HIGHLIGHTS
of 2006-2007

NJIT in the News:
Top Media Stories of the Year

- **Record Solar Outburst**
  **Bombarded Earth**
  Using special instruments, Physics Chair Dale Gary’s team at NJIT’s Center for Solar-Terrestrial Research studied solar outbursts and found that a complex sunspot on the Sun was responsible for the outburst, which occurred on Dec. 6, 2006 at 3:45 p.m. EST. The story was covered worldwide, in media including: New York Times; Fox News; CBS News; ABC News; Yahoo News; CNN International; PhysOrg; New India Press; Science Daily; Space Ref; All Headline News.

- **A Whale of a Tale**
  **David Rothenberg**
  NJIT professor of humanities, writes that two whales did not respond to attempts to lure them downstream by playing recordings of whale noises. But they found the way out on their own. The story was covered worldwide, in media including: Gabe Pressman’s View; NBC; New York Times; International Herald Tribune; Journal News; Wildlife and Environmental News.

- **Professor Puts Politics Aside**
  **Solving 51-year-old Math Puzzle**
  Vladislav Goldberg, distinguished professor emeritus of mathematical sciences, has been working with Maks Akivis and Valentin Lychagin on a problem in differential geometry posed in 1955 by William Blaschke, a notorious anti-Semite. They have solved the problem, which Blaschke himself thought was hopeless. The story was covered worldwide, in media including: Star Ledger; Philadelphia Inquirer; 1010 WINS; Math Digest.

- **Colleges Adapt to Tech-savvy New Students**
  There are less visible signs of change to meet the needs of these “digital natives,” says Richard Sweeney, NJIT university librarian. The story was covered worldwide, in media including: USA Today; TP Tech News; News Factor; Network; CIO Today; Sci-Tech Today.

- **NJIT Researchers Seed, Heat and Grow Carbon Nanotubes in Long Tubing**
  In fewer than 20 minutes, NJIT researchers can now seed, heat and grow carbon nanotubes in 10-foot-long, hollow thin steel tubing. The story was covered worldwide, in media including: PhysOrg; Netcomposites; Nanotechwire; Medical News Today; Tech News; Nano Forum.

- **Scientists Consider Hurricane-Safe Homes**
  **Rima Taher**
  university lecturer in architecture, reports that certain home shapes and roof types can better resist high winds and hurricanes. The story was covered worldwide, in media including: UPI; EARTHTimes.org; Monsters and Critics; Moldova; Post Chronicle; Science Daily; PhysOrg.com.

- **Mathematician Uses ‘Gamble-Tron’ Formula to Predict ’06 Baseball Playoffs**
  The New York Yankees have better than a 3 in 4 chance of defeating the Detroit Tigers in their best of 5, said Bruce Bukiet, associate professor in the department of mathematical sciences. The story was covered worldwide, in media including: Yahoo News; Fox News; WKYC; KOMO 1000-Seattle; WKNX 1070-CA; Discovery Channel; NJBiz; PhysOrg; KOGO, San Diego; Science Daily.

- **iTunes U Comes to the iTunes Store**
  Other participating institutions include NJIT, Queen’s University, Texas A&M, ... iTunes moves up to third largest music store. The story was covered worldwide, in media including: Fox News; Star Ledger; The Journal; and Playlist Magazine.

University Facts and Figures

Ranked by U.S. News and World Report among the top national universities and the top public universities, NJIT is also tied for 10th in the nation for ethnic diversity on campus in the annual survey.

**Diverse Issues in Higher Education** ranked New Jersey Institute of Technology (NJIT) among the nation’s leading schools for graduating minority students:

- 18th in the United States, and first in New Jersey, for graduating African-American students with bachelor’s degrees in engineering.
- 26th in the United States, and first in New Jersey, for graduating Hispanic students with baccalaureates in engineering.
- 25th in the United States, and first in New Jersey, for graduating Hispanic students with baccalaureates in computer and information sciences.
- Seventh in the United States, and first in New Jersey, for graduating Asian-American students with undergraduate degrees in computer science.
- 38th in the United States, and second in New Jersey, for graduating Asian-American students with baccalaureate degrees in engineering.

