SOLUTIONS FROM RUTGERS New Jersey’s Partner for a Strong Economy 2009
A Message from the President

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ABOUT THE COVER
Rutgers’ 1.4 megawatt solar farm on the Livingston Campus in Piscataway is the largest solar farm both in New Jersey and at a single college campus in the nation. The solar farm will reduce Rutgers’ carbon emissions by 1,200 tons per year and produce 10 percent of the electricity needed by the Livingston Campus. The project is the largest to date for the solar farm contractor, South Plainfield-based SunDurance Energy.
Prosperity does not happen by accident. It is the product of vision, innovation, talent, and hard work. As New Jersey and the nation grapple with a troubled economy, public higher education continues to provide solutions and to contribute assets of real value that far exceed the investment made in these colleges and universities. Here at Rutgers, these assets include the education of women and men for 21st-century careers; the products, processes, and new enterprise generated by our research; our faculty's expert analysis, forecasting, and policy development; and the technical assistance and service we provide to businesses large and small and to communities and families. A state investment of just under $600 million yields a return of $3.8 billion in direct and indirect spending within New Jersey.

As the following pages illustrate, Rutgers is New Jersey's partner for a strong economy. We are committed to providing solutions that support economic growth and to encouraging new ventures based on fresh ideas and technological innovation. Backed by increased federal and foundation support, our research and analysis lead to discoveries in fields that create jobs, such as transportation, food science, energy, information technology, and pharmaceuticals. We are expanding our programs in continuing and executive education to help more residents gain knowledge and training where they live and work, especially as they navigate today's employment environment.

Each year Rutgers produces 11,000 highly skilled, motivated graduates, many with real-world experience gained through internships, co-ops, or original research in New Jersey's most extensive and diversified laboratories. As a leading employer, Rutgers also contributes to New Jersey's tax and credit bases and is a major purchaser of goods and services. In our hometowns of Camden, Newark, New Brunswick, and Piscataway, we invest in people and infrastructure. In a recent ambitious initiative, the university is assisting those in need through Rutgers Against Hunger, providing literally tons of help to regional food banks and putting our expertise to work in helping families make nutritious choices to avert hunger.

Rutgers is proud to be The State University of New Jersey. With your support and investment, we will continue working hard to build prosperity for our state, the nation, and the world.

*Richard L. McCormick*
President
Rutgers, The State University of New Jersey
RUTGERS IS AN ECONOMIC ENGINE

- Channels more than six times the state's investment in the university back into the New Jersey economy—a $3.8 billion return on an investment of $595.3 million in 2008
- Educator of a sophisticated workforce, with more than 108,400 graduates in the past 10 years
- Employer of 9,900 full-time faculty and staff who educate students; advance New Jersey's economic, cultural, social, intellectual, and environmental well-being; and contribute directly to the New Jersey economy
- A significant contributor to New Jersey's tax and credit bases
- More than 100 distinct bachelor's, 100 master's, and 80 doctoral and professional programs offered
- Nearly 369,000 living alumni, over 200,000 of whom live in New Jersey and contribute directly to the state's economy
- Home to New Jersey's most extensive and diversified research laboratories
- Source of advanced technology and inventions that create jobs and fuel the economy
- A low-cost provider of data, reports, and business consulting as well as human service, educational, and legal outreach
RUTGERS STIMULATES THE ECONOMY. Rutgers channels more than six times the state’s investment in the university back into the New Jersey economy.

- RETURNING MORE THAN SIX TIMES THE STATE’S INVESTMENT
- SOURCES OF RUTGERS’ EARNING POWER
- ATTRACTING $691.5 MILLION IN OUT-OF-STATE REVENUE
- RECORD-BREAKING PRIVATE GIVING REFLECTS CONFIDENCE IN RUTGERS
- A MAJOR NEW JERSEY EMPLOYER
- $1.3 BILLION: CONTRIBUTING TO NEW JERSEY’S CREDIT BASE
- $100 MILLION: A KEY SOURCE OF STATE AND LOCAL TAX REVENUE
- CAPITAL CONSTRUCTION GENERATES 5,000 NEW JERSEY JOBS
- RUTGERS INVESTS IN NEW BRUNSWICK, PISCATAWAY, CAMDEN, AND NEWARK
RETURNING MORE THAN SIX TIMES THE STATE’S INVESTMENT

Rutgers channeled more than $1.9 billion into the New Jersey economy in fiscal year 2008, stimulating economic activity within the state. Economic impact studies produced by other research universities conservatively estimate that for every dollar spent by a university, another dollar’s worth of economic activity is generated in the state’s economy.¹ The combined effect of university direct and indirect spending is therefore $3.8 billion—more than six times the amount of the state’s $595.3 million investment in the university.

Rutgers’ $1.9 billion in spending activity is divided into two distinct categories: university expenditures and university-related expenditures.

University expenditures include employee compensation and direct university purchases, including capital improvements. These expenditures contributed nearly $1.4 billion to the state’s economy in 2008.

University-related expenditures include student and visitor spending. In 2008, university students spent $497.8 million for housing, food, transportation, clothing, and other living expenses. Also in 2008, over 800,000 people visited Rutgers’ campuses, contributing conservatively $15.1 million to the local and state economies.² In total, university-related expenditures contributed $512.9 million to the state economy in 2008.

Through its expenditures, Rutgers stimulates the economy in New Jersey. The university purchases goods and services and makes capital improvements, generating revenue for a host of businesses. Rutgers’ employees, students, and visitors make purchases that support local enterprise and generate state sales tax. Rutgers attracts out-of-state dollars to New Jersey through research grants, federal student assistance, and out-of-state tuition. Rutgers alumni and staff contribute to the state credit base through their mortgages and savings accounts, and they pay state and local taxes.
SOURCES OF RUTGERS’ EARNING POWER

Rutgers is a state-supported institution of higher education. State appropriations comprise a fiscal base upon which Rutgers’ operations are built and provide the university with the capacity to generate, compete for, and leverage other revenue sources. In fiscal year 2008, state appropriations including fringe benefits comprised 28.2 percent ($476.5 million) of Rutgers’ revenue from all sources. An additional 7 percent in state grants, contracts, and financial aid brought the state's total investment in Rutgers to $595.3 million. The balance of Rutgers’ total revenue in 2008, 64.8 percent, came from tuition and fees; federal grants, contracts, and financial aid; auxiliary enterprises; contributions and nongovernmental grants and contracts; and other sources. In 2008, tuition and fees provided nearly the same amount of revenue (28 percent) as state appropriations and fringe benefits.

ATTRACTING $691.5 MILLION IN OUT-OF-STATE REVENUE

Rutgers attracts economic activity from outside the state, $691.5 million in 2008, in several important ways. This includes research support, spending by out-of-state students, and federal student assistance. In 2008, Rutgers received $273.3 million in external research awards, derived from federal, foundation, and corporate sources. In academic year 2007–2008, 2,801 out-of-state undergraduates and 3,860 out-of-state graduate/professional students were enrolled at the university. These nonresidents spent a total of $132.3 million on tuition and fees, and an additional $83.6 million on housing, food, clothing, and other living expenses. Rutgers students also bring money into New Jersey by means of federal student assistance. In fiscal year 2008, Rutgers students received $202.3 million in financial aid from federal grant and loan programs.
RECORD-BREAKING PRIVATE GIVING REFLECTS CONFIDENCE IN RUTGERS

Rutgers puts great effort into cultivating sources of private support. The $120.9 million in record-breaking private giving Rutgers attracted in 2008 reflects the confidence stakeholders feel in the university. Since its founding in 1973, Rutgers’ fundraising arm, the Rutgers University Foundation, has attracted more than $1 billion in private giving to support Rutgers’ mission of excellence in education, research, and service. The past few years have seen a steady growth in donations, including $66.6 million in fiscal year 2006, $111.4 million in fiscal year 2007, and a total of $120.9 million in new gifts and pledges in fiscal year 2008, a new record for the university.4

A MAJOR NEW JERSEY EMPLOYER

Rutgers, one of New Jersey’s largest employers, directly employs more than 27,000 individuals. This number includes more than 9,900 full-time faculty and staff; approximately 13,700 students and temporary employees; and over 3,600 visiting scholars, tradespeople, and other employees. In-state spending activities by the university create an additional 7,985 jobs through both direct purchases and capital improvements.5

$1.3 BILLION: CONTRIBUTING TO NEW JERSEY’S CREDIT BASE

Credit is essential to the economic well-being of any region, whether municipality, county, or state. It is credit that allows new economic endeavors to be undertaken and existing enterprises to expand. The availability of credit is dependent on
savings and investments. Rutgers contributes $1.3 billion to the local and state credit bases through its payroll, endowment and investments, and retirement funds. It is estimated that Rutgers employees who are New Jersey residents generated $140.4 million in mortgage payments or savings in 2008. Moreover, the university also deposits its available cash in New Jersey banks, some $18.9 million at the close of fiscal year 2008. In addition, the university has endowment funds with a market value of $593.1 million and other investments totaling an additional $509.8 million. Contributions to retirement funds are a third source of investment derived from Rutgers. In 2008, the university contributed a total of $37.8 million in retirement funds for faculty and staff, while employees contributed an additional $33.4 million.

$100 MILLION:
A KEY SOURCE OF STATE AND LOCAL TAX REVENUE

In 2008, Rutgers faculty, staff, students, and visitors contributed $100 million to local and state tax bases and $152.7 million to federal tax bases. Rutgers faculty and staff paid $25.4 million in state income tax and an additional estimated $9.9 million in state sales tax. Additionally, students and visitors contribute to the New Jersey tax base through sales tax. In 2008, off-campus expenditures by students accounted for $16.1 million in sales tax revenues, while taxes from visitor spending accounted for an additional $1.1 million. A third source of tax revenue generated through Rutgers is faculty and staff property taxes. It is estimated that faculty and staff who own homes in New Jersey paid $47.5 million in local property taxes. Rutgers employees also paid $152.7 million in federal income tax, FICA, and Medicare tax.

Faculty, staff, students, and visitors contributed $100 million to local and state tax bases.
Rutgers’ capital construction program brings jobs to New Jersey—with more than 5,000 construction industry jobs projected through 2011. The latest $500 million program is creating new academic and student facilities, and includes more than 20 projects. The new construction is in addition to other job-creating projects that are under way or recently completed on the Rutgers campuses, in the downtowns of Rutgers’ host cities, and in other New Jersey locations. Examples of these include Rutgers Stadium in Piscataway, the College of Nursing in New Brunswick, University Square at Rutgers–Newark, the Eldridge R. Johnson Park restoration in Camden, and the Food Innovation Center in Bridgeton.

