



NASA New Jersey Space Grant Consortium 2021 Annual Meeting



Major Changes from Last Year

- **Funding went up (from \$581,000 to \$797,500)**
- **Grant cycle changed (starts March 14)**
 - **We are currently in FY2021, entire proposal is funded at \$790,000 plus a community college program for \$25,000, for total of \$825,000**
- **NASA changed all classifications and announced alignment with its Mission Directorates - and they will change more**
- **The wretched virus - disruptions of programs**



National Space Grant Program

- **Created by Congress in 1988**
- **Funding by congressional appropriation**
- **52 Consortia (50 states + DC, PR, **Guam, VI**)**
- **Each state uses its funding to promote programs in STEM and aerospace**
- **Strong emphasis on diversity**
- **Over 25% of NASA's education budget**
- **The most successful education program in NASA in terms of students supported and STEM pipeline**



The Space Grant Network

- **Office of STEM Engagement at NASA HQ (AA: Mike Kincaid)**
- **Space Grant Office at NASA OSTEM (Interim Manager: Rajiv Doreswamy, Deputy Manager: Erica Alston)**
- **Consortia for Each State + DC, PR, VI, Guam**
- **National Space Grant Alliance**
 - **Advocacy organization formed by Space Grant consortia (all consortia pay annual dues)**
- **National Space Grant Foundation**
 - **Formed by Space Grant consortia to solicit donations, organize conferences, and support states (NJ does not use it much)**



Goals of New Jersey Space Grant



- To establish a network of universities with interests and capabilities in aeronautics, space science and related STEM fields
- To develop interdisciplinary programs to further space science, aerospace and STEM education
- To foster research and development in New Jersey
- To promote a strong STEM education base from elementary through university levels
- To recruit and train U.S. citizens, especially women and underrepresented minorities, and persons with disabilities
- And, possibly new priorities with new administration



NJSGC Affiliates

- Astronomy Education Center at Raritan Valley Community Coll.
- Bloomfield College
- Brookdale Community College
- Essex County College
- Georgian Court University
- Kean University (new)
- Liberty Science Center
- Medgar Evers Coll. (NYC) ??
- Middlesex County College
- New Jersey City Univ.
- Montclair State Univ
- New Jersey Institute of Technology
- Princeton University
- Ramapo College
- Rowan University
- Rutgers Camden
- Rutgers New Brunswick
- Rutgers Newark
- Seton Hall University
- Stockton University
- Stevens Institute of Technology
- The College of New Jersey
- Union County College
- William Paterson University
- All other organizations we deal with



Non-Affiliate Organizations

- **We work (sometimes) with the following institutions**
 - **FAA**
 - **NASA GISS (Goddard Institute of Space Studies) at New York City**
 - **Princeton Plasma Physics Laboratory (not active for last five years)**
 - **Open to collaborating with more such institutions/labs**



NJSGC Administration

- **Haim Baruh, Director**
 - Office at Rutgers, spends 25% of time [often more] on NJSGC
- **Joseph S. Miles, Program Coordinator**
 - Spends half his time with NJSGC, other half as faculty member at Stevens. Office located at Stevens
- **Sherry Lam, Program Assistant**
 - Quarter to half time. Gradually taking over Qiming's duties
- **Leora Wenger, Webmaster (works from home)**
- **Also, student help, currently a high school student is helping with some web work**



New Jersey Space Grant Consortium Programs

- **Major Changes in Classification of Programs**
 - New guidance by Associate Administrator for STEM Engagement
 - No longer Research Infrastructure, Higher Education, Fellowships and NASA Internships, Pre-College, and Informal Education
 - Current classification:
 - NASA Internships and Fellowships
 - Alignment with all NASA Mission Directorates: Aeronautics, Human Exploration, Science, Space Technology
 - Programs whose alignment cannot be determined in advance
 - But, reporting has remained the same
- **NASA requires all Space Grant programs to have at least 100% match, except fellowship programs**
 - U.S. citizenship for all monetary award recipients



Reporting Student Data

- **How the reporting will be under new classification has not yet been determined**
- **NJSGC in its database is storing information on the new as well as old classification so we can sort student data both ways**
- **We are awaiting guidance**
- **There may be more changes coming**