**NJIT** is one of an elite group of universities invited to join Apple’s iTunes U, and one of only 16 featured as a link in the main iTunes store. The program allows students and visitors to download podcasts of selected lectures to their iPods.

An NSF study ranked NJIT 7th in the nation for growth in the area of most cited articles. Citations of university research increased 72 percent over the 15-year period (1988-2003) that the study analyzed.
**Educational Programs**

NJIT is a participating in all three Innovation Partnership Institutes — financial services, biopharma and information technology — launched by the New Jersey Commission on Higher Education as part of the Governor’s economic growth strategy. The goal is to foster collaborations between business and higher education to develop new curricula that meet the workforce needs of industry and improve on the course offerings already in place. NJIT is the lead on the Financial Services IPI, and the School of Management, led by Professor Asokan Anandarjan and Assistant Professor Katia Passerini, are assessing industry needs surveys, focus groups and other vehicles, in order to develop new instructional modules. Continuing Professional Education will disseminate the programs developed statewide.

The Office of Continuing Professional Education is directing EmployMe!, a training program to prepare adults with physical disabilities for entry level and advanced jobs in information technology, under a grant from the Henry H. Kessler Foundation.

**Career Development Services** sponsors a variety of experiential learning opportunities:
- 987 students participated in community service projects.
- 467 students were placed in co-op positions and internships.
- Students earned more than $4.8 million through co-op, work-study, community service and internships.

**New Grants and Patents**

Daljit S. Ahluwalia, professor and chair of mathematics, received a grant from the New Jersey Meadowlands Commission for a statistical data analysis, and a grant from the National Science Foundation to support the 2007 Conference on Frontiers in Applied and Computational Mathematics.

Timothy Chang, professor of electrical and computer engineering, shares a new patent with Peter Tolias, director of the Center for Applied Genomics, for an invention to deliver metered amounts of liquid material.

NJIT’s Center for Information Age Technology, under the direction of Mitchell Darer, tested the design, security, and reliability of the state’s voting machines under contract to the Office of the Attorney General.

Atam Dhawan, professor and chair of electrical and computer engineering, received a grant from the Pfeifer Foundation for the ongoing development of his invention, the Nevoscope, an optical imaging device for early detection of skin cancers.

John Federici, professor and associate chair of physics, gained a patent for his terahertz imaging system that can be used to detect concealed weapons or explosives.

Wassim Jabi, assistant professor of architecture, has NSF support to investigate the design-based studio currently used in architecture for other disciplines, including computer sciences.

Chengjun Liu, associate professor of computer science, has a new patent for a method and apparatus for face detection within images with relatively low probability of error and false detection rate.

Eliza Michalopoulou, professor of mathematical sciences, has grant support from the Office of Naval Research for a study titled “Inversion in Shallow Water Environments: An Uncertainty Study.”

Som Mitra, professor and interim chair of chemistry and environmental science, received a patent for a microconcentrator that will enable manufacturers to create a device to uncover miniscule amounts of airborne pollutants.
New Grants and Patents

Robin Murray, adjunct professor of architecture, is directing the Rural Sustainability Demonstration Project to investigate issues of growth and density in rural communities. The goal is to provide rural sustainable growth strategies that can be replicated in multiple rural New Jersey communities.

Farzana Namid, associate professor of biological sciences, has NIH support for his ongoing research on neuronal networks. The new phase of his project examines the role of modularity in neuronal subsystems. He also received a grant from the University of Medicine and Dentistry of New Jersey to explore the origins of random bursts of RNA.

Nina Pardi, senior university lecturer in humanities, has a grant from the New Jersey Commission on Higher Education to assist students with limited language proficiency.

Roumiinta Petrova, university lecturer in physics, received a patent for her flexible thin film pressure sensor.