**NEW PROJECTS:**

$500,000,000

**BUILDING PROGRAM**

Universitywide Classroom Enhancement
Universitywide Deferred Maintenance
Universitywide Fire Protection and Sprinkler Projects
Campus Greening at College Avenue Campus
Center for Integrative Proteomics Research at Busch Campus
Counseling Center at College Avenue Campus
Department of Genetics Laboratory Renovations at Busch Campus
Dining Commons at Livingston Campus
Early Learning Research Academy at Rutgers–Camden
Gateway Transit Village at Downtown New Brunswick
Housing at Busch Campus
Housing at Livingston Campus
Institute for Health Sciences at Downtown New Brunswick
Life Sciences Center Laboratories at Rutgers–Newark
Recreation Center at Rutgers–Camden
Rutgers Business School at Livingston Campus
Rutgers University Cell and DNA Repository Addition at Busch Campus
Solar Energy Farm at Livingston Campus
Student Center at Livingston Campus
University Visitor Center at Busch Campus

**STRICT CREDIT RATINGS ATTRACT NEW JERSEY INVESTORS**

To help finance Rutgers’ latest construction initiative, the university sold $233.1 million in general obligation bonds on February 10, 2009, to be repaid through user fees and other university revenues. Demonstrating that the people of New Jersey consider Rutgers a good investment, approximately $100 million of the bonds were sold to investors within the state. Prior to Rutgers’ February 2009 bond sale, the nation’s two most respected bond-rating agencies reaffirmed the university’s strong credit ratings: Aa3 from Moody’s Investors Service and AA from Standard & Poor’s. Commenting on its Aa3 bond rating for Rutgers, Moody’s stated, “Rutgers’ position as the state’s ... only comprehensive public research university will continue to drive the excellent student demand and anchor state and private support for its academic, research, and public service programs for the foreseeable future.”

**CAPITAL CONSTRUCTION GENERATES 5,000 NEW JERSEY JOBS**

$500 million building program = 5,000 jobs
Al Bucknam, chief executive officer of South Plainfield-based Sundurance Energy, which creates customized solar power solutions for corporations, government entities, and communities, looks out over the seven-acre solar farm his company is installing on Rutgers’ Livingston Campus. Bucknam says the project, Sundurance’s largest to date, has been important to his company’s growth. And, he says, Rutgers walks the “green” walk. The 1.4 megawatt solar farm—the largest both in New Jersey and at a single campus in the nation—will generate approximately 10 percent of the campus’s electrical demand and reduce the university’s carbon dioxide emissions by more than 1,200 tons per year. By taking advantage of incentives offered by the state and its Board of Public Utilities, Rutgers minimized project costs while taking a leadership role in bringing environmentally sound practices to higher education. And that’s good for Rutgers, Sundurance, New Jersey, and the planet.
RUTGERS’ HOMETOWNS: MIDDLE SCHOOLERS BECOME RUTGERS FUTURE SCHOLARS

The future leadership and economic growth of our state and nation depend on well-educated, self-sufficient, contributing citizens. Lifetime earnings and leadership roles depend greatly on one’s level of education. Rutgers offers numerous programs to increase the number of students attending college. In 2008 the university focused a bright light on the needs of youngsters in its hometowns by launching Rutgers Future Scholars. The program introduces first-generation, low-income, and academically talented middle school students from Camden, Newark, New Brunswick, and Piscataway to the promise of a college education, with 200 new students entering the program each year. There is no cost for students to participate. Students enjoy special programming and support beginning the summer before entering eighth grade and continuing throughout high school and into college. Successful participants are admitted to Rutgers and receive a scholarship covering the cost of tuition for four years funded through grants and donations.

RUTGERS INVESTS IN NEW BRUNSWICK, PISCATAWAY, CAMDEN, AND NEWARK

Rutgers’ construction projects contribute to the vitality and economic health of our host cities. Major Rutgers buildings and parks in Camden, Newark, New Brunswick, and Piscataway bring energy and further distinction to our hometowns, as well as people who make purchases and support local enterprise; they include Rutgers faculty, staff, students, visitors, and members of the general public. Rutgers also supports the residents of its hometowns through innovative K–12 education programs.

The Gateway Transit Village “redevelopment project will further the bonds between Rutgers University and New Brunswick. It will encourage the use of public transportation and create an exciting, dynamic, and unique location that will welcome visitors to the Hub City and Rutgers University.”

NEW BRUNSWICK MAYOR JIM CAHILL
A NEW FOCAL POINT FOR PROFESSIONAL EDUCATION IN PISCATAWAY

In 2007, plans were announced to re-envision the Livingston Campus in Piscataway as a hub for professional education, including new facilities for the schools of Business, Management and Labor Relations, Education, and Social Work. The concept got a major boost in September 2008 from an anonymous gift of $13 million, the largest single private donation to Rutgers to date. Additional plans for the campus include a hotel and conference center; a modern transportation network; and an environmentally sustainable, pedestrian-friendly community that will complement the new business and professional focus.

GATEWAY TRANSIT VILLAGE ANCHORS NEW BRUNSWICK CORE

When the Rutgers Bookstore reopens as a Barnes & Noble College Superstore, it will be a destination attraction in New Brunswick’s Gateway Transit Village, which will rise around New Brunswick’s New Jersey Transit/Amtrak train station. A joint initiative of Rutgers, the New Brunswick Development Corporation, and the City of New Brunswick, the 600,000-square-foot Gateway Transit Village includes the new university bookstore, the Rutgers University Press, and a Rutgers Welcome Desk, in addition to condominiums, retail space, and a parking garage.

Top left: The Livingston Campus in Piscataway will be a hub for professional education.

Above: Two views of the Gateway Transit Village, which will house the Rutgers Barnes & Noble College Superstore in downtown New Brunswick.
SCHOOL OF LAW—CAMDEN BOOMS UNIVERSITY DISTRICT

After a major expansion, Rutgers' School of Law—Camden—a rising national center of legal education—enters a bright new era, equipped to serve a broader constituency, including an expansion of pro bono and clinical legal programs and the availability of law facilities to better serve students and faculty, as well as the greater Camden community and state of New Jersey. The building features new classrooms and gathering spaces as well as the Archer & Grenier Moot Courtroom, which is being used by the New Jersey Supreme Court and the New Jersey Appellate Division for active sessions. The $37 million project is just one example of Rutgers' commitment to strengthening and revitalizing the city of Camden. In addition to Rutgers funding, the project received $11 million from the Municipal Economic Recovery Act, and $1 million from a special state grant.

BUSINESS SCHOOL, A STRONG PRESENCE IN HEART OF NEWARK

In 2009, the Rutgers Business School—Newark and New Brunswick—a major supplier of workforce, research, and enterprise development to the New Jersey business community—moves to One Washington Park, its new home in the renovated former Verizon building. Central to the economic development of a key downtown Newark location, the school will occupy 11 stories of the 17-story building.

The $83 million project, which includes a $31.5 million purchase price and $51.5 million for construction, is being financed through an $18 million appropriation from the State of New Jersey and at least $5 million from New Market Tax subsidies that are intended to assist urban economic development. Remaining costs are financed through private donations and bonding.

“It’s wonderful to see Rutgers Business School … accelerating the renaissance of the city of Newark.”

RICHARD T. THIGPEN, CHAIR, PSEG FOUNDATION, in announcing the company's $2 million gift to Rutgers Business School
PREPARING THE WORKFORCE. Rutgers provides a top return on students’ investment, ranking sixth nationally in the *Wall Street Journal’s SmartMoney* magazine survey of college costs versus salaries earned by graduates of 50 leading public and private universities.
K–12 EDUCATION IS AN ECONOMIC ISSUE

1
NUMBER OF PH.D. IN CHILDHOOD STUDIES PROGRAMS IN NEW JERSEY, ONLY AT RUTGERS

1
NUMBER OF PH.D. IN EDUCATION PROGRAMS IN NEW JERSEY, ONLY AT RUTGERS

Tim Nordin, a Ph.D. candidate who left his job as a high school science teacher in Iowa to enroll at Rutgers’ Graduate School of Education, is investigating the interplay between economic development and education in big cities, hoping to shape policies that rejuvenate both communities and schools. “They are symbiotic,” he says. A member of the first class of Rutgers Presidential Fellows—a new program through which Rutgers provides financial support to attract the most talented Ph.D. students—and a National Science Foundation Fellowship recipient, Nordin relocated to New Jersey with his wife, a resident at Robert Wood Johnson University Hospital, and his two young sons. Nordin is very pleased with his decision to enroll at Rutgers, the only school in New Jersey to offer a Ph.D. in education. “I have received a great deal of attention and support from faculty and administrators at Rutgers.”

SOLUTIONS:
PREPARING THE WORKFORCE

In a most practical sense, Rutgers has assets of real value that are the source of solutions to keep the New Jersey economy strong and attract and support businesses. Above all is the highly diverse and highly skilled workforce that Rutgers prepares. From the reading-ready child to the young professional just starting out to the career-shifting seasoned executive, Rutgers focuses its energy and resources on the entire educational continuum.

THE FOUNDATION FOR SUCCESS:
PRE-K–12 EDUCATION

Rutgers contributes fundamentally to pre-K–12 education in New Jersey through its extensive role in preparing teachers, administrators, and researchers; guiding curriculum reform; operating dozens of effective programs serving pre-K through precollege youngsters and at-risk teens and young adults; and providing analysis of educational program effectiveness and funding. All three campuses have long-established teacher preparation programs, and Rutgers student-teachers support K–12 education statewide. Rutgers–Camden offers the nation’s first doctoral degree-granting program in childhood studies and the Graduate School of Education in New Brunswick offers the state’s only Ph.D. in education.

- Rutgers is the supplier of a sophisticated workforce, with more than 108,400 graduates in the past 10 years.
OUTSTANDING UNDERGRADUATE, GRADUATE, AND PROFESSIONAL EDUCATION

Rutgers is a major direct supplier of New Jersey’s and the region’s sophisticated workforce, with more than 108,400 graduates in the past 10 years. The university offers more than 100 undergraduate programs from which students can choose a major. From 1998–1999 to 2007–2008, 74,992 individuals received baccalaureate degrees from the university. Over the same 10-year period, Rutgers granted 33,434 postbaccalaureate degrees. At the master's, professional, and doctoral levels, over 13,000 Rutgers students annually pursue degrees in a wide range of fields, including arts and sciences, engineering, pharmacy, education, law, business and management, planning and public policy, public affairs and administration, communication and library studies, nursing, criminal justice, management and labor relations, psychology, and social work.

PREPARING THE “GREEN” WORKFORCE

The $33 billion investment in New Jersey’s energy infrastructure stemming from the state’s 2009 Energy Master Plan is estimated to result in the creation of over 20,000 jobs and to achieve reductions in energy consumption of at least 20 percent between now and 2020. Many of these positions will be at the cutting edge of technology development, and new majors and courses are needed to meet this demand. Although Rutgers has long been engaged in “eco-education,” the university has anticipated the needs of this burgeoning industry and offers many new courses that explore the science, engineering, and policy of energy. Over 75 energy-related and “green” undergraduate and graduate courses are offered at Rutgers. There are currently more than 2,000 students registered for “green” courses and more than 1,500 students enrolled in “green” majors.

