they have shown no interest. In addition, their STEM offerings are very small. NJSGC has developed excellent working relationships with the following minority-serving institutions:

- Essex County College, which has a very high African American and Hispanic enrollment. We have awarded them three academic year fellowships in each of the 2010 and 2011 budget years. We frequently visit them to develop new programs and courses.
- Our affiliate The New Jersey City University is listed as an institution with "High Hispanic Enrollment." Their campus representative, Prof. Alberto Pinkas, has put in heroic efforts to recruit students for NJSGC programs, such as academic year fellowships. We have also collaborated with them in proposal writing.

NASA 2011 Education Priorities

Authentic, hands-on student experiences in science and engineering disciplines – the incorporation of active participation by students in hands-on learning or practice with experiences rooted in NASA-related, STEM-focused questions and issues; the incorporation of real-life problem-solving and needs as the context for activities.
We have supported research clusters, fellowships, and we have sent six students to Rock-On and Rock-SAT. Most of our direct funded students receive this type of experience as they work in the labs of New Jersey universities.

Engage middle school teachers in hands-on curriculum enhancement capabilities through exposure to NASA scientific and technical expertise. Capabilities for teachers to provide authentic, hands-on middle school student experiences in science and engineering disciplines (see above).
NJSGC helped send five Hanover Township teachers to NASA Johnson Center for microgravity training. About 40% of the attendees of our teacher training programs are middle school teachers. The pre-service science teacher education program that we have started supporting last year (and continue to support in FY 2011) targets middle school teachers.

Summer opportunities for secondary students on college campuses with the objective of increased enrollment in STEM disciplines or interest in STEM careers.
The GIST program at Georgian Court University accomplishes this goal, as well as the TARGET program at Rutgers University. Both programs are described above, under Outcome 2. We are currently working with our K12 partners to submit mini-proposals for Summer of Innovation in 2012. Also, the program we support at the Liberty Science center sends high school students to industrial corporations or to colleges.

Community Colleges – develop new relationships as well as sustain and strengthen existing institutional relationships with community colleges.
Presently, we have an excellent relationship with only one community college (Essex County) and reasonably good relations with two (Raritan Valley and Middlesex County). We are continuously working to develop contacts with other community colleges.

Aeronautics Research – research in traditional aeronautics disciplines; research in areas that are appropriate to NASA's unique capabilities; directly address the fundamental research needs of the Next Generation Air Transportation System (NextGen).

No funds allocated in FY2011. We are working with the FAA outreach offices to develop educational programs in aeronautics and air traffic control systems. Also, the director of NJSGC is co-chair of the Aeronautics Working Group and has made contacts at the Aeronautics Mission Directorate at NASA HQ.

Environmental Science and Global Climate Change – research and activities to better understand Earth's environments.
No funds allocated in FY 2011, but we have partnered with New Jersey City University to write proposals develop curriculum on climate research. We also are in talks with the New Jersey Sea Grant Consortium to develop collaborative research programs.

Diversity of institutions, faculty, and student participants.

- Awards: 29% minority (10/35, target 28%) and 40% female (14/38, target 45%) participation. The female percentages are stronger than last year (34%) and the minority participation is the same.
- NJSGC has continued with supporting the RiSE program at Rutgers, where minority college students from across the country are brought to the Rutgers campus and given the opportunity to conduct research, as well as receive mentoring and tutoring about graduate school.
- We have done extremely well with attracting minority and female faculty to our research grants, 100%.
- We have expanded our relationship with offices at universities that promote minority enrollment and retention and diverted some of our surplus funds from overhead to these programs.
- We have expanded our relationship with New Jersey City University. NJCU is the one of two four-year academic institutions that qualifies as minority-serving and they have a relatively large science program. (The other qualifying institution is St. Peter's College, which did not express and interest in working with us. They have a very small science program, giving less than 60 STEM degrees per year.)
- NJSGC has made increased efforts to also have geographic diversity in its programs. We have engaged Ramapo College, at the northern boundary of the state, near the New York border. Rowan University, the only major NJ university in southern New Jersey has become very active partners. Also, we have made sure that each congressional district is represented among our award recipients. There are at least three direct funded students from each congressional district.
- NJSGC has also made contact with Bloomfield College, which has a sizable minority enrollment (nearing 50%, primarily because of its proximity to Newark), and we have started with sponsoring two academic-year fellows.
- An engineering minority student group (MEET) at Rutgers that we support is involved in outreach activities to recruit minority high school students to STEM in college.

Enhance the capacity of institutions to support innovative research infrastructure activities to enable early career faculty to focus their research toward NASA priorities.
In FY 2011, we have supported two junior faculty members with funding. Several others have been supported indirectly, through support of their students.

IMPROVEMENTS MADE IN THE PAST YEAR

- NJSGC is becoming more active in the national level. The director of NJSGC is now a co-chair of the Aeronautics Working Group and he also chairs one of the "Great Ideas" committees.
- We initiated participation in the Rock-On program during 2010 with one participant and continued during 2011 with six participants. During 2012, three of the original six participants attended the Rock-Sat program.
- The NJSGC team has continued to make periodic visits to targeted institutions to promote NJSGC programs. We now have a much better reach to students in our affiliate institutions as well as at other institutions and science centers throughout New Jersey. We are funding more programs at more institutions. Our programs have much better geographic diversity. Also, because of our site visits and personal contacts, we are able to assess the needs and interests of our affiliates a lot better and we are tailoring our funding and programs to better serve the needs of these organizations.
- NJSGC has expanded its relationships with programs at NJ colleges that provide support to incoming students and to other students to improve retention rates. We have made contacts in such offices at Rutgers and Rowan universities and will be working on retention programs with them during the summer of 2012.
- NJSGC has expanded its outreach efforts to attract and retain minority students in STEM. As described earlier, we have done this for high school students as well as college students who are minorities.
- NJSGC has made tremendous advances in the past four years and has become a smoothly functioning, active and diverse consortium. There always is room for improvement and we will work relentlessly to do that. We are ready to receive funding for FY 2012 and to compete for designated status. We are also ready to begin receiving funding for FY 2006, 2007 and 2008, during which time NJSGC was in realignment and was not funded.