Nuggehalli M. Ravindra, professor of physics, Anthony T. Fiory, research professor of physics, received a three-year grant from the Department of Energy and National Renewable Energy Laboratory on ZnO to decompose water for hydrogen production. Ravindra and Fiory also received a new U.S. patent, "Method of magnetic field self-assembly" with Sudhakar Shet, doctoral student in materials science and engineering.

Michael Recce, associate professor of information systems, received a patent for his authorized personnel biometric detection system to prevent unauthorized use of aircraft and other potentially dangerous instruments.

Gareth Russell, assistant professor of mathematical sciences, has a three-year NSF grant to develop technologies for monitoring reef fish communities.

Pushpendra Singh, professor of mechanical engineering, received an NSF grant to work on Efficient Transport of Bubbles and Drops, a study aimed at enhancing the understanding of complex multiphase flows that have an impact on many industrial processes that encounter foams, emulsions, and manipulation of blood cells, DNA, and proteins.

Kamalesh Sirkar, distinguished professor of chemical engineering, received a continuing award from the Office of Naval Research for research on novel desalination technology.

Darius Sollohub, director, Master of Infrastructure Planning program, is leading the Paterson Research Initiative to help restore effective planning to the City of Paterson, NJ. With funding from the New Jersey Office of Smart Growth (OSG), the project aims to provide a comprehensive planning platform to launch effective Smart Growth planning, design and development in Paterson.

With funding from the National Science Foundation, NJIT Advance is developing innovative solutions to the problem of isolation that faces women in the academic science and engineering workforce. The project, led by Nancy Steffen-Fluhr, director of the Murray Center for Women in Technology, will make use of the new location-aware computer network that is being developed for the SmartCampus project.

Sirin Tekinay, associate professor of electrical and computer engineering, received a patent for a method for locating mobile communications devices such as cell phones using the GPS system. She also received the National Science Foundation Director’s Award for Program Management Excellence.

Jian Yang, assistant professor of industrial and manufacturing engineering, has an NSF grant to study inventory management under fluctuating raw material prices.

Faculty Honors and Awards

NJIT was the first educational institution to receive the Revit BIM Experience Award, which celebrates building industry professionals around the world who are helping to drive transformation of the building industry through building information modeling. The project team responsible includes Urs Gauchat, dean of architecture, and New Jersey School of Architecture faculty Professor Glenn Goldman, Associate Professor Stephen Zdebski, and Associate Dean John Cays, and IT Director Michael Hoon.

Robert A. Altenkirch, president of NJIT, was one of ten graduates of Purdue University’s College of Engineering named among the 2007 Distinguished Engineering Alumni. The award honors alumni who have had “spectacularly successful careers and have had an impact in their institutions, their communities, their profession and in the world.”

Joel S. Bloom, vice president for academic and student services and dean of the Albert Dorman Honors College, was named an Educational Opportunity Fund Champion for 2007. The award, sponsored by New Jersey's Commission on Higher Education, is annually presented to dedicated New Jersey individuals who provide maximum education and opportunity for New Jersey's disadvantaged youngsters.

Norbert Elliot, professor of humanities, received a 2007 CCCA Outstanding Book Award from the Conference on College Compositions and Communication and the Stephen P. Witte Award for Excellence in Writing Assessment Scholarship from the Journal of Writing Assessment for On a Scale: A Social History of Assessment Writing in America.

Vladislav Goldberg, distinguished professor emeritus of mathematical sciences, received the 2006 Mathematics Prize from Arte Cultura Economia Scienze.
Glenn Goldman, professor and director of the Imaging Laboratory at NJIT’s New Jersey School of Architecture (NJISOA), was elevated to the prestigious College of Fellows by the 2007 Jury of Fellows of The American Institute of Architects (AIA).

Kip Sup Hyun, research professor of chemical engineering, received the Fred O. Conley Award from the Society of Plastics Engineers.

Talina Knox, assistant Director of the Murray Center for Women in Technology, received the 2006 President’s Award from Women in Engineering Programs and Advocates Network (WEPAN).

William McDermott, director of development for the School of Management, received the President’s Award at the North Essex Chamber of Commerce Leadership Recognition Banquet.