“"It was a really good time to make the switch [to Rutgers]. My dad is in construction, and with the economy falling apart, not many people are building homes.” The number of enrolling transfer students to Rutgers doubled in 2008.

ALUMNI REPAY THE INVESTMENT IN THEIR EDUCATION

Most Rutgers alumni stay in New Jersey after they graduate, contributing to the state’s economy and their local communities, and repaying the investment the state has made in their education. Over 56 percent of the 368,848 living Rutgers alumni currently reside in New Jersey. Eighty-six percent of Rutgers alumni with known work addresses are employed in the state.

The fiscal rewards of earning a college degree are well documented, benefiting the individual and translating into economic benefits for society. Indeed, the earning power of Rutgers alumni and the subsequent benefits that accrue to New Jersey are impressive. Based on estimates derived from data from the U.S. Census Bureau, Rutgers alumni living in New Jersey earn $10.6 billion annually. In addition, it is estimated that these alumni paid $969 million in local property taxes and an additional $172 million in state sales tax. Alumni of working age are estimated to pay annually $624 million in state income tax.

EMPLOYERS VALUE RUTGERS GRADUATES

Rutgers Career Services is helping to put New Jersey to work. In New Brunswick, the Office of Career Services hosts multiple career fairs, some specifically for students and alumni of the university and others open to the general public. Last November, the Office of Career Services partnered with the U.S. Office of Personnel Management for a Federal Jobs Career Day that was enormously successful. Another one is planned for November 2009. The office also sponsors New Jersey Diversity Career Day aimed at giving employers access to New Jersey’s rich and diverse workforce, and New Jersey Collegiate Career Day, the state’s largest job fair. The career services offices on both the Newark and Camden campuses also host career fairs. Additionally, alumni networking events are offered on each campus and the Camden Career Center recently offered an open-to-the-public seminar called Job Search Strategies in Today’s Market. New Jersey employers regularly seek out Rutgers students and graduates.

Each year, alumni pay $969 million in local property taxes and $172 million in state sales tax, returning the state’s investment in their education.
Undergraduates Christina Ruiz and Ramon Rodriguez, students at Rutgers Business School—Newark and New Brunswick, are just the sort of very bright, energetic finance and marketing professionals New Jersey will need as it emerges from its current economic downturn. Both are board members of the New Jersey Chapter of Students of ALPFA, the Association of Latino Professionals in Finance and Accounting, which provides students with access to scholarship opportunities, skills development workshops, and networking opportunities. The Rutgers chapter boasts more than 190 members and was recently named North Region Chapter of the Year. Through ALPFA, Ruiz and Rodriguez serve the community and may even be identifying the next generation of finance professionals. Rutgers’ ALPFA chapter partnered with the business school to bring 20 high-achieving Newark high schoolers to Rutgers for mentoring. And when ALPFA partnered with Junior Achievement, Ruiz taught finance to Newark fourth graders. “They were phenomenally smart,” she says.
When human resources professional Rich Cialone was downsized out of a job, the staffing expert identified a need in the marketplace he could fill. Cialone knew the traditional human resources model was shifting and businesses would soon be outsourcing not only recruitment but talent management and development functions as well. Cialone believed he was uniquely suited to fill that niche because he had something many of his competitors did not: a Mini-M.B.A. from Rutgers. Cialone credits the certificate program with providing him with insights into business strategy and an understanding of how different organizational functions and management practices work together. And even though Cialone knows firsthand how difficult it can be to be caught in a corporate downsizing, for him, it was the beginning of a whole new professional chapter. “It’s very satisfying to see how your own organization fills the needs of its clients,” he says, “and how success breeds success.”

**CONTINUING EDUCATION KEEPS WORKERS COMPETITIVE**

New Jersey’s highly trained workers, especially in industries experiencing today’s rapid shifts, need new knowledge and skills to remain competitive. Rutgers provides not only the breadth of courses necessary for workers and professionals to maintain their competitive edge, but also access to new educational and training opportunities. In the last year, more than 45,000 individuals took advantage of continuing professional development enrollments and over 2,200 courses and course sections located in more than 20 legislative districts.

Continuous and professional education is directly responding to the current pressured job market. For instance, displaced workers may now apply for New Jersey Department of Labor and Workforce Development training grants of up to $4,000 to enroll in Rutgers’ continuing education professional development programs, including its unique Mini-M.B.A.’s in biopharma innovation, strategic health care, finance essentials, and business essentials. These courses were also approved for retraining workers at Fort Monmouth, which is scheduled to close in 2011.

“We want to try to keep the intellectual capital here in New Jersey… Many of the Fort Monmouth folks are highly educated, with master’s degrees and Ph.D.’s, so the Rutgers Mini-M.B.A.’s would help them move to new careers” after the facility closes.

NEW JERSEY DEPARTMENT OF LABOR REPRESENTATIVE AMY FITZGERALD on Rutgers’ continuing education retraining programs for displaced workers, NJBIZ, February 19, 2009
RESEARCH AND DEVELOPMENT, TECHNOLOGY COMMERCIALIZATION, SMALL BUSINESS ASSISTANCE. Rutgers is among the top 10 universities in the nation for invention, with 96 options and licenses signed in 2008.
The expertise of faculty and staff at Rutgers makes the university a one-stop shop for nearly any potential research sponsor. Many Rutgers faculty are leaders in their fields who conduct world-class research and serve as top advisers to the government, regulatory agencies, and industry. These connections facilitate basic research and accelerate the translation of research. Rutgers’ wide array of specialized high-tech equipment and techniques is available for research projects, with many laboratories offering cost-effective basic and applied research and consulting services. Low transaction costs and rapid turnaround characterize most sponsorship agreements.

**ATTRACTING INVESTMENT TO A LEADING R&D STATE: $327 MILLION IN EXTERNALLY FUNDED RESEARCH**

Over a 10-year period, between 1999 and 2008, Rutgers’ income from externally funded research and sponsored programs nearly doubled, growing from $165.9 million in 1999 to $327.2 million in 2008. Over the last five years, R&D awards increased by $70 million. During this period, Rutgers saw a significant increase in investments for research and development from outside the state. The most notable increase has been in federal research and contract funding, with $97 million in 1999 increasing to more than $211 million in 2008. New Jersey ranks fifth among all states in total R&D expenditures and is one of seven states that together account for half of the R&D activities in the nation. According to the latest statistics from the National Science Foundation, New Jersey expended $14.9 billion in R&D in 2005. New Jersey ranks 15th among all states in the number of science and engineering doctorates awarded and places eighth in the number of science and engineering doctorate holders working in the state.18
Ken Giacin, left, is a Jersey boy. But that wasn’t the reason he moved the executive offices of StemCyte, one of the world’s largest umbilical cord blood stem cell banks, from California to the Garden State. According to Giacin, StemCyte’s chair and chief executive officer, the real draw was Dr. Wise Young, right, founding director of Rutgers’ W.M. Keck Center for Collaborative Neuroscience. Giacin calls Young “one of the smartest guys in the world.” Rutgers and StemCyte are collaborating on a spinal cord injury therapy in development by Dr. Young that uses StemCyte’s proprietary human umbilical cord blood stem cells and is currently in clinical trials. Giacin says StemCyte and Rutgers have a mutually productive relationship. StemCyte received patent and commercialization rights from the university as well as a state jobs grant that is facilitating the 12 new jobs the company is bringing to the state. And, ultimately, says Giacin, when the research is commercialized, “there will be a royalty stream for Rutgers.”
RUTGERS ADVANCES NEW JERSEY’S LEADING BUSINESS AND INDUSTRY SECTORS

AGRICULTURE
Americans have discovered cranberries in a big way and scientists at Rutgers are at the forefront of research into this “superfood.” The Crimson Queen, a new hybrid developed at Rutgers’ Marucci Blueberry and Cranberry Research Center and Extension, delivers higher yields, ripens earlier, grows faster, and is resistant to weeds and disease. The hardier plant is an economic boon to New Jersey’s cranberry growers, and higher yields mean that fewer new acres of environmentally sensitive wetlands have to be developed to meet increased demand. With 3,600 acres devoted to cranberry fields, New Jersey is the third-largest cranberry producer in the United States, behind Wisconsin and Massachusetts.

AQUACULTURE
Rutgers’ Haskin Shellfish Research Laboratory (HSRL) generates and disseminates research on New Jersey’s rich maritime resources, concentrating on species of commercial importance to the state. HSRL is currently a key partner in the Delaware Bay Oyster Restoration, a project that has increased oyster survival rates in the Delaware Bay more than twofold, preserving a regional fishery and the thousands of jobs it provides. The restored harvest has had a direct impact on the economy of the region with a return of $40 for each $1 spent.

ARTS AND CULTURE
A two-year, $296,000 grant from the Andrew W. Mellon Foundation will help the Rutgers Institute of Jazz Studies share two rare jazz collections with researchers around the world, in fields ranging from music to history to political science, and more. The institute, the world’s largest jazz archive, will digitize the Benny Carter and Benny Goodman Collections, enabling scholars to gain insights into the careers of the two jazz greats as well as many areas of American culture, including race relations, the film industry, recording studios, and radio and television.

BIOMEDICAL
Professors Gail Ferstandig Arnold and Eddy Arnold may have turned a corner in their search for a vaccine against HIV—the virus responsible for AIDS. The team found viruses that could elicit antibodies against a diverse set of isolates of HIV in animals. In a paper published in the Journal of Virology, the researchers and their colleagues report taking a piece of HIV that is involved with helping the virus enter cells, putting it on the surface of a common cold virus, and then immunizing animals with it. They found the animals made antibodies that can stop an unusually diverse set of HIV isolates or varieties. With HIV’s known propensity to mutate, antibodies developed against one local strain may not recognize and combat mutant varieties elsewhere. The challenge has been to find a broad spectrum vaccine capable of protecting against the many HIV varieties.

COMMUNICATIONS TECHNOLOGY
The day is coming when wireless communication will be everywhere in our lives. It’s called pervasive wireless. And Rutgers’ Wireless Information Network Laboratory (WINLAB)—a unique, world-class research center—is leading the way. With 14 global tech sponsors, WINLAB is home to the Open Access Research Testbed for Next-Generation Wireless Networks (ORBIT) radio grid, the world’s largest open-access wireless network testbed. Sponsors use ORBIT to study and perfect new products like future WiFi networks and intervehicular communication systems. Approximately 200 research teams from around the world have conducted more than 5,000 experiments since the lab became available in October of 2005. WINLAB has graduated more than 120 wireless technology specialists with advanced degrees since its inception, with a record 13 Ph.D. recipients in 2007–2008.

