

## Research Highlights:

- In FY 2009, the University's externally sponsored research grants and contracts totaled nearly \$400 million, almost a 20% increase in overall funding from FY2008. Of this \$400 million, approximately \$355 million came to the New Brunswick campuses.
- The University is on track to bring in \$500 million in FY2010; during the first 6 months of FY2010, \$240.7 million was awarded to support sponsored research, with the Federal government the largest sponsor at \$183.4 million. (To place this in context, in the entire year of FY 2006, Rutgers received \$171.7 million—a record at that time.)
- In NSF funding for FY09, Rutgers was the leading recipient in the State (\$62 million); all of the other state colleges had a combined total of \$20 million (NJIT, CNJ, Montclair, New Jersey City U, RWJ, William Paterson, Bergen CC, Rowan, Ramapo, Kean, Essex County, UMDNJ). (Princeton was close behind Rutgers with \$56 million.)
- The federal government's nearly \$800 billion American Recovery and Reinvestment Act (ARRA) provided \$15 billion in additional funding to federal agencies for research. To date, Rutgers has received almost \$27 million in ARRA funds, more than any other institution in the state (Princeton University: \$22 million). This money, which came from the Department of Labor, the National Endowment for the Arts, the U.S. Department of Transportation, the National Institutes of Health, and the National Science Foundation, was earmarked to fund valuable projects that would be able to use the money immediately and wisely.
- The Department of Homeland Security named DIMACS, along with Purdue University, co-leaders of a new DHS Center of Excellence to explore technological issues involved with maintaining homeland security. Rutgers and its co-investigator, Purdue, will receive up to \$5 million per year over a period of six years. Rutgers now has two designated DHS Centers of Excellence and is a partner in two others.
- Three Rutgers-New Brunswick scientists working in emerging areas received highly competitive grants from the National Institutes of Health's Challenge Grant Program: Eileen White, Professor of Molecular Biology and Biochemistry, was awarded a \$500,000 grant to study the role of cellular metabolism in the development and progression of cancer; and Linda Grzustowicz, Professor of Genetics, received a \$500,000 grant for her research aimed at identifying behavioral traits, particularly aspects of language ability, that are strongly influenced by genetic factors in family members of individuals with autism; Dr. Danielle E. McCarthy, Assistant Professor of Psychology, was awarded a \$365,000 grant to study impulsive decision-making and impulsive behavior as markers of difficulty in quitting smoking.
- The Center for Integrative Proteomics Technologies, a \$55 million state of the art facility, will be a shared instrumentation resource and proteomics research facility, including the Protein Data Bank, and is scheduled to be completed next year; this year should see the completion of the \$10 million addition to the Nelson Biology Labs on the Busch campus funded by the Federal Government, which will accommodate a major expansion of the Rutgers Cell and DNA Repository, the largest such university-based resource in the nation.

- With a four-year, \$10 million grant from the Robert Wood Johnson Foundation, Rutgers is moving forward with its plans to establish the Institute for Food, Nutrition, and Health, which will focus on obesity and its associated diseases. Faculty from disciplines such as nutritional sciences, food science, animal science, chemical biology, plant science, and family and community health science will be involved in basic science and clinical work. A nationwide search for the founding director of the Institute has recently been concluded.
- Dipak Sarkar, Professor of Animal Sciences, SEBS, received a \$3.5 million NIH MERIT Award to continue his research into the damaging effects of alcohol on the nervous systems of the unborn.
- Rutgers and two collaborators received a \$3.4 million research grant to develop tools aimed at improving the identification of prostate cancer using MRI. This five year grant was awarded by NIH under an initiative to promote industry and academic partnerships. Dr. Anant Madabhushi, Department of Biomedical Engineering, SOE, is the principal investigator on this grant.
- A new nursing building was dedicated in New Brunswick this year that will provide modern classrooms, faculty offices, a lecture hall, an expanded clinical learning laboratory, and examination room to prepare highly trained nurses to meet the needs of the state and the nation; this building shares a site with the new home of the Rutgers Institute for Health, Health Care Policy and Aging Research, which focuses and facilitates the efforts of University faculty, other investigators, staff, postdoctoral trainees and students concerned with health in numerous critical areas, such as health behaviors and risks, health and mental health policy, and chronic illness and disabilities. These facilities were constructed with an \$11 million grant from the Robert Wood Johnson Foundation.
- A group of engineers from the Rutgers Center for Advanced Infrastructure and Transportation (CAIT), working with faculty members from Drexel University and three technology firms, will receive \$17.9 million from the U.S. Department of Commerce, starting in February, on a project that will dramatically modernize bridge maintenance techniques. \$8.8 million of this project comes through an incentive program for “high-risk, high-reward” research, which provides cost-shared funding for innovative, high-risk research in technologies that address critical national needs. The researchers will develop a suite of electronic sensors—such as ground-penetrating radar and ultrasonic arrays—to increase the precision of high-tech tools used in bridge maintenance. CAIT has also received an additional \$3 million from the NJ Department of Transportation for an accelerated testing facility for roadbed construction.
- The National Science Foundation awarded Rutgers two grants worth \$6.4 million to fund graduate research in clean and sustainable energy resources using biotechnology and nanotechnology. One, for \$3.2 million, will provide fellowships for graduate students to study policy and economic issues related to clean energy development through the Edward J. Bloustein School of Planning and Public Policy and the Woodrow Wilson School of Public and International Affairs at Princeton, and to participate in internships and exchanges with African universities and institutions through Princeton’s US-Africa Materials Institute. The focus of the second grant, also providing \$3.2 million over 5 years, is on replacing environmentally harmful fossil fuels with renewable, economically sustainable fuels in collaboration with universities in