Durga Misra, professor of electrical and computer engineering, was named a Fellow of the Electrochemical Society.

Priscilla P. Nelson, provost and senior vice president for academic affairs, was inducted into Tau Beta Pi, the national engineering honor society, as an eminent engineer. She was also named chair-elect of the Section on Engineering of the American Association for the Advancement of Science.


Karl W. Schweizer, professor of humanities, was elected a Fellow of the International Biographical Association in Cambridge, England.

Donald H. Sebastian, senior vice president for research and development, received the Academia Award from Strengthening the Mid-Atlantic Region for Tomorrow (SMART).

Pushpendra Singh, professor of mechanical engineering, was elected a fellow of the American Society of Mechanical Engineers.

The Research and Development Council of NJ presented the Thomas Alva Edison Patent Award to Kamalesh Sirkar (left), distinguished chemical engineering professor. Sirkar received the honor for his patent for removing volatile organic pollutants from waste gas streams produced from manufacturing processes before the toxic pollutants are released to the atmosphere. The council also honored Jyh-Yao Raphel Li, a postdoctoral fellow who is a co-inventor of the patent.

Richard B. Sher, distinguished professor and chair of history, won the 2007 Frank Watson Prize, awarded by the University of Guelph, Ontario, Canada, for the best book in Scottish History published in 2005 or 2006 for *The Enlightenment and the Book: Scottish Authors and Their Publishers in Eighteenth-Century Britain, Ireland, and America* published by the University of Chicago Press.

ECE students Kiratbir Khurana, Gian Francisco, and Latha Singanamalli, along with team mate Arwa Gheith (not pictured) displayed their winning solution to the “City of the Future” Challenge sponsored by IBM and the History Channel. Their creative approaches to providing power to a 22nd century New York City that is partially under water due to global warming earned them a $5,000 cash award and the titles of “IBM Engineers of the Future.”

Leonardo Paludo, Eduardo Welter, Rodrigo Correa, and Greg Wagner were named to the NCAA Eastern Intercollegiate Volleyball Association’s All-Academic team for men’s volleyball.

Three NJIT doctoral students won fellowship awards from the New Jersey Commission on Science and Technology to undertake research with a high-tech start-up company: Deepangi Pandit (chemistry) with ExSAR Corporation, Monmouth Junction; Karen Hare (information systems) with Storage Engine Inc., of Tinton Falls; and Jianjun Sheng (physics) with Velox Semiconductor Corp., of Somerset, NJ.

Undergraduates Rich Schuler, computer science major, and Nate Laws, information systems major, recently traveled to the 2007 Conference on Human Factors in Computing Systems in San Jose, Ca., to present their paper, “Finding Your Way with CampusWiki: a Location-aware Wiki.” Their research is part of NJIT’s SmartCampus project, an NSF-supported initiative to create at NJIT a prototype mobile, wireless campus community system with a wide range of location-based services.
Student Awards and Honors

Jeffrey Gendell, architecture student, received honorable mention in the ACSA/AISC Steel Design International Student Competition for his project, “Gallerie Dell Accademia,” (right) designed in Associate Professor Stephen Zdepski’s studio.

Austin DeRogatis and Rob Pietrocola, civil engineering majors, and PJ Saporito, chemical engineering, were named to the NCAA Division I Independent All-Academic Team for 2007.

Adam Enea, Steven Flormann, Indira Hernandez, Britain Materek, Anthony Massari, Shefali Patel and Diana Rodriguez, all civil engineering majors, earned honors – and a trip to California – for designing a building that could withstand a major earthquake in the 2007 Earthquake Engineering Research Institute’s National Seismic Design Competition. The team created plans for a building designed to pivot around one anchored corner under seismic shock conditions, winning the Igor Popov Prize for Structural Innovation as well as a 9th place finish nationally.

Cindy Bayiokos, science, technology and society student, was named to the All-Academic Team of the United Soccer Conference.