New Jersey Space Grant Consortium **Research** Programs

- **Clustered research programs at universities (Rowan, TCNJ, NJIT-Ramapo, Rutgers, Seton Hall, Stevens)**
- **RiSE program: summer research for minority students (run by Graduate School at Rutgers)**
- **Community college research program (subcontracts with Middlesex CC, Brookdale CC, and Essex CC, open to more suggestions)**
- **Student travel to conferences (none this year)**
- **Brought back minority graduate student bridge program**



New Jersey Space Grant Consortium Higher Education Programs

Name	Awds	Description
Course Development	1-2	\$4,000 per new course for salaries and supplies
Student Projects	10-12	Support of design projects and student clubs, such as AIAA student groups
College Bridge Programs	5	Attracting K-12 students to STEM. Programs at Rutgers, Liberty Sci Ctr, GCU, Stockton (<i>inactive</i>)
Summer and Development	1-2	Only running program is Ambassadors program at Rutgers
NASA GISS	1	Mentoring initiative, smaller program, <i>most likely will not run</i>
Rocketry and Ballooning	3-5	RockSat at Stevens (sounding rocket), Space Club at Rutgers, Rocketry at Princeton, Rocketry at Rowan (<i>very inactive due to Covid</i>)
Co-op or Internships in Industry	1-2	\$6,000-8,000 per student doing the internship. <i>Inactive due to Covid</i>



New Jersey Space Grant Consortium **NASA Internship and Fellowship Programs**

Type	Stipend	No.	Details
Undergraduate Summer	\$5,000	11	10 weeks of research at a NJ university or research center. Statewide competition (very few applicants for 2021)
Academic Year	\$2,000	35	Year long research in student's academic institution. Students selected by NJSGC campus representative. (About 28 participants in 2020-2021)
Graduate	\$5,000	11	Newly redesigned, to encourage NJ students to attend grad school
NASA Internships	\$7,300	2-3	NASA requires us to support interns at NASA centers. We are only supporting undergraduate students, as graduate intern stipends are high
Other NASA Opportunities	from NASA		NASA-funded internships and fellowships managed by a single web site: (intern.nasa.gov)



Other New Jersey Space Grant Consortium Programs (secondary)

- **Pre-College**

- K-12 math and science teacher training (in service, as well as pre-service teachers)
- Supporting programs at Raritan Valley CC, Rutgers, aviation program with Up Up Away at Hunterdon County Airport
- Currently working on a proposal with six other states to develop a K-12 program on data science (to be funded by NASA Science Mission Directorate)

- **Informal Education**

- For the general public
- Primarily planetarium support
- We have supported Liberty Science Center, Raritan Valley CC, and Rowan



Diversity and Reporting Mandates (did not change from before)

- **NJSGC is mandated to spend its student support in a proportion that reflects the diversity of New Jersey higher education students**
- **New statistics for New Jersey of 37% (was 29% before)**
- **We need to track of all students who receive major awards (>\$2,000 or >160 hours)**
 - **NASA wants not only gender and racial diversity, they also want geographic diversity, as well as programs for the disabled (we currently have no programs for the disabled)**
 - **We keep statistics on congressional districts of students to inform elected representatives**



NJSGC Diversity Statistics (for students who receive stipends)

Year	Minority	Target	Female	Target
FY2011	23.8%	29%	42.5%	45%
FY2012	32.3	29	45.2	45
FY2013	31.6	29	44.3	45
FY2014	33.3	29	48.9	45
FY2015	27.6	29	44.7	45
FY2016	28.4	29	41.3	45
FY2017	28.6	29	47.6	45
FY2018	33.0	37	57.2	45
FY2019	30.5	37	46	45



Match Requirements

- **Every NJSGC program (except fellowships) requires match - at least one-to-one**
- **Match certification and reporting**
 - **Rutgers stricter than other universities**
 - **Rutgers no longer gives us match on indirect cost**
 - **Match requirement is treated like cost share**
 - **Cost share can be actual dollars or in-kind**
 - **Match must be realistic**