ENERGY/ENVIRONMENT/RENEWABLE RESOURCES
The Rutgers Energy Institute (REI) integrates Rutgers’ expertise in science, engineering, economics, and policy, putting it at the forefront of alternative energy research. Over the long term, innovative research and technological advances can help the United States to reduce its dependency on fossil fuels. REI fosters both fundamental and applied scientific research and policy components to develop sustainable energy production compatible with economic growth and environmental vitality. To do so, REI brings together experts from a spectrum of academic units and research centers at Rutgers to develop strategic teams to work on developing renewable, alternative energy sources.

ENGINEERING
The National Science Foundation-funded Center for Organic Particulate Systems works with leading industry partners to improve the ways pharmaceuticals, foods, and agricultural products are manufactured, exploring methods to enhance the structure, quality, and consistency of materials used in drug tablets, processed foods, agrichemicals, and other composite organic products. Understanding the nature of these materials provides a foundation for new manufacturing processes that are more predictable, consistent, and cost-effective.

EQUINE
In March 2009, Governor Jon S. Corzine charged a state panel with investigating ways to keep horse racing viable in New Jersey. Many equine industry executives have been turning to the Rutgers Equine Science Center report, New Jersey Equine Industry 2007: Economic Impact, to stress the importance of the equine industry to the state. Among the report’s findings: the New Jersey equine industry is valued at $4 billion in
“WINLAB is focused on research to solve some of the toughest problems facing large-scale wireless nets, from radio coexistence in crowded frequencies to re-engineering the Internet for mobile traffic.”

NETWORK WORLD, FEBRUARY 4, 2008

assets, with a $1.1 billion annual impact on the state economy; comprises 7,200
equine operations that generate nearly 13,000 jobs; devotes 176,000 acres of land to
equine operations (one in five acres of state farmland), with an additional 46,000
acres producing hay and grain; and delivers an estimated $160 million in tax
revenues for federal, state, county, and municipal governments.

FINANCE/BANKING
Although they have a much lower profile than brokers and traders, quantitative
analysts, or “quants,” are in high demand on Wall Street as electronic trading and
the use of complex algorithms to access liquidity continue to proliferate. Until
recently, almost all the people who filled these positions were Ph.D.’s with degrees in
physics, math, or computer science. But today there are more and more
programs geared specifically toward preparing quants for financial services jobs.
Recently, a board of Wall Street veterans selected the top 10 quant schools,
based on the recruitability of graduates. Rutgers’ Master of Quantitative Finance
was on that list, along with Princeton, Stanford, Berkeley, and other highly presti-
gious schools. Although it might seem like a difficult time to find work on Wall
Street, as one scientific historian noted in a recent issue of Science magazine, in a
time of crisis we need “more scientists in the banking system, not less.”

FOOD
Many snacks and cereals are made by extrusion cooking, which involves heating
material and forcing it through a die as it gets cooked. The design and operation
of extruders is based on engineering analysis of heat transfer, material flow, and
system optimization. Experiments and numerical simulations by engineers in
Rutgers’ heat convection, thermal systems, thermal processing, polymer, and
other laboratories determine the appropriate operating conditions to obtain
desired product characteristics such as texture, crispiness, and flavor.

HEALTH
Obesity rates, especially among children, have reached crisis proportions in the
United States, and obesity-related dis-

teases cost taxpayers millions of dollars each year. Identifying ways to combat
America’s obesity epidemic is both an important medical research and good
public policy. At Rutgers, the New Jersey Obesity Group, established with fund-
ing from the New Jersey Agricultural Experiment Station (NJAES), brings to-
gether faculty from many disciplines and institutions to understand the sources,
causes, and treatment of obesity.

MANUFACTURING
Manufacturing of advanced materials and devices such as optical fibers, mem-
ory chips, optical and electronic devices, solar cells, high strength polymers and
composites, and thin films and coatings are all based on engineering processes
and systems. Available materials such as glass, plastics, carbon, silicon, and
metals are used by engineers in Rutgers’ optical fiber, materials science, cerami-
cics, advanced energy, nanofluids, and

PHARMACEUTICAL
Rutgers’ Ernest Mario School of Phar-
macy is the only pharmacy school in New
Jersey. The school’s Center for Cancer
Prevention Research produces promis-
ing findings in the fight against cancer.
Professor C.S. Yang is investigating
inflammation-induced esophageal and
colon cancer. In animal models and in
collaborative human trials, he studies the
prevention of lung, oral, esophageal, and colon cancer by tea polyphenols,
tocopherols, and their combinations with therapeutic agents. Professor
Allan H. Conney is a world-renowned
researcher on drug metabolism as well
as cancer causation and prevention. His
recent research on the prevention of
skin and prostate cancer by caffeine,
exercise, and combinations of statins and
nonsteroid anti-inflammatory drugs has
major public health implications.

TRANSPORTATION
Advanced materials, recycled content, and binders are contributing to incredible advancements in roadway technology. State transportation agen-
ties are aware of the importance of having strong, low-maintenance
pavement mixtures. Roads with
greater pavement resilience require less
maintenance, which means savings for taxpayers and reduced construction-
related traffic congestion, which keeps people and commerce moving. Rutgers’
Center for Advanced Infrastructure and Transportation (CAIT) is home to one
of the most successful independent
pavement laboratories in the nation.
Using mechanistic pavement design and engineering principles, CAIT is finding
ways to make pavements quieter, safer,
more durable, and more environmentally
friendly.

TOURISM
Professor Steven Handel of the Rutgers/
Brooklyn Botanic Garden Center for
Urban Restoration Ecology will design
the ecological restoration of habitats at the
new Great Falls National Historic
Park. Federal legislation establishing
the park, which will be a major tourist
attraction and economic boon for
Paterson, New Jersey, was signed into
law in March 2009. Handel is the urban
ecologist on a team with architects
Field Operations that won an interna-
tional competition to restore Great Falls
State Park to ecological health.
In 2008, through the Office of Technology Commercialization, Rutgers researchers disclosed 94 inventions and Rutgers was granted 36 U.S. patents. Rutgers filed 83 patent applications. Of the 94 disclosed inventions, 40 percent were in the life sciences, 37 percent were in engineering and the physical sciences, and 23 percent were in agriculture. In 2008, Rutgers had a steady stream of active new inventors, and 96 options and licenses were signed, placing Rutgers among the top 10 universities in the nation.19

Rutgers ranks 12th among public institutions in the Association of American Universities in the dollar amount of royalties received in fiscal year 2007 (the latest comparative data available).20

Rutgers-developed technology and innovation bring jobs and new enterprise to New Jersey and elsewhere and revenue to the university. Over 60 spin-off companies have been created because of Rutgers technology commercialization, more than two-thirds of them New Jersey-based. These businesses represent a wide range of industries, and their products and services include ultraviolet light sources, energy storage devices, blueberry drinks and extracts, software for equities trading, drug delivery innovations, biomedical devices and technologies, lilies, plastic lumber, anticancer agents, nutraceuticals, transdermal patches, shellfish, distributed software development, powdered metal injection molding systems, sensors, and more.

Over 60 spin-off companies have been created because of Rutgers technology commercialization, more than two-thirds of them based in New Jersey.
The university received a record-high $8.4 million in revenue from royalty-generating licenses, placing Rutgers in the top five among American universities without medical schools. The net benefit to the university of Rutgers’ technology commercialization exceeded $2.9 million.

The uptick in licensing activity stems in some measure from the adoption of a more nimble approach to seeking new licensing relationships. While continuing to work with startups, the Office of Technology Commercialization increasingly engages larger companies whose established distribution, marketing, and sales operations and greater resources and facilities expedite the development of market-ready products, resulting in faster returns of royalty income to Rutgers.

The university also has streamlined the time it takes to put licensing deals together; what once might have taken a year can now take as little as a month. One contract was recently signed with a California company in seven days.

NJ-BASED RUTGERS SPIN-OFF COMPANIES
Here is a small sampling of New Jersey-based companies whose creation was based on Rutgers intellectual property: TyRx Pharma, Monmouth Junction, 39 employees; Connotate, New Brunswick, 31 employees; Phytomedics, Jamesburg, 11 employees; Wellgen, North Brunswick, 9 employees; and Axion, Basking Ridge, 5 employees.

Axion International Holdings, Inc. in Basking Ridge, New Jersey, uses nanomaterial formulations developed at and licensed from Rutgers to manufacture its innovative structural products that are made from 100 percent recycled consumer and industrial plastics. Axion president Marc Green says the formulations used in the company’s composite railroad ties were developed at Rutgers’ Department of Materials Science and Engineering and that the university provides ongoing research, consulting, and idea generation. Axion railroad and bridge products have been purchased by the Toronto Transit Commission, a major U.S. railroad company, and the U.S. Army. According to Green, partnering with Rutgers has been great for Axion. “What was once a niche has now become mainstream,” Green says, “through a combination of growing environmental awareness and the critical need to rebuild infrastructure both in the U.S. and worldwide.” He notes that the current federal stimulus plan has a $100 billion component for new and retrofitted infrastructure projects and that Axion products will help address that need by providing cost-effective and eco-friendly solutions.

Rutgers was granted 36 U.S. patents in 2008.
NEW JERSEY CENTER FOR BIOMATERIALS SPURS NEW ENTERPRISE

The New Jersey Center for Biomaterials is a leading national resource for developing materials that enable the engineering of new tissues and novel drug delivery systems, both key components of medical implants. The center has a 20-member industrial membership program, has developed three startup companies, and licenses its technology to four companies. The center promotes innovative and applied research toward “regenerative medicine”—a fundamentally new approach to the treatment of aging, disease, and trauma-related tissue loss that helps the body to heal itself.

Currently, metals, plastics, and ceramics are used in implantable prostheses, such as hip joints and artificial heart valves, devices that are permanent replacements of natural tissue and ultimately fail if left in the body too long. In regenerative medicine, tissue scaffolds made of degradable biomaterials support cells at the injury site and assist the body in growing new, functional tissue. As new tissue grows in and on the scaffold to replace damaged or lost tissue, the scaffold gradually resorbs.

Based on this approach, examples of new therapies under development include the regeneration of severed nerves, regrowth of the anterior cruciate ligament (ACL) in sports injuries, replacement of burned skin, replacement of a blocked artery by a newly grown blood vessel to avoid a bypass operation, and newly grown heart valves instead of artificial valve replacements. In 2008, the center became the co-lead partner in the new $85 million Department of Defense-funded Armed Forces Institute of Regenerative Medicine, which focuses on new regenerative treatments for the grievously war wounded.
BASIC RESEARCH TO BOARDROOM:
A CASE STUDY IN LEVERAGING FEDERAL RESEARCH DOLLARS

The following excerpted testimony was given by Joachim Kohn, Rutgers Board of Governors professor of chemistry and chemical biology and director of the New Jersey Center for Biomaterials, before the U.S. House Subcommittee on Health of the Committee on Energy and Commerce, November 13, 2008.

