NASA New Jersey Space Grant Consortium
2011 Annual Meeting
National Space Grant Program

- Created by Congress in 1991
- 52 Consortia (50 states + D.C. + P.R.)
- Each state uses its funding to promote programs in STEM and aerospace
- Primary emphasis on higher education, collegiate research and fellowships
- Strong emphasis on diversity
- 25% of NASA’s education budget ($45M of $180M budget in FY 2010)
Goals of New Jersey Space Grant

- To establish a network of universities with interests and capabilities in aeronautics, space science and related STEM (science, technology, engineering, mathematics) 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
NJSGC Affiliates

- Astronomy Education Center at Raritan Valley Community College
- Georgian Court University
- NASA GISS at New York City
- New Jersey City Univ. (only 4 year college in NJ that qualifies as minority serving)
- New Jersey Institute of Technology
- Plainsboro Public Library (used to be Contact Science)
- Princeton University
- Rowan University
- Rutgers University
- Seton Hall University
- Stevens Institute of Technology
- The College of New Jersey
- University of Medicine and Dentistry of New Jersey
- We are also funding programs in Essex County College, Middlesex County College, Liberty Science Center and possibly Ramapo College
The NJSGC Team

- Haim Baruh, Director (office at Rutgers, spends 25% of time [sometimes more] on NJSGC)
- Joseph S. Miles, Program Coordinator (spends half his time with NJSGC, other half as faculty member at Stevens, office at Stevens)
- Aiesha F. Long, Project Coordinator (spends half her time with NJSGC, other half at Rutgers Engineering Dean’s office)
- Leora Wenger, Webmaster
• **Outcome 1**: Contribute to the development of the STEM workforce in disciplines needed to achieve NASA’s strategic goals

• **Outcome 2**: Attract and retain students in STEM disciplines through a progression of educational opportunities for students, teachers, and faculty

• **Outcome 3**: Build strategic partnerships and linkages between STEM formal and informal education providers that promote STEM literacy and awareness of NASA’s mission

• NASA requires that Space Grant consortia fund primarily Outcome 1 programs
New Jersey Space Grant Consortium Programs

- Programs in five main areas
  - Research infrastructure (Outcome 1)
  - Higher education (Outcomes 1 and 2)
  - Fellowships (Outcome 1)
  - Pre-college (Outcome 2)
  - Informal education (Outcome 3)

- NASA requires all NJSGC programs to have a 100% match, except some fellowship programs

- U.S. citizenship (required by NASA) for all participants

- NJSGC budget for FY 2010 is $845,000

- Students can **directly** apply to some programs (marked in blue)
New Jersey Space Grant Consortium **Research Programs**

- Industry-University Research program ($25K grants to faculty to foster new research, industrial partner required)
- Mini grants for faculty ($8K)
- Clustered research programs at universities
- Support of N.J. research centers
- Sub-orbital flight payload project (with Princeton University)
- Travel support for students to attend conferences ($400 per participant)
## New Jersey Space Grant Consortium
### Higher Education Programs

<table>
<thead>
<tr>
<th>Name</th>
<th>No. of Awards</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Co-op in Industry</td>
<td>6-8</td>
<td>$6,000-8,000 per student doing the co-op</td>
</tr>
<tr>
<td>Course Development</td>
<td>5</td>
<td>$4,000 per new course for salaries and supplies</td>
</tr>
<tr>
<td>Senior Projects</td>
<td>10</td>
<td>Up to $900 per project.</td>
</tr>
<tr>
<td>Minority Student Development</td>
<td>4</td>
<td>For graduate study (currently RiSE program at Rutgers, four students at $5,000-6,000 per student). Also, support of EOF programs at Rutgers.</td>
</tr>
<tr>
<td>Minority Graduate School Bridge Program</td>
<td>1</td>
<td>For graduate study (NJSGC provides stipend, university waives tuition)</td>
</tr>
<tr>
<td>College Bridge Program</td>
<td>2</td>
<td>For attracting female high school students to science and engineering. Current program at Rutgers SoE and new program with Georgian Court and with LSC.</td>
</tr>
<tr>
<td>Community College Lab</td>
<td>4</td>
<td>$2,500 per project. Supplies only</td>
</tr>
</tbody>
</table>
# NASA and New Jersey Space Grant Consortium Fellowship Programs

<table>
<thead>
<tr>
<th>Type</th>
<th>Stipend</th>
<th>No. of Awards</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Summer Research</td>
<td>$6,000</td>
<td>14</td>
<td>10 weeks of research at a NJ university or research center. Statewide competition</td>
</tr>
<tr>
<td>Academic Year</td>
<td>$2,000</td>
<td>40</td>
<td>Yearlong research in student’s academic institution. Students selected by NJSGC campus representative</td>
</tr>
<tr>
<td>Graduate</td>
<td>$7,500</td>
<td>6</td>
<td>Student must be a graduate student (new or entering grad school). This fellowship requires match</td>
</tr>
<tr>
<td>NASA Academy</td>
<td>$5,000-7,000</td>
<td>4</td>
<td>Summer research at a NASA center or NASA Academy. Statewide competition, with input from NASA about applicants (academyapp.nasa.gov)</td>
</tr>
<tr>
<td>NASA Internship and Fellowship Programs</td>
<td>from NASA</td>
<td></td>
<td>This year, NASA internships and fellowships (except NASA Academy) managed by a single web site: One Stop Shopping Initiative (<a href="http://intern.nasa.gov">intern.nasa.gov</a>)</td>
</tr>
</tbody>
</table>

The amount we allocate for fellowships is determined by NASA.
Other New Jersey Space Grant Consortium Programs