NJSGC Match Procedures

Activity	Match Description	\$\$	In-kind
Programmatic elements	Each program individually matched	Yes	Yes
Invoices (<\$10,000)	Submit NJSGC match form or indicate match on invoice	Yes	Yes
Subawards (>\$10,000)	All invoices must show cost share, with final invoice giving total cost share	Yes	Depends
Student stipends	Each program individually matched	Yes	No
Administrative expenses	Affiliate representative participation letter	No	Yes
Overhead (indirect cost)	We pay an off-campus training grant rated of 27% by Rutgers	No	Yes



Items that Count as Match (Cost Share)

- **Expenses incurred by (or shared by) your institution or other organization**
- **Waived indirect costs**
- **Faculty release time**
- **Faculty volunteer or travel time**
- **If NJSGC funding is a fraction of your program budget, your entire budget can count as match**



Match Certification

- We sent you faculty match certification forms (for all five years of 2015-2019 grant) please send the forms back - we will contact you. **New policy: if affiliate representative does not send match form, we drop the affiliate**
- NJSGC is strict in requesting match and in getting match certification letters
 - We require a description of match BEFORE and AFTER the award is completed
- At least **120%** programmatic match, also match from supervisory activities of faculty involved
- Subawards can list indirect cost waiver as additional match
- Invoices from a subaward must include cost share amount
 - Final invoice must include **total** cost share



NASA News

- **New NASA Administrator designate: Former senator Bill Nelson (not yet confirmed by the Senate)**
- **Office of Education now called Office of STEM Engagement (OSTEM)**
 - **Associate Administrator: Mike Kincaid - but who knows what the New NASA Administrator will do**
 - **Space Grant Budget is increasing, but we were told to have a narrower focus - NASA Mission Directorate Alignment**
 - **We keep hearing that the new NASA Administrator will want more K-12 programs, and more directed programs for minorities**
- **Manager of Space Grant: Joeletta Patrick, currently on leave**
 - **Interim Manager: Rajiv Doreswamy, Deputy Manager: Dr. Erica Alston. Overall, good relations**



Changes and New Emphases in Space Grant Office

- **NASA OSTEM has four major programs:**
 - **Space Grant**
 - **EPSCoR (NJ does not qualify)**
 - **MUREP (minority institution programs)**
 - **SEAP (STEM Engagement and Accountability Project)**
- **Mr. Kincaid and Ms. Patrick are interested in increasing collaboration among different programs in OSTEM**
 - **For example, to get Space Grant more involved with MUREP and MSIs (minority serving institutions)**
 - **A few months ago, there was a Better Together meeting (virtual) where participants from all above programs were brought together**
 - **Because of success of Space Grant, OSTEM has indicated that Space Grant do more collaboration with MSIs (even though MUREP is only for MSIs)**
 - **All this was before the NASA Administrator designee was announced**



NJSGC Activities in the Past Year

- **Submitted successful reports to NASA and proposals for augmentation funding**
 - **Proposals accepted, we are well-funded**
 - **You know status of our hands-on programs**
 - **Aerospace Scholars program at Essex County College (ongoing) and new program at Union County College**
- **Need help from you in encouraging your student to respond to tracking surveys**



NJSGC Activities in the Past Year

- Involved in national Space Grant network (Executive Council secretary, Aeronautics Working Group co-chair, transition meeting)
- Virtually visited congressional offices
- Attended three national conferences (all virtual, two Space Grant meetings, a meeting for all OSTEM PIs)
- Progress with FAA came to a halt
 - Haim doing research with two students on separation standards for aircraft



NJSGC Activities in the Past Year

- **Academic year poster session and affiliate meeting, all virtual (same this year)**
- **Virtual summer fellowship poster session in August 2020, on web site there are abstracts, videos, posters, and pictures of students**
- **Kean University joined**
- **We made contact with the Center for MSIs at Rutgers and are working with its director**
 - **She introduced us to top leadership at Bloomfield College and Kean**