PROGRAM PARTNERS AND ROLE OF PARTNERS IN PROJECT EXECUTION

Affiliate Partners:

Three-fourths of NJSGC members are active or very active partners of the consortium, and the remaining quarter are mildly active or engaged. It has been our experience that affiliate activity peaks and wanes over the years; many times having nothing to do with NJSGC itself. A lot depends on the campus representative. During FY 2011, the Plainsboro Public Library left the consortium. Their interest diminished over the years and when their director, who was the primary contact with NJSGC, retired, our relationship with them ended. The list below (in alphabetical order) gives our evaluation of NJSGC affiliate institutions as very active, active, not very active and inactive, as well as key characteristics.

- Astronomy Education Center at Raritan Valley Community College: Very active, key player in our pre-college efforts. This organization is the teacher training arm of Raritan Valley Community College.
- Georgian Court University: Active, they have increased NJSGC involvement. We have funded them with academic year fellowships, as well as K12 bridge programs for higher education. A Jesuit institution with a small graduate program in teacher education, whose undergraduate college is all female.
- Goddard Institute of Space Sciences: Active. Most of their activities are NASA funded. Their main affiliation with NJSGC is the New York City Research Initiative program, which NJSGC has supported for over 10 years.
- New Jersey City University: Very active. As a designated minority-serving institution, we rely on them for minority student support, as well as for responding to NASA solicitations. Public institution with a primarily undergraduate enrollment, with small graduate programs.
- New Jersey Institute of Technology: Active, we have funded research programs and bridge programs for graduate study. This public university provides undergraduate and graduate education mostly on STEM topics.
- Princeton University: Very active, we have funded research programs with them and historically sent their students to NASA Academies; and more recently NASA centers. Very highly ranked private university, strong in the liberal arts and in STEM. Princeton University was extremely helpful to NJSGC in organizing and running the 2011 Mid-Atlantic regional conference.
- Rowan University: Very active, they are involved in course development, research, fellowships, and research clusters. They have become, in a short time, one of our most active affiliates. Originally a teachers college, they have become a comprehensive university with bachelors and masters programs.
- Rutgers: Very active. Lead institution, active in all areas. We have been working on increasing programs with Rutgers Newark and Rutgers Camden. Flagship state university in New Jersey with 58,000 students.
- Seton Hall University: Not very active. They recently rejoined and NJSGC funds academic year fellowships at Seton Hall. Catholic university with a primarily liberal arts undergraduate enrollment.
- Stevens Institute of Technology: Very active. As former lead institution, they are active in all aspects of the consortium. Private university that provides undergraduate and graduate education in STEM topics.
- The College of New Jersey: Active. Though a new affiliate, they have become active in research and higher education programs. Public college, with primarily undergraduate programs.
- University of Medicine and Dentistry of NJ: Inactive, will likely merge with Rutgers in 2012, after which NJSGC expects to have more collaboration. The flagship medical school in New Jersey.

Non-Affiliate Partners:

Liberty Science Center (LSC): In 2011, NJSGC crafted a new bridge program to provide partial support to the Partners in Science program during the summer of 2011. The Partners in Science program inspires students to pursue careers in science by providing them direct, hands-on, interactive research experiences with professionals in scientific fields. This program pairs 11th and 12th graders with scientists and engineers who serve as one-on-one mentors. This program will continue in 2012 at the same level as 2011 as it is an outcome 2 program. NJSGC is also working with LSC to develop projects associated with the Summer of Innovation.

Bloomfield College: Bloomfield College, founded in 1868, is an independent college historically related to the Presbyterian Church. The College offers academic programs leading to the Bachelor of Arts and Bachelor of Science degrees. NJSGC established contact with Bloomfield College and supported two academic year fellowships. We currently are working with them to develop undergraduate research clusters in FY 2012.

Ramapo College: NJSGC supports a research cluster of three Ramapo college students. These undergraduate physics students at Ramapo conduct research at NJIT during the summer. These students then apply for graduate study at NJIT (Ramapo does not have a graduate program in physics). We made a site visit to the campus in fall 2011 and made a presentation to their students and faculty. We expect to support academic year fellows at Ramapo in FY2012.

RiSE - Research in Science and Engineering: This program, which is run by the Graduate School at Rutgers University, is a strong magnet to attract minority students to STEM and encourage these students to continue on to graduate school. One of the objectives is to create a STEM pipeline into graduate study, where it is well known that minority enrollment is even lower than undergraduate enrollment.

NASTAR: The NASTAR Center is the first FAA accredited facility able to meet the training requirements for commercial human space flight, both suborbital and orbital. It is recognized as the leader in the development and delivery of training for the commercial space industry and is uniquely positioned to enable research to improve the health and safety of humans in extreme environments. NJSCG supports a K-12 teacher training program with NASTAR.

FAA: NJSGC initiated discussions with the Federal Aviation Administration, and especially with the FAA Technical Center in Pomona, N.J., to jointly develop college-level research and internship programs. We hope to provide more details in next year's report.

New Jersey Sea Grant Consortium: NJSGC has begun a dialog with the NJ Sea Grant Consortium to develop collaborative programs.