“In my personal experience, the ‘economic leverage’ [of National Institutes of Health funding] has been tremendous: About $4.5 million in direct NIH support for my research activities at Rutgers resulted in technology commercialization efforts in four startup companies [three in New Jersey and one in California], which over the last three years alone have attracted almost $120 million in private equity funding. As a consequence of these investments, these companies [which are developing implantable medical products] have created over 100 high-salary jobs…

“When I was a newly appointed assistant professor in 1986, I was fortunate to receive grants from the NIH that enabled me to establish my laboratory and develop a program of research about synthetic biomaterials. My NIH-funded research studies led to the invention of several classes of new polymers. With the help of the Rutgers technology transfer office, I was able to apply for patents to protect that intellectual property. Some of my seminal inventions [in polymers] were made in the period of 1990 to 1996—almost exclusively based on research supported by … NIH awards. In terms of a timeline, funding received in the early 1990s is the foundation for much of the significant economic leveraging in the early 2000s, with the full value of NIH’s investment in my laboratory becoming apparent … about 15 years AFTER the original grants were awarded.”

Four startup companies and more than 100 high-salary jobs resulted from National Institutes of Health funding for Professor Joachim Kohn’s research activities.
Rutgers provides direct assistance, objective data, and consulting services to businesses both large and small throughout New Jersey. Clients access the expertise of Rutgers students, faculty, and staff on everything from preparing a business plan to finding creative ways to repurpose materials that might have been discarded.

**SMALL BUSINESS DEVELOPMENT CENTERS ASSIST ASPIRING ENTREPRENEURS**

According to the U.S. Small Business Administration’s Office of Advocacy, in 2006, New Jersey’s 205,321 small employers—defined as those with fewer than 500 employees—defined as those with fewer than 500 employees—represented 98.5 percent of the state’s employers and 51.1 percent of its private-sector employment. Clearly, small business represents a major economic force in New Jersey. The New Jersey Small Business Development Centers program—funded by the U.S. Small Business Administration, the state’s commerce agency, and Rutgers—is headquartered at Rutgers Business School–Newark and New Brunswick. Eleven full-service regional centers and additional affiliate offices serve all 21 New Jersey counties.

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<th>NJ SMALL BUSINESS DEVELOPMENT CENTERS</th>
<th>STATEWIDE ECONOMIC IMPACT</th>
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<tr>
<td>879 NJSBDC clients started businesses</td>
<td>$40 million in financing facilitated (loans and equity investment)</td>
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<td>1,881 newly created jobs</td>
<td>$60.4 million value of procurement contracts facilitated</td>
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<td>10,140 retained jobs</td>
<td>$631 million in sales revenue generated by clients</td>
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<td>$45 million in sales tax, business tax, and payroll and income tax revenues to the State Treasury generated by clients</td>
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<td>6,011 counseled clients (18,757 hours of counseling)</td>
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<td>15,833 aspiring entrepreneurs and business owners attended training sessions</td>
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<td>21,844 individuals and business owners counseled and trained</td>
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As the director of the New Jersey Small Business Development Centers—with 11 regional centers as well as affiliate offices serving all 21 counties—Brenda Hopper oversees the Rutgers–Newark-headquartered network that has been helping New Jersey’s small businesses succeed for 30 years. In 2008, 879 center clients started businesses. Clients were assisted in obtaining $40 million in loans and equity investment and in creating and retaining more than 12,000 jobs. Hopper is tireless in attracting funding to the program—most services are low or no-cost—and is always on the lookout for new grants and awards. One recent grant assists businesses affected by the closing of Fort Monmouth and another helps dry cleaners convert to a more eco-friendly process. Hopper is determined to chip away at New Jersey’s current economic downturn, one business at a time. “I’ve submitted a proposal to the Department of Labor and Workforce Development to work with people laid off from Wall Street,” she says. “Many want to start their own businesses.”
M.B.A. TEAM CONSULTING PROGRAM:
40 TO 50 NJ COMPANIES GET HELP EACH YEAR

Housed at the Rutgers Business School–Newark and New Brunswick, the program delivers consulting services for a moderate, fixed project fee to a range of clients, from Fortune 500 companies, private firms, and entrepreneurs, to not-for-profits, state agencies, and municipalities. Each year, between 40 and 50 organizations—97 percent of which are New Jersey-based—receive business guidance from teams of six to 10 part-time M.B.A. students who spend about 14 weeks with each enterprise. The students are from multidisciplinary backgrounds, including business, engineering, finance, computer science, marketing, and humanities, and have an average of seven to nine years of full-time work experience.

To date, Rutgers students in the M.B.A. Team Consulting Program have completed more than 1,500 projects. Examples of project deliverables include strategic business plans, marketing plans, feasibility studies, and benchmarking reports. Each team is carefully assembled to ensure its skills match the requirements of the project. For example, if the assignment focuses on financial issues, finance students will be placed on the team. Projects that involve multiple issues will be assigned to teams comprised of students with varied interests and backgrounds. Students are responsible for the implementation, analysis, preparation, and presentation of findings. During the course of the project, periodic meetings involving the team, faculty, and client are held to gauge the team’s progress and to obtain client feedback. At the conclusion of its work, the team puts together a report detailing its findings along with recommendations for appropriate courses of action. Reports are generally presented to the client’s senior management in a formal setting.

SMALL BUSINESSES TURN TO M.B.A. STUDENTS FOR ADVICE

*Wall Street Journal*, February 23, 2009

Kathleen DiChiara and other officials of the Community FoodBank of New Jersey “came up with the idea of using… [stale] donated bagels to create a bread-based product they could sell for a profit in bakeries and grocery stores. That not only would prevent waste but also generate income to support increased demand for the food bank’s services, and create jobs in the community. But officials quickly realized they didn’t have the business knowledge to bring the idea to life. In September 2007, Ms. DiChiara turned to the M.B.A. Team Consulting Program at Rutgers Business School–Newark and New Brunswick … A semester later, the food bank… received a business plan to turn the donated bagels into bagel chips and distribute them across New Jersey … The chips aren’t on retail shelves yet, but the food bank conducted three sales tests last summer at local farmers’ markets, selling out 300 of the $4 bags each time.”
The Rutgers–Camden Technology Campus is a science and technology incubator/accelerator established to support early-stage companies in Camden as they create economic wealth through (1) commercialization of science and technology, (2) development of new business ideas, (3) attraction of capital investment, and (4) creation of new jobs. The incubator supports its early-stage client companies by providing an array of strategic business development services, operational guidance, and infrastructure support.

The incubator’s average tenant count is 41 client companies—mostly private, for-profit early-stage ventures—with a combined average total of more than 225 employees. Average annual employee wages exceed $38,000, not including benefits, for a salary pool of more than $8 million. Client companies have received more than $28 million in almost exclusively private sector investments from venture capital, bank, and other sources. Since its inception, the incubator has mentored more than 60 companies, 15 of which “graduated,” outgrowing the space available and moving on to bigger quarters. All but two of the graduating companies have remained in New Jersey. The in-state companies now have a total of more than 160 employees, and their estimated annual payroll exceeds $8 million.

Close to 40 percent of adults aged 18 to 25 have at least one tattoo. But studies suggest that up to 17 percent of people who get tattoos have regrets—and removal can be painful, costly, and unsuccessful. When scientists who developed Infinitink, which makes body art both permanent and removable, approached biotech executive Martin Schmieg about marketing the product, he saw enormous potential. But even great products need to be nurtured into profitability. That’s why Schmieg decided to locate startup Freedom2 in the Rutgers–Camden Technology Campus business incubator. “The primary motivation when choosing a company’s location is access to good employees,” says Schmieg. “The incubator location enabled us to draw staff from a wide radius... And being associated with Rutgers was a great way to tell our story while we raised capital.” Freedom2 became one of 15 companies to graduate from the incubator and now occupies a 25,000-square-foot facility in Cherry Hill.

- Incubator “graduates” employ more than 160 people, with total annual payroll exceeding $8 million.
FOOD INNOVATION CENTER: JOBS AND NEW BUSINESSES
This award-winning center in Bridgeton, New Jersey, provides business and technology expertise to small and midsized food and agricultural businesses in New Jersey and nationwide. Since 2001, staff have assisted more than 1,000 companies and entrepreneurs in every New Jersey county. The center is recognized as a national “Innovative Program Model” by the USDA for “achievement as a model for community and economic development and jobs creation.” Conservative estimates project that by 2015, the center will create over 1,000 new jobs. Further estimates indicate that thousands of employees will be engaged in the center’s quality assurance, new technology development and integration, and workforce development/training programs.

ECOCOMPLEX: GREEN BUSINESS FOR NEW JERSEY
Technology and innovation are the keys that open the door to new business development and economic growth. Rutgers’ EcoComplex in Bordentown, New Jersey, helps “green-minded” companies commercialize and market their ideas. By offering services and resources to entrepreneurs not available elsewhere, the EcoComplex is establishing New Jersey as “the place to go” for clean energy firms in terms of access to environmental technology and entrepreneurial know-how. Total revenue generated by EcoComplex tenant companies to date is $22.5 million, external funding secured by tenants to date is $19.7 million, and a total of 125 jobs have been created.

The center offers access to applied research and demonstration capabilities and facilitates the commercialization of new technologies that address pressing environmental and energy issues. The business development efforts of the EcoComplex in nurturing renewable energy businesses can help the state reach its renewable electric energy goals of 20 percent by 2020. In recognition of its efforts in commercializing and demonstrating new technologies, the EcoComplex received the 2008 Governor’s Environmental Excellence Award for Innovative Technology.