Budget Issues - First the Good News

- Starting in FY2020, every state began to receive same funding - \$760,000 in 2020, \$800,000 subsequent years
- We also received additional \$37,500 in FY2020 (and \$25,000 thereafter) for a community college aerospace scholars program
- New budget cycle - FY2021 is for 3/14/2021 to 3/13/2022
- Starting in FY2020, there have been competitions for additional funding
 - Participants are affiliate institutions and not Space Grant offices in states
 - For one such competition (lunar dust mitigation), there were four proposals from NJ (Princeton, Rowan, Rutgers). Unfortunately, none successful
 - Most of these competitions are for hands-on activities and for activities of interest to mission directorates - we are not strong in these areas - **Most likely, the new administration will want to see more hands-on activities**



NJSGC Funding Summary (in thousands)

Year	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Base award	430	430	430	430	300	300	570	536	700	710
Augmentation	None	None	None	None	270	270	0	45	60	90
Competition/NCAS	Did not win	None	500	Did not win	None	None	None	Did not participate	37.5	25
Total NJ Funding	430	430	930	430	570	570	570	581	797.5	825
National	40MM	40MM	40MM	40MM	40MM	40MM	40MM	44MM	48MM	52MM



FY2020 Expenditure Allocation (Estimates)

Program Name	Base	Adjustments	Total	Percent
Fellowships	198,000	5,000	203,000	25.5%
Research	125,000	8,000	133,000	16.7%
Higher Education	206,500	-5,000	201,500	25.3%
Pre-College	25,000	4,500	29,500	3.7%
Informal Education	10,000		10,000	1.3%
NCAS	37,500		37,500	4.7%
Operating Expenses	133,000	-12,500	120,500	15.1%
Overhead (26.5%)	62,500		62,500	7.8%
Total	797,500	0	797,500	100%



Budget and Accounting Issues

- **We have spent FY2015-2019 funds entirely and we did not request a second NCE**
- **Only unspent amounts in FY2015-2019 are numbers in sub awards**
- **If you have a subaward with us with old money, make sure you send us bills**
- **In FY2020, we first used old grant and then switched to new grant once old grant was completely spent**
- **How much unspent funds do we have from FY2020? Who knows, with our current accounting system, hard to find out**



COVID-19

- **The virus has upended all our lives**
- **Space Grant is no exception**
- **FY2020 and FY2021 funds allocated to us by NASA were not cut**
- **Cancellation (or switching to remote) of several NJSGC programs (also in summer 2021)**
 - **Especially programs at college campuses, experimental work, rocketry, some NASA internships**



COVID-19 Response

- **NJSGC awarded all subcontracts for summer research in 2020 and is doing same for summer 2021**
- **To deal with programs canceled due to Covid-19, we are vastly expanding graduate fellowships for Fall 2020 and Fall 2021**
 - **Also helps with increasing enrollments in graduate programs (as much fewer foreign students are arriving)**
 - **We are ready to expand our usual programming as soon as we are allowed to do so**



Near-Term Challenges

- **NASA Priorities**

- We will know more after May. Please be on the lookout from messages from NJSGC office, as we may need to deal with new initials or new guidance

- **Review of Space Grant**

- We are preparing for a site visit in May, 2021
- Each state will be reviewed, as well as the national program (OSTEM is working on this)
- We will likely need even more data from you - please cooperate when the time comes



Future Activities and Challenges

- **Student projects - we still are not strong in this area**
 - NASA wants hands-on projects (interested in CubeSats and projects across state lines)
 - Projects related to Artemis (going back to the Moon) and to the Mars exploration - **all such activities will be competitive with applicants institutions from among Space Grant affiliates**
- **Reaching our new diversity statistics**
 - Targeted programs for minority students - any ideas
 - Statistics for FY2020 and 2021 will be lower, as we have lost capability of reaching students and approaching them in-person
- **Maintaining enthusiasm level of affiliates**
- **Reporting requirements are going to be stricter - please respond promptly when Joe Miles contacts you**



Thank You

- We are **ALWAYS** open to new ideas
- Space Grant is continuously evolving, **especially with the new administration**
- We need to be flexible and aggressive, as well as maintain our enthusiasm
- Thank you for your support
- We are all doing good and valuable work by **funding future scientists and engineers** (quote from Dr. Bill Garrard, director of Minnesota SGC)