the U.S., Brazil, China, and South Africa. The program will provide education in biotechnology, chemistry, ecology, engineering and energy policy along with real-world experience in government and industry. Rutgers is the only university to receive two IGERTS this year. Only 11 were awarded nationwide. In addition, Rutgers also received \$1.25 million to extend practices developed under previous NSF graduate research grants designed to strengthen science, technology, engineering, and mathematics education. This grant will permit the University to extend its IGERT curricula and practices to other graduate programs and to the Aresty Research Center for Undergraduates. Rutgers now has 6 IGERTS; no other university in New Jersey has one.

- One very creative project that has attracted interest from the Department of Homeland Security, the federal EPA, NJ DEP, NATO, NASA, and NOAA is the “Scarlet Knight” robotic glider, an interdisciplinary, global project of the Institute of Marine and Coastal Sciences. The glider completed its trans-Atlantic journey in November, gathering data along the way that will help the global community of scientists and policy makers understand and respond to some of the critical environmental and ecological changes the earth is now undergoing. This ongoing program has demonstrated the utility of gliders in new and wide-ranging applications and taken ocean exploration to a new level.
- Our staff and students have mobilized the campus to provide food for those in the state who are suffering as a result of the rise in unemployment and housing prices and the concomitant increase in food prices. In its first year, Rutgers against Hunger collected over \$100,000, and donated more than 53,000 pounds of food to help distressed families in the State.
- In July, Rutgers partnered with Johnson & Johnson and the city of New Brunswick to open a farmer’s market catering to the nutritional needs and tastes of residents in the neighborhood adjacent to the Cook Campus.
- This past December, student and staff groups “adopted” 200 families to provide them with food and other necessities during the holiday season.
- Our students have also responded generously to the horrific disaster in Haiti by organizing concerts and other events for collecting relief funds.
- Rutgers has been named the 2009 Energy Educator of the Year. As part of the New Jersey Board of Public Utilities’ Clean Energy Leadership Awards, the annual honor recognizes a school, college or university for its efforts to improve the energy efficiency and use of renewable technologies in its facilities and for implementing specific programs and activities that include energy education and student involvement.
- Rutgers’ seven-acre solar energy facility—one of the largest such installations on a U.S. college campus—generates approximately 10 percent of the electrical demand of the Livingston Campus. Approximately half of the \$10 million cost of the project was subsidized by a rebate through the BPU’s Clean Energy Program. The program is aimed at public agencies and institutions to help them defer the cost of implementing solar projects.