DON’T DISCARD THOSE PEACHES: CIRCLE M FARMS
Juicy and delicious, but too ripe for the fresh produce market, some 10 percent of third-generation farmer Santo John Maccherone’s peach crop went to waste each year. When Maccherone, owner of Circle M Farms in Mullica Hill, New Jersey, hit on the idea of turning those peaches into cider, he tapped the expertise of the Rutgers Food Innovation Center and months later secured a USDA value-added Producer Grant totaling nearly $52,000—working capital that enabled Maccherone to get the cider business up and running. Today, Circle M Farms sells cider, salsa, and preserves to large retailers such as Whole Foods, Wegmans, and ShopRite. “The beauty of this product is... I am taking something that was going to be discarded and making money with it,” says Maccherone. “The Rutgers Food Innovation Center assisted in every step of the way. I am a happy farmer. Without them, I would have just thrown up my hands and given up.”
ANALYSIS, FORECASTING, POLICY, TECHNICAL ASSISTANCE, SERVICE, VOLUNTEERISM. Creating the “energy picture of the future,” the state worked with Rutgers to develop New Jersey’s new Energy Master Plan.
FEDERAL STIMULUS PLAN: NEW JERSEY AND RUTGERS
The federal American Recovery and Reinvestment Act of 2009 will channel $789 billion into the U.S. economy. White House estimates anticipate the act will create 100,000 jobs in New Jersey, and Rutgers economist Joseph J. Seneca—University Professor at Rutgers’ Edward J. Bloustein School of Planning and Public Policy and for many years chair of the New Jersey Council of Economic Advisors—estimates that New Jersey could receive, from all expenditure components, close to $17 billion over two years. Some of the funds slated for New Jersey, according to the U.S. Senate Committee on Appropriations, include $651.8 million for highway, bridge, rail, and port infrastructure; $524.2 million for mass transit; $206.1 million for clean water infrastructure; and $74.8 million for clean, efficient energy. Rutgers, with its leadership programs in transportation, policy, energy, science, and engineering, is poised to help New Jersey capitalize on these funds.

Other federal increases will have a substantive impact on Rutgers and higher education in New Jersey, as funding is directed to federal agencies that support university research in science, engineering, medicine, and technology; to Pell Grants and other student tuition support; and to workforce training. Notes Seneca, “Key components of the stimulus that will have an impact on Rutgers and New Jersey are the large increase in National Institutes of Health funding, the increase to the National Science Foundation, energy research, health information technology expenditures, and science research. Rutgers’ strengths in engineering, transportation, energy, and the environment align well with elements of the stimulus.”

“New Jersey could receive close to $17 billion over two years [from the federal stimulus plan] … Rutgers’ strengths in engineering, transportation, energy, and the environment align well with elements of the stimulus.”

RUTGERS ECONOMIST JOSEPH J. SENeca
Civil engineering major Jemini Shah thinks that her interest in roads and bridges stems from her New Jersey roots. “In New Jersey,” says Shah, “transportation is very important.” With the education she has received at Rutgers’ School of Engineering, Shah is poised to become a part of the army of workers who will begin repairing the nation’s aging infrastructure with federal stimulus dollars—with $651.8 million alone devoted to highways, bridges, rail, and ports in New Jersey. As she enters the work world, Shah already has an impressive résumé, having spent last summer interning at the New Jersey Department of Transportation (NJDOT), where she worked on several road projects. The NJDOT works closely with the Center for Advanced Infrastructure Technology and the Voorhees Transportation Center, Rutgers’ nationally renowned transportation research centers. Shah is secretary of the Rutgers chapter of the Society for Women Engineers, which identifies job opportunities and scholarships for its members and participates in a host of community service and professional development events.
"When Hughes and Seneca speak, legislators, politicians, business leaders, and the media listen, often with trepidation. Hughes, 65, dean of the Bloustein School of Planning and Public Policy at Rutgers, has been a longtime advisor on demographic and economic issues to leaders in Trenton and Washington. Seneca, 66, a professor at the Bloustein School, was for many years chairman of the New Jersey Council of Economic Advisors. But the pair may wield their greatest influence with their Rutgers Regional Report, in which they deliver unflinching assessments on economic and demographic issues. They’ve proved prescient at times, as in a 2005 report in which they warned that ‘real problems may be imminent’ in the housing market.”

KEY ANALYSIS:
RUTGERS REGIONAL REPORT
AND SITAR-RUTGERS REGIONAL REPORT

The Edward J. Bloustein School of Planning and Public Policy’s Rutgers Regional Report is a university-funded series of reports on state and regional economic and demographic issues that receives wide media attention. Twenty-seven issues have been published to date, and, particularly in this turbulent economy, nationally recognized experts at the Bloustein School offer considered, accurate analyses of the region’s economy that assist the state’s public and private sectors to navigate current market conditions and prepare for the future.

The Sitar-Rutgers Regional Report, a joint publication of the Bloustein School and Sitar Company-ONCOR International, provides New Jersey’s business community with substantive forecasts and analyses of employment data and trends that clarify the economic climate. Using comprehensive, current data on employment and office markets in northern and central New Jersey, the report offers a snapshot of the economic health of the region.

QUARTERLY BUSINESS OUTLOOK:
VALUED BY THE BUSINESS COMMUNITY

Serving southern New Jersey and the greater Delaware Valley, the Rutgers School of Business–Camden’s Quarterly Business Outlook is a periodic barometer of South Jersey’s current and future economic conditions. Executives from the region’s key industries report on the performance of their business sectors and forecast trends. The quarterly conference is free and open to the public.

“The pair may wield their greatest influence with their Rutgers Regional Report, in which they deliver unflinching assessments on economic and demographic issues.”

NEW JERSEY MONTHLY, December 9, 2008, on Rutgers economists James W. Hughes, right, and Joseph J. Seneca
New Jersey’s new Energy Master Plan will affect the state’s 3.2 million household, 419,000 commercial, and 13,200 industrial electricity customers. To “develop the energy picture of the future,” the state worked with the Center for Energy, Economic, and Environmental Policy and the Rutgers Economic Advisory Service, R/ECON, at Rutgers’ Edward J. Bloustein School of Planning and Public Policy.

The Energy Master Plan anticipates that a sustained effort to make New Jersey more energy efficient will result in approximately $30 billion in total energy savings between 2010 and 2020 for energy customers, while stimulating $33 billion worth of investment into the state’s energy infrastructure, and creating 20,000 jobs. Goals include reducing energy costs, increasing reliability, and reducing harmful greenhouse gas emissions.

Rutgers is helping state and local governments function more efficiently. The School of Public Affairs and Administration at Rutgers–Newark was chosen in September 2008 by the New Jersey Department of Community Affairs Local Unit Alignment, Reorganization, and Consolidation Commission to develop five literature reviews on topics concerning municipal consolidation and efficiency. The Rutgers papers cover municipal government consolidation, costs and benefits of service delivery consolidation among municipalities, measurement of local government efficiency, optimal service delivery arrangements, and optimal municipal size. In addition, the school’s Public Performance Measurement and Reporting Network runs a web-based resource repository, website, listserv, and annual conference to help citizens, government officials and administrators, nonprofit managers, and others improve the delivery of public services.

The New Jersey Legislative District Data Book has been published annually since 1976 as a comprehensive data compendium reporting population, fiscal resources, governmental expenditures, tax rates, voter registrations, election results, and forms of municipal and school government for the state’s legislative districts, congressional districts, counties, and municipalities. The Data Book, published by the Bloustein School’s Center for Government Services, is a valuable resource for policymakers and researchers alike and includes directory as well as statistical information.
WORKFORCE POLICY, DATA, AND EXPERTISE
Rutgers’ John J. Heldrich Center for Workforce Development is a national university-based center for research and policy planning aimed at strengthening the workforce of New Jersey and the nation. Recent workforce programs include Ready for the Job, a part of the state’s economic growth strategy, which helps New Jersey schools, colleges, universities, students, and jobseekers understand the skills that are required in the state’s key industries. The National Science Foundation Nanotechnology Workforce Project is producing in-depth reports on the effect of nanotechnology on the skills and knowledge needed by employers and employees in the New York/New Jersey region and beyond.

Rutgers’ School of Management and Labor Relations is a leading source of expertise on human resource management and labor relations. In March 2009, professor Paula V. Voos testified before the U.S. Senate Committee on Health, Education, Labor, and Pensions on how unions can restore a solid middle class, and professor Eileen Appelbaum testified before the U.S. House Committee on Education and Labor’s Subcommittee on Workforce Protections on what the federal government can do to encourage family-friendly workplace policies.

TRANSPORTATION EXPERTISE
The Alan M. Voorhees Transportation Center is a national leader in the research and development of innovative transportation policy. The center brings the full array of resources of a major research university to bear on transportation issues of regional and national significance. It includes the National Transit Institute, which was created by Congress in 1992 to design and deliver training and education programs for the U.S. transit industry. The Center for Advanced Infrastructure and Transportation addresses every aspect of today’s—and tomorrow’s—most pressing infrastructure issues: safety, security, environmental impacts, sustainability, mobility, and asset management of our roads, bridges, and more.

HARNESSING THE WIND OUT TO 50 NAUTICAL MILES
The New Jersey Agricultural Experiment Station (NJAES) provides a diverse range of research, extension, and education programs that serve the people of New Jersey and the urban, suburban, and rural communities in which they live. In 2008 alone, the experiment station’s website received 5,803,629 page views and had 1,788,917 unique website visitors. One of hundreds of examples of NJAES research that provides technical assistance for New Jersey is the wind resource project described here. Offshore and coastal wind resource assessments can be used to resolve where wind energy systems can be located for cost-effective power production. Studies can help optimize wind turbine design criteria for the area being evaluated for wind energy development. For the New Jersey Board of Public Utilities Bureau of Conservation and Renewable Energy and Office of Clean Energy, the NJAES Institute of Marine and Coastal Sciences completed an extensive wind resource analysis of New Jersey’s and Delaware’s coastal and offshore waters out to 50 nautical miles.
A CULTURE OF SERVICE AND VOLUNTEERISM

Rutgers offers a broad spectrum of government, public, and volunteer resources at little or no cost. Were it not for Rutgers’ deep commitment to community engagement, these services might not be available or might otherwise have to be absorbed at a greater cost by the citizens of New Jersey. Residents in all 21 New Jersey counties rely on Rutgers for information and a wide range of services.

STUDENT SERVICE LEARNING
Citizenship education plays a key part in fulfilling Rutgers’ research, teaching, and service missions. Numerous curricular and cocurricular programs offer students the opportunity to learn the skills they need to be good citizens. Rutgers’ many professional schools make service central to their mission statements; the many student governing associations are incubators of democratic leaders; the college honors programs and the many honor societies require service; and all fraternities and sororities, as well as dozens of student organizations, make community service integral to their activities.

DANCE MARATHON GETS DOWN TO RAISE FUNDS

The Rutgers University Dance Marathon, below, is New Jersey’s largest student-run philanthropic event and is one of the most anticipated events held at Rutgers. Over the past 11 years the marathon has raised over $1.3 million, with all proceeds going to the Embrace Kids Foundation, a nonprofit organization that supports children with cancer and blood disorders. The Dance Marathon is a universitywide tradition that allows students to experience firsthand what types of large-scale public good Rutgers students can unite to perform. It consists of a yearlong series of fundraisers and culminates with the marathon at the College Avenue Gym in New Brunswick. Over 400 dancers seek pledges to raise funds and remain standing for 32 hours.