- **Pre-College**
  
  K-12 science teacher training (In service, as well as pre-service teachers)

- **Informal Education**
  
  For the general public
  
  NASA Resource Center at Georgian Court University
  
  Planetarium support in colleges and libraries, including traveling planetariums
Diversity Mandates

- NJSGC is mandated to spend its student support in a proportion that reflects the diversity of New Jersey higher education students
  - Currently, 14% African American, 14% Hispanics, <1% Native American
  - We need to keep track of all students who receive major awards (> $5,000 or > 180 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 are keeping statistics on congressional districts of students to inform elected representatives (see attached sheet)
Two types of consortia in national program

- 35 Designated states (higher funding)
- 17 Program states (lower funding)

We in N.J. are a program state - One of our top priorities is to become a designated state

Funding is by congressional appropriation, out of the NASA Education Budget

FY 2010 funding $45.6M for the Space Grant program ($845K for N.J.)
NJSGC Budget Issues

• For the last 8 years or so, Space Grant has been funded by Congress at a level higher (via a plus-up) than the president’s request

• FY 2010 budget of $845,000 comes from
  • $430,000 base allocation (president’s request)
  • $230,000 extra allocation by Congress (plus-up)
  • $185,000 from the Consortium Development Competition (based on strength of new programs)
    - The 17 program states were asked to compete and we were one of the six winners.
NJSGC Budget Issues

- We will receive authorization for submitting our FY2011 proposal after we submit our annual report (due in June)

- At this point, we do not know if there will be a development competition for FY 2011

- At this point, we do not know if there will be a competition this year to promote a certain number of program states to designated status

- Preparing for the worst: $430,000 budget

- On the other hand, NJSGC is owed three years of funding (at about $250,000 for each year) for the three years that we were not funded. We have been given no indication from NASA as to when we will receive this funding
### FY 2010 Budget Summary

<table>
<thead>
<tr>
<th>Program Name</th>
<th>Outcome</th>
<th>Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fellowships</td>
<td>1</td>
<td>235,000</td>
</tr>
<tr>
<td>Research</td>
<td>1</td>
<td>120,600</td>
</tr>
<tr>
<td>Higher Education</td>
<td>1</td>
<td>152,500</td>
</tr>
<tr>
<td>Higher Education</td>
<td>2</td>
<td>43,000</td>
</tr>
<tr>
<td>Pre-College</td>
<td>2</td>
<td>25,000</td>
</tr>
<tr>
<td>Informal Education</td>
<td>3</td>
<td>9,600</td>
</tr>
<tr>
<td>Operating Expenses</td>
<td></td>
<td>138,846</td>
</tr>
<tr>
<td>Overhead (26.5%)</td>
<td></td>
<td>120,454</td>
</tr>
</tbody>
</table>

Operating expenses + overhead is about 30% of budget, a number acceptable to NASA.
NJSGC FY 2009 Budget Status

- FY 2009 Budget was $590,000, including the plus-up. There was no development competition
- We have spent over 80% of the 2009 budget
- Please see attached sheets for 2009 and 2010 Expenditure Summaries
- We plan to use unspent funds from 2009 to support programs in 2010
NJSGC Activities in the Past Year (Summer 2010-Spring 2011)

- Attended all national and regional conferences (Delaware, Portland, Me., D.C.). Made presentation in Delaware.
- Started preparing for the 2011 regional conference (at Princeton, Nov. 2-4, NJSGC is host)
  - We will need presentations from you at that meeting
- Successfully submitted a Consortium Development Competition Proposal
- Collaborated with N.J. City University on a NASA climate change education proposal (results not announced yet)
- Tried to gather a team for a Summer of Innovation proposal. We were not able to submit a proposal
NJSGC Activities in the Past Year (Summer 2010-Spring 2011)

- Visited affiliates, as well as non-affiliates (Essex CC, Newark Museum, Rutgers Newark, Rowan, TCNJ, Georgian Court, Seton Hall, Liberty Science Center) and made presentations to faculty and students

- Visited congressional offices in D.C. and made short presentations to staffers

- Contacted local offices of NJ congressional delegation. We will be visiting their offices over the summer

- Contacted all STEM departments in New Jersey community colleges. Response from Mercer CC and Brookdale CC. We also are funding academic year fellowships at Essex CC

- Improvements to web site. Hopefully, next year we will accept online applications for fellowships
NJSGC Activities in the Past Year
(Summer 2010-Spring 2011)

• Summer fellowship conference held in August 2010, where all summer fellows made presentations

• Will do same this year
  • Summer fellowship applications are currently being reviewed
  • We have made NASA Academy allocations
  • All academic year and most graduate fellowships given out

• Diverted some funds to support new opportunities
  • From faculty mini grant program, course development, and administrative expenses
  • To new programs in research clusters at Rowan, TCNJ and NJIT, to EOF programs at Rutgers, and bridge programs with Georgian Court University and Liberty Science Center
Future Activities

- Expanding our offerings more evenly throughout the state
- Carefully selecting activities and evaluating all expenses in view of the new reality in budget cuts
  - Developing new programs and discarding ineffective programs
- Preparing to improve our consortium and to seek designated status (for increased funding and better recognition from NASA)
- Widening our network, with academic institutions (especially community colleges - priority for NASA and also for Pres. Obama), state government, as well as agencies, such as FAA
- Getting more involved with K-12 programs, such as Summer of Innovation, or other programs where we can be a catalyst for developing successful proposals
New Ideas

• We are **ALWAYS** open to new ideas

• Space grant is moving fast and also changing, statewide as well as nationwide

• We should adapt to the times and be proactive