

**MUREP Small Programs:
New York City Research Institute**

PERFORMANCE OUTCOMES DATA SUMMARY

Narratives Only

FISCAL YEAR 2007

**Compiled by
NASA Research & Education Support Services**

New York, NY 10025

New York City Research Institute

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PROGRAM DESCRIPTION

NYCRI Summer Research Institute Component: 23 teams consisting of high school and undergraduate students (66% minorities) and faculty work along side graduate students and the principal investigators of NASA funded research projects at 12 colleges/universities within a 50-mile radius of New York City (NYC/outer counties, S/CT, and N/NJ), as well as at the NASA Goddard Institute of Space Studies (GISS). Summer Enrichment Experiences include weekly content

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and research seminars, team oral research reports, visits to various research laboratories and informal education institutions, publications and oral presentations at local and national research conferences and a Final Research Summit: 300 NASA, NSF, NOAA, DOD, USDE student/faculty researchers.

NYCRI academic partners include 12 colleges/universities: The City College of New York, Hunter College, LaGuardia Community College, Medgar Evers College, Queensborough Community College, and New York City College of Technology, Polytechnic University, State University of New York at Stony Brook, New Jersey Institute of Technology, Stevens Institute of Technology, Rutgers University and Southern Connecticut State University. Informal education partners include the American Museum of Natural History/Hayden Planetarium, Brookhaven National Laboratories, NE/CT Science Collaborative, the Liberty Science Center, Wildlife Conservatory Society and the Intrepid Air and Space Museum. Government agency partners include NASA (lead), NSF, NYCDE, NYSDE, USDE and three Space Grant Consortia (NY, NJ and CT).

NYCRI Academic Year Component - high school and college faculty formulate and implement NASA research based learning units in existing STEM courses, such as EdGCM, which is a PC version of the NASA GISS Global Climate Model for use in NASA Explorer Schools; hands-on interactive learning units on planet mass, density, magnetic fields, solar wind, designing a mission to space and introduction to remote sensing. In and pre-service teacher courses, such as The Carbon Question - offered for credit to NYC teachers at GISS; and acceptance by NASA ESE product review of Mathematical Modeling: What Determines a Planet's Climate - to be offered at JSC.

Detailed Information and Applications: <http://education.gsfc.nasa.gov/nycri>

PROGRAM RELEVANCE TO NASA

- Identify ongoing NASA research at universities in NY, NJ and CT.
- Engage students, teachers, professors and NASA GISS scientists in team research.
- Develop curricular based on NASA research.
- Improve STEM education in NY, NJ and CT.

PROGRAM BENEFITS TO SOCIETY

Provide opportunities for high school students, high school teachers, undergraduates and graduate students to be involved in NASA research and use of NASA materials in 7-12, undergraduate and graduate classrooms.

PROGRAM GOALS

- Increase numbers of minority and underrepresented students engaged in MUREP Performance Outcomes Data Summary (FY '07): New York City Research Institute

- science, technology, engineering, and mathematics career experiences.
- Involve students in authentic research that demonstrates linkages and relevancy between NASA's work and standards-based classroom experiences "as only NASA can."
- Develop the capability of students to be productive team members.
- Participate in and support NASA's agency-wide high school pipeline internship program.
- Nurture and track a cadre of exceptionally talented/skilled students.
- Leverage resources via partnerships with other government agencies.
- Broaden impact of program through multi-use approach inclusive of informal and formal educational efforts.
- To increase the pipeline of high school, undergraduate and graduate students in the STEM pipeline and future NASA workforce.

PROGRAM ACCOMPLISHMENTS

Our NYCRI has developed:

- A network of 40+ university professors, NASA scientists and hundreds of students involved in NASA research across all directorates - Aeronautics Research, Exploration Systems, Space Operations and Science.
- NASA based research integrated into high school and college classrooms.
- Developed curriculum materials for high school through graduate school classrooms.
- Increased the STEM pipeline a pool of employees for the NASA workforce.

STUDENT ACCOMPLISHMENTS

- Many of our undergraduates have received full or partial scholarships to MIT, Carnegie Mellon, SUNY, CUNY, Rensselaer Institute, Stevens Institute of Technology, Rutgers University, Brown University and Penn State.
- Chales Sosa, a NYCRI high school student and undergraduate was hired by Dr. William Rossow, NASA GISS scientist and distinguished professor at the City College of New York.
- Adam Greenbaum, a NYCRI high school student, then undergraduate, then graduate student is the recipient of a NOAA Hollings two-year research award.
- Kevin Jagdipsingh's poster "Ferromagnetic Resonance Study of Cobalt Nanowires for Magnetic Storage", won first place at the NYS Science and Technology Entry Program (STEP) competition.

PICTURES (none)