- **$318,000** raised for Embrace the Kids Foundation, Rutgers University Dance Marathon
- **$218,389** raised for various charities, Fraternities and Sororities
- **41,838 hours** of service, Fraternities and Sororities
- **6,000 hours** of service, 100 students, RU Big Buddy Student Organization
- **1,606 hours** of service, 32 students, Alternative Spring Break
- **854 hours** of service, 122 students, Scarlet Day of Service
In fiscal year 2009, Rutgers spent 12 percent of Federal Work Study dollars on students working in community service jobs. As of March 2009, over 400 students were working in community service and earning a total of $598,372 in both federal funds ($484,117) and university funds ($114,255).

Students work at all three Rutgers campuses in diverse jobs, including tutoring elementary school children in public schools and charter schools; acting as translators at health centers; working with community development programs; assisting scientists and physicians with research programs in women’s health, public health, cancer research, pharmacy research, HIV/AIDS, genetics, and mental health; and working at soup kitchens and with legal aid associations.

Rutgers’ legal and human services clinics offer low- and no-cost services to citizens across the state. In addition, students provide low- or no-cost services to the community through fieldwork, internships, and practicum placements. On any given day, students in psychology, education, law, social work, nursing, criminal justice, and more give personal attention to citizens throughout New Jersey.

As just one of numerous examples, each year Rutgers’ Douglass Developmental Disabilities Center—a renowned school for children and adults with autism-spectrum disorders—trains 80 to 100 undergraduate fieldwork students. The students work directly with a child, adolescent, adult, or small group of learners with autism, carrying out a variety of programs focused on speech and language, social skills and play, and self-help and life independence.

“One of the reasons I chose this law school was the wealth of pro bono opportunities.”

DAVID SOLOMON, first-year student, School of Law–Camden
David Solomon’s busy first-year law student schedule hasn’t stopped him from making a difference. For Solomon, that means registering new voters and monitoring polling places through the Rutgers School of Law–Camden Voter Rights Project. It also means dressing up like a pirate for a student-sponsored Halloween event for Camden children. Solomon plans to join the law school’s Domestic Violence Project next year and volunteer at its Domestic Violence Clinic in his third year. “One of the reasons I chose this law school was the wealth of pro bono opportunities,” he says. Clinics handle hundreds of cases and student attorneys provide more than 30,000 hours of free legal services to the community each year. Solomon, who completed undergraduate and master’s degrees in English at Rutgers–Camden, plans to continue his commitment to community service with a career in public interest or civil rights law.
CENTER FOR GOVERNMENT SERVICES:
CONTINUING EDUCATION AND TRAINING
COMMUNITY DEVELOPMENT SPECIALISTS

County Election Officials
Educational Facilities Managers
Elected Officials
Financial Managers
Municipal Attorneys
Municipal Clerks
Municipal Registrars
Planning and Zoning Board Members
Professional Planners
Public Housing Authority Personnel
Public Purchasing Agents
Public Safety Officers
Public Works Personnel
Tax Assessors
Tax Collectors

CENTER FOR GOVERNMENT SERVICES:
BETTER PREPARED ELECTED AND
APPOINTED OFFICIALS

This center at the Edward J. Bloustein School of Planning and Public Policy provides research, continuing education, and technical assistance to elected and appointed officials statewide. Continuing education programs organized by the center increase the technical competence and efficiency of state and local government personnel while fostering an attitude of professionalism among public sector officials and employees. More than 900 courses and seminars are offered each year, with annual enrollments of more than 16,000 participants. Additionally, the center helps to keep New Jersey’s residents safe in their homes, training building inspectors and architects in the state’s Uniform Construction Code and in lead abatement and safety practices.

SENATOR WALTER RAND INSTITUTE FOR PUBLIC AFFAIRS:
GUIDANCE FOR THE CAMDEN REGION

This Rutgers–Camden institute unites faculty and students with public administrators, elected officials, nonprofit organizations, and community leaders to conduct policy research; supply technical assistance to governments and nonprofit organizations in the seven southern counties of New Jersey; convene stakeholders and citizens in neutral settings; and apply classroom study to public service and service learning. Recent programs include a seminar for municipalities on using the arts to strengthen suburban communities, and a training program for Gloucester County residents to maximize their roles serving on the boards of nonprofit organizations.
NEW JERSEY AGRICULTURAL EXPERIMENT STATION: LOW-COST TRAINING

Through its continuing education and professional education programs, the New Jersey Agricultural Experiment Station is involved with nearly every New Jersey state agency. Examples of its educational outreach include environmental management, audit, and stewardship programs; food safety and public health training; landscaping certificate programs (in English and Spanish); parks and athletic field management “best practices”; bioterrorism training for the New Jersey Department of Health; and a statewide home gardeners school.

RUTGERS COOPERATIVE EXTENSION: CLASSROOM WITHOUT WALLS IN 21 COUNTIES

Operating within the New Jersey Agricultural Experiment Station is Rutgers Cooperative Extension (RCE), a “classroom without walls” through which university research is delivered to communities in all 21 counties. Among its many services, RCE assists municipalities in setting up waste-composting systems; helps youth before, during, and after a family member serving in the armed forces is deployed; helps instruct families on developing healthy eating and fitness routines; helps people better manage during times of economic distress; teaches behavior-focused nutrition to those with limited-resources; advises homeowners on many horticultural topics; and addresses critical issues such as hunger through Rutgers Against Hunger.

In 2008, nearly 102,000 New Jersey residents participated in Rutgers Cooperative Extension programs in economic growth and agricultural sustainability, food safety and nutrition, healthy lifestyles, community development, and the environment.

REACHING ALL 21 NEW JERSEY COUNTIES: RUTGERS COOPERATIVE EXTENSION 2008 STATISTICS

101,829 participants
1,190 volunteers trained
3,733 programs conducted
44,260 4-H youth development program members;
2,190 volunteers each provided an average of 220 hours of service, valued at $11.4 million
83,812 one-on-one visits to homes, farms, fields, and industries
329 issues of various newsletters with a circulation of 72,556
385,106 downloaded publications
217 countries, all 50 states, and the U.S. territories sent visitors
12,700 youth enrolled in healthy lifestyle projects
13,735 adult and 2,179 youth Expanded Food Nutrition Education Program behaviorally focused nutrition classes conducted
RUTGERS PROGRAMS AND FACILITIES IN THE 21 COUNTIES OF NEW JERSEY

ATLANTIC
Bachelor in Hospitality Management Degree (Atlantic City, Camden)
New Jersey Small Business Development Centers Regional Center (Pomona)
Rutgers at Atlantic Cape Community College (Mays Landing)
Rutgers Cooperative Extension (Mays Landing)

BERGEN
Meadowlands Environmental Research Institute Laboratories and Offices (Lyndhurst)
New Jersey Small Business Development Centers Regional Center (Hackensack)
Rutgers Cooperative Extension (Hackensack)

BURLINGTON
New Jersey Agricultural Experiment Station EcoComplex (Bordentown)
New Jersey Small Business Development Centers Affiliate Offices (Evesham, Mount Holly, Westampton)
Philip E. Marucci Center for Blueberry and Cranberry Research and Extension (Chatsworth)
Pinelands Research Station (New Lisbon)
Rutgers Cooperative Extension (Mount Holly)

CAPE MAY
Campbell’s Field (Camden)
New Jersey Small Business Development Centers Affiliate Offices (Camden, Cherry Hill, Voorhees)
Rutgers–Camden Business Incubator (Camden)
Rutgers–Camden Campus (Camden)
Rutgers–Camden Community Park (Camden)
Rutgers–Camden Technology Campus Inc. (Camden)
Rutgers Cooperative Extension (Clementon)
Stedman Art Gallery (Camden)

CAMDEN
Cape Shore Laboratory (Green Creek)
Fisheries Information and Development Center (Cape May)
Multispecies Aquaculture Demonstration Facility (Cape May)
New Jersey Agricultural Experiment Station Aquaculture Innovation Center (Cape May)
Rutgers Cooperative Extension (Cape May Court House)

CUMBERLAND
Haskin Shellfish Research Laboratory (Port Norris)
New Jersey Agricultural Experiment Station Food Innovation Center (Bridgeton)
Rutgers Agricultural Research and Extension Center (Upper Deerfield)
Rutgers Cooperative Extension (Millville)

ESSEX
Golden Dome Athletic Center (Newark)
New Jersey Small Business Development Centers Regional Center (Newark)
Paul Robeson Gallery (Newark)
Rutgers–Newark Campus (Newark)
Rutgers Cooperative Extension (Newark, Roseland)

GLOUCESTER
New Jersey Small Business Development Centers Affiliate Offices (Mullica Hill, Woodbury)
Rutgers Cooperative Extension (Clayton)

HUDSON
M.B.A. Program Satellite Office, Rutgers Business School–Newark and New Brunswick (Jersey City)
New Jersey Small Business Development Centers Regional Center (Jersey City)
Rutgers Cooperative Extension (Jersey City)

HUNTERDON
Clifford E. and Melda C. Snyder Research and Extension Farm, Rutgers Center for Sustainable Agriculture (Pittstown)
Rutgers Cooperative Extension (Flemington)