- Through Facilities, we also worked with PSE&G on their Direct Install Program and were invited to participate in a \$5 million lighting retrofit program, of which PSE&G would pay 80% and the University would pay 20% of the construction costs. This project, when completed, will provide a yearly energy savings of \$4 million.
- Rutgers now ranks 14<sup>th</sup> among peer universities for the number of faculty (49) who are members of the National Academy and the American Academy of Arts and Sciences, two of the most prestigious scholarly organizations in the world. No other state institution has as many faculty members in the prestigious national academics as Rutgers; in fact, counting all of the other state institutions in New Jersey together, fewer than ten members of their combined faculties are members the National Academies (4 in UMD, 2 in NJIT, Drew 1, Stevens 1).
- In 2009, T.J. Jackson Lears, and Stephen Stich were elected members of the American Academy of Arts and Sciences. Elected to the American Association for the Advancement of Science were Susan M. Cachel, Anthropology; Lee Clarke, Sociology; and James M. Tepper, Molecular and Behavioral Neurosciences.
- Among other new fellows from the New Brunswick campus elected in 2009:
  - Jack Hughes, Physics and Astronomy, Fellow, American Physical Society
  - John Kolassa, Statistics and Biostatistics, The Institute of Mathematical Statistics
  - Assimina Pelegi and Stephen Tse, Mechanical and Aerospace Engineering, American Institute of Aeronautics and Astronautics
  - Edwardo Sontag and Hector Sussmann, Mathematics, Society for Industrial and Applied Mathematics
  - Faculty in New Brunswick have also been awarded Fulbright Fellowships (Eric Allender, Computer Science; Jeff Friedman, Dance); Guggenheim Fellowships: (Jeff McMahan, Philosophy and Deborah Gray White, History); National Humanities Center Fellowships (Mia Bay, History); Jawaharial Nehru Institute of Advanced Study Fellowship (Jozsef Borocz, Sociology); National Science Foundation Early Career Awards (Jimmy de la Torre, Educational Psychology; Charles R. Keaton, Physics & Astronomy; Hao Lin, Mechanical and Aerospace); National Institutes of Health 2009 New Innovator Award (Kibum Lee, Chemistry and Chemical Biology); The Institute of Medicine's 2009 Rhoda and Bernard Sarnat International Prize in Mental Health (David Mechanic); and the 2009 Houtermans' Medal (Nathan Yee, Earth and Planetary Sciences).
- In the US Department of Education Graduate Assistance in Area of National Needs Awards Program 2009, of the 112 projects funded nationwide, five of them were from Rutgers. These funds are awarded to programs and institutions to sustain and enhance the capacity for teaching and research in areas of national need. No other university in the State of New Jersey has an active GAANN Award.
- The strong support of the University for the Office of Distinguished Fellowships has increased the number of undergraduates applying for and being awarded prestigious national and international honors.
  - Simon Gordonov, a Barry M. Goldwater Scholarship winner, has been awarded a prestigious Churchill Scholarship. Only 14 of these are awarded annually.

- Two students are finalists this year for the Gates Fellowship.
- Fulbright Fellowships: In 2009, students on the New Brunswick campus received 10 Fulbright Fellowships (4 undergraduates and 6 graduate students), far more than all the other State institutions combined. *The Chronicle of Higher Education* reported that the Institute of International Education recognized Rutgers as one of the national leaders among research institutions in securing Fulbright grants.
- Byrne Seminars: In 2009, a total of 2205 first year students participated in 127 seminars (Spring 981 students in 60 seminars; fall 1223 students in 67 seminars). This reflects a 22% increase from the previous year in the number of students participating in these seminars.
- Students from the Graduate School-New Brunswick secured more than \$1.3 million in external fellowships in 2009, including such prestigious awards as Fulbright Hays fellowships, ACLS/Mellon Dissertation Completion Fellowships, and National Science Foundation Doctoral Dissertation Improvement Grants (DDIG).
- More than 36,400 students (first year and transfer) applied to New Brunswick in Fall 2009. New Brunswick's total new student enrollment increased by 2.8%, an increase of more than 200 students from Fall 2008.
- Underrepresented minority students enrolled in New Brunswick represent over 25% of the incoming class (close to 900 students).
- The top 1000 students admitted to New Brunswick had mean combined critical reading and math SAT scores of more than 1400 and mean percentile rank in the top 10%;
- Regularly admitted students had SAT scores approximately 200 points above the State and National averages.
- More than 110 students in the entering class were their high school valedictorian or salutatorian.
- 35,678 students are enrolled in New Brunswick for Spring 2010; in Spring 2009, there were 34,335 students. (+1343)
- Applications for the fall 2010 semester are up, first-year applications by almost 5% and transfer applications by 10%, a total increase of 1,553 applications.