MERCER
New Jersey Small Business Development Centers Regional Center (Ewing)
New Jersey Small Business Development Centers Regional Center (Trenton)
Rutgers Cooperative Extension (Trenton)
Trenton Academic Center (Trenton)
<table>
<thead>
<tr>
<th>MIDDLESEX</th>
<th>MONMOUTH</th>
<th>OCEAN</th>
<th>UNION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agricultural Research Farm (New Brunswick)</td>
<td>Institute of Marine and Coastal Sciences Satellite Office (Sandy Hook)</td>
<td>Jacques Cousteau National Estuarine Research Reserve (Tuckerton)</td>
<td>New Jersey Small Business Development Centers Regional Center (Union)</td>
</tr>
<tr>
<td>Douglass Developmental Disabilities Center (New Brunswick)</td>
<td>New Jersey Coastal Community University (Wall)</td>
<td>Rutgers Cooperative Extension (Toms River)</td>
<td>Rutgers Cooperative Extension (Westfield)</td>
</tr>
<tr>
<td>Jane Voorhees Zimmerli Art Museum (New Brunswick)</td>
<td>New Jersey Small Business Development Centers Regional Center (Lincroft)</td>
<td>Rutgers Marine Field Station (Tuckerton)</td>
<td>New Jersey Small Business Development Centers Regional Centers (Hackettstown, Washington)</td>
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<tr>
<td>Louis Brown Athletic Center (Piscataway)</td>
<td>Osher Lifelong Learning Programs (Freehold)</td>
<td>Rutgers Cooperative Extension (Paterson, Wayne)</td>
<td>Rutgers Cooperative Extension (Belvidere)</td>
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<tr>
<td>New Jersey Agricultural Experiment Station (New Brunswick)</td>
<td>Rutgers Cooperative Extension (Freehold)</td>
<td>Rutgers Plant Science Research and Extension Farm (Adelphia)</td>
<td>Rutgers Cooperative Extension (Woodstown)</td>
</tr>
<tr>
<td>Rutgers Cooperative Extension (East Brunswick, New Brunswick, North Brunswick)</td>
<td>Rutgers Tree Fruit Research and Extension Center (Cream Ridge)</td>
<td>Rutgers Cooperative Extension (Paterson, Wayne)</td>
<td>Rutgers Cooperative Extension (Branchville)</td>
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<tr>
<td>Rutgers Ecological Preserve (Piscataway)</td>
<td>Western Monmouth Higher Education Center (Freehold)</td>
<td>Rutgers Cooperative Extension (Paterson, Wayne)</td>
<td>Rutgers Cooperative Extension (Newton)</td>
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<tr>
<td>Rutgers Gardens (New Brunswick)</td>
<td>Morris - M.B.A. Program Satellite Office, Rutgers Business School–Newark and New Brunswick (Morristown)</td>
<td>Rutgers Cooperative Extension (Woodstown)</td>
<td>Lindley G. Cook 4-H Youth Center for Outdoor Education (Branchville)</td>
</tr>
<tr>
<td>Rutgers Geology Museum (New Brunswick)</td>
<td>Rutgers Continuing Education Branch Office (Mount Arlington)</td>
<td>Rutgers Cooperative Extension (Bridgewater)</td>
<td>Rutgers Cooperative Extension (Newton)</td>
</tr>
<tr>
<td>Rutgers–New Brunswick Campus (New Brunswick, Piscataway)</td>
<td>Rutgers Cooperative Extension (Morristown)</td>
<td>Rutgers Cooperative Extension (Newton)</td>
<td>New Jersey Small Business Development Centers Affiliate Offices (Carney's Point, Salem)</td>
</tr>
<tr>
<td>Rutgers Stadium (Piscataway)</td>
<td></td>
<td></td>
<td>New Jersey Small Business Development Centers Regional Centers (North Branch)</td>
</tr>
</tbody>
</table>
Rutgers alumni, students, faculty, and staff are among the more than 300,000 New Jersey residents who have direct connections to the university.

The map and chart reflect 2009 data, except Undergraduate and Graduate/Professional Students for which fall 2008 figures are provided.

### Rutgers People in the 21 Counties of New Jersey

<table>
<thead>
<tr>
<th>COUNTY</th>
<th>ALUMNI</th>
<th>Undergraduate and Graduate/Professional Students</th>
<th>Continuing Professional Development Students</th>
<th>Faculty/Staff</th>
<th>TOTALS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atlantic</td>
<td>2,869</td>
<td>754</td>
<td>434</td>
<td>55</td>
<td>4,112</td>
</tr>
<tr>
<td>Bergen</td>
<td>17,466</td>
<td>4,153</td>
<td>2,286</td>
<td>179</td>
<td>24,084</td>
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<tr>
<td>Burlington</td>
<td>12,598</td>
<td>2,434</td>
<td>931</td>
<td>281</td>
<td>16,244</td>
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<tr>
<td>Camden</td>
<td>14,828</td>
<td>3,618</td>
<td>840</td>
<td>512</td>
<td>19,798</td>
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<tr>
<td>Cape May</td>
<td>962</td>
<td>183</td>
<td>146</td>
<td>26</td>
<td>1,317</td>
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<tr>
<td>Cumberland</td>
<td>1,053</td>
<td>254</td>
<td>246</td>
<td>36</td>
<td>1,589</td>
</tr>
<tr>
<td>Essex</td>
<td>16,908</td>
<td>4,046</td>
<td>2,380</td>
<td>680</td>
<td>24,014</td>
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<tr>
<td>Gloucester</td>
<td>4,847</td>
<td>1,057</td>
<td>396</td>
<td>101</td>
<td>6,401</td>
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<tr>
<td>Hudson</td>
<td>8,751</td>
<td>3,218</td>
<td>1,443</td>
<td>266</td>
<td>13,678</td>
</tr>
<tr>
<td>Hunterdon</td>
<td>5,917</td>
<td>745</td>
<td>741</td>
<td>220</td>
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<tr>
<td>Mercer</td>
<td>10,230</td>
<td>1,900</td>
<td>1,537</td>
<td>671</td>
<td>14,338</td>
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<tr>
<td>Middlesex</td>
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<td>11,279</td>
<td>4,815</td>
<td>4,789</td>
<td>52,230</td>
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<tr>
<td>Monmouth</td>
<td>18,395</td>
<td>3,847</td>
<td>2,570</td>
<td>514</td>
<td>25,326</td>
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<tr>
<td>Morris</td>
<td>14,089</td>
<td>2,128</td>
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<td>17,993</td>
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<tr>
<td>Ocean</td>
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<td>1,142</td>
<td>1,106</td>
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<td>10,874</td>
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<td>Passaic</td>
<td>6,579</td>
<td>1,607</td>
<td>1,472</td>
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<tr>
<td>Salem</td>
<td>562</td>
<td>153</td>
<td>113</td>
<td>31</td>
<td>859</td>
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<td>Somerset</td>
<td>15,240</td>
<td>2,778</td>
<td>2,030</td>
<td>1,223</td>
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<td>Sussex</td>
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<td>387</td>
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<tr>
<td>Union</td>
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<td>2,712</td>
<td>2,025</td>
<td>457</td>
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<td>Warren</td>
<td>2,122</td>
<td>328</td>
<td>378</td>
<td>39</td>
<td>2,867</td>
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</tbody>
</table>

*Map and chart reflect 2009 data, except Undergraduate and Graduate/Professional Students for which fall 2008 figures are provided.*
1. The combined effect of university spending includes both direct and indirect multiplier effects. Spending multipliers attempt to estimate the ripple effect in the local and state economies that invariably occurs as the initial money that is expended is recirculated and respent. The magnitude of expenditure multipliers is dependent on the structure and complexity of the economies where the spending occurs and usually ranges between 1.5 and 2.5 for colleges and universities. The more advanced and developed the local and state economies are, the larger the magnitude of the spending multiplier. The doubling of Rutgers’ institutional spending is a conservative estimate, given New Jersey’s highly developed and complex economy. For more background on multipliers and how they are used by institutions of higher education, see Robert J. Parsons and Allison Griffiths, “A Micro Economic Model to Assess the Economic Impact of Universities: A Case Example,” Association of Institutional Research Professional File, 87, Spring 2003; Kevin Stokes and Paul Coomes, “The Local Economic Impact of Higher Education: An Overview of Methods and Practice,” Association of Institutional Research Professional File, 67, Spring 1998; and Donald S. Elliott, Stanford L. Levin, and John B. Meisel, “Measuring the Economic Impact of Institutions of Higher Education,” Research in Higher Education, 28, 1998, 17-33.

2. Estimates for visitor spending at Rutgers during fiscal year 2008 are based on revenues generated from athletic, cultural, and art events and programs; professional and academic conferences and meetings; college tours; and other university events including graduation ceremonies.


5. The most recent job multiplier on the employment impacts of university expenditures for the state of New Jersey developed by the U.S. Department of Commerce Bureau of Economic Analysis estimates that for every $1 million spent in the local economy, 17.8 jobs are created. The Bureau of Economic Analysis used the most current regional data (2006) to develop the employment multiplier; therefore, the total in-state spending amount was converted to 2006 dollars prior to using the multiplier.

6. Economic impact studies conducted at the University of Pittsburgh and Ohio State University have estimated that 18 percent of employees’ gross earnings go toward savings and mortgage payments.

7. Estimation of the sales tax revenue is based on methodology offered by the New Jersey Department of the Treasury, Division of Taxation. Approximately 50 percent of the sales tax revenue generated in the state in any one year is attributed to individuals, with the remaining half being generated by business. The amount generated by individual spending can be divided by New Jersey payroll employment during a particular period to arrive at an estimate of the amount of sales tax revenue generated by full-time employees. Applying this approach, it is estimated that each employee generated approximately $1,000 a year in sales tax revenue for the state of New Jersey in FY 2008, which resulted in a total amount of $9.9 million generated by Rutgers employees.

8. Estimates for spending by commuter, off-campus, and on-campus students provided by the Rutgers Office of Financial Aid were used to derive sales tax revenue generated by student spending. These estimates of student spending were weighted by the enrollment in each student category, which was multiplied by the sales tax rate of 7 percent. Visitor sales tax revenue was similarly derived by the Rutgers Office of Institutional Research and Academic Planning by multiplying estimated visitor spending by the sales tax rate.

9. 2007 New Jersey Legislative District Data Book. It is assumed that 65 percent of Rutgers employees residing in New Jersey own their own homes. County estimates for property values and tax rates were used to estimate the amount of local property tax paid by Rutgers employees.


15. This estimate is based on the median annual salary of baccalaureate and graduate or professional degree holders for residents of New Jersey, which is then applied proportionately to the number of Rutgers alumni living in New Jersey between the working ages of 25 and 65. Median earnings for baccalaureate and advanced degree recipients in New Jersey come from the U.S. Census Bureau, 2006–2007 American Community Survey.

16. Local property and state sales taxes paid by New Jersey alumni were estimated following the same approach used to estimate local property and state sales taxes of Rutgers faculty and staff. See Endnotes 7 and 9 on previous page.

17. The tax rate of 5.525 percent was applied to New Jersey Rutgers alumni having a baccalaureate degree (the New Jersey tax rate for individuals making between $40,001 and $75,000) and the tax rate of 6.37 percent was applied to New Jersey Rutgers alumni having a postbaccalaureate degree (the New Jersey tax rate for individuals making between $75,001 and $500,000) using the estimated median salaries of these degree recipients in the 2006–2007 American Community Survey conducted by the U.S. Census Bureau and reported for New Jersey.


23. New Jersey Small Business Development Centers statistics. Procurement contract value subject to change.


It is the policy of Rutgers, The State University of New Jersey, to make the benefits and services of its educational programs available to students, and to provide equal employment opportunity to all employees and applicants for employment, regardless of race, religion, color, national origin, ancestry, age, sex, sexual orientation, gender identity and expression, disability, atypical hereditary cellular or blood trait, marital status, civil union status, domestic partnership status, veteran status, and any other category protected by law. The Rutgers University Policy Prohibiting Discrimination and Harassment can be viewed at http://policies.rutgers.edu/PDF/Section60/60.1.12-current.pdf. Questions concerning student rights violations should be addressed to Donald C. Heilman, Associate Dean of Students: Compliance and Assessment, Office of Student Affairs (732-932-7109 or dheilman@echo.rutgers.edu). Questions concerning harassment or employment discrimination should be directed to Jayne Munkaci Grandes, Director, Office of Employment Equity (732-932-3020, ext. 4030, or grandes@rutgers.edu). For the complete text, see the office website at http://uhr.rutgers.edu/equity. For more information, see http://polcomp.rutgers.edu.