“Ward City,” designed by the team of Donna Miller, Danielle Portella, Caitlin Grant (team captain), Carmela Tripodi, and Jason Peist, took first honors in “Project Exploration: A Playground Design Challenge,” the first architectural design competition presented by the NJIT chapter of the Resident Society of Aspiring Architects. The competition had solicited submissions to redesign the existing playground at the Sarah Ward Nursery on Jay Street in Newark. Members of the winning team implemented their design this summer.

Praveen Kosaraju, graduate student in chemical engineering, was co-winner with his advisor Distinguished Professor Kamalesh Sirkar of the AIChE’s 2006 award for the Best Graduate Research Paper in the Separations Division. Kosaraju also received an award for best poster at the annual meeting of the North American Membrane Society.

Six students named to the 2007 Arthur Ashe Sports Scholars by Diverse Issues in Higher Education: Felicia Amaechi, biomedical engineering, for fencing; Babatunde Busari, math and mechanical engineering double major, and Aileen Davila, business, both for track and field; Robert Herrera, architecture, for soccer; Rafael Barrera, business, for soccer, and Leonardo Paludo, business, for volleyball.

Math major Fatima Elgammal was a participant in the NSF-supported Computational Science Training for Undergraduates in the Mathematical Sciences (CSUMS) program that provides students with expertise in mathematical modeling and scientific computation through hands-on research. Directed by Associate Professor Eliza Michalopoulou, the program develops the unique interdisciplinary skills required by future leaders in the mathematical sciences.

Jo Ann Saitta, doctoral student in information systems, and her advisor, Jerry Fjermedstad, associate professor of management, won the Bright Idea Award sponsored by the Stillman School of Business at Seton Hall University for their paper, “A Strategic Management Framework for IT Outsourcing.”

Named to the national NCAA Division I Independent All-Academic Team for cross country were Aileen Davila, business major, Babatunde Busari, math and mechanical engineering double major, and Iulia Doci, also a business major.

A team of civil engineering students from NJIT won first place overall in the 2007 Metropolitan Regional Steel-Bridge Competition, and became one of 31 teams from universities across the country to participate the 2007 National Steel Bridge Competition in California. NJIT finished 14th overall, 6th in stiffness, 10th in efficiency and 10th in construction speed in the national competition. Team members were Hertzler Awuy, Brian Felber, Steven Flormann, Giancarlo Fricano, Indira Hernandez, Vince Manners, Anthony Massari, Shefali Patel, Diana Rodriguez, Menilik Rutty, Nishant Shah, Lauren Thompson and team captain Britain Materek.
Honors student and soccer star Erika Taugher won a highly competitive Wall Street Internship at JP Morgan Chase & Co. The mechanical engineering major topped a group of 500 applicants, most of them from Ivy League schools, who applied for the internship through Alumni Athlete Network. She was selected on the basis of her stellar academic record, the quantitative skills that come from being an engineering major, and the leadership, competitiveness, and focus on goals that college athletes develop.

Second year student Bill Stoddart demonstrates the workings of OPTIMUS, the vehicle designed by NJIT’s Highlander Racing team for the 2007 DARPA Urban Challenge. The NJIT Highlander Team was selected as one of the only 10 teams from universities nationwide for a Discovery Channel TV series of six shows focused on autonomous vehicles and technology advancements.

Joshua Prol, an architecture major at NJIT, was awarded a paid internship at GreenbergFarrow, the national planning, architectural, engineering and development consulting firm, as part of its University Partnership scholarship program.

Math major Kelly Crowe, business major Ali Baumlin (honors) and Aine O’Dwyer (honors), civil engineering student, were named to the N.C.A.A. Division I Independent All-Academic team for women’s basketball.

Solar research – specifically, the Sun’s effects on global warming – is what earned Mohammed Naqvi, a Goldwater Scholarship, one of the nation’s most prestigious prizes for undergraduates. Mohammed, a second-year student majoring in electrical engineering, works with Carsten Denker, assistant professor of physics, in surveying the sun’s effects on the Earth’s climate. His findings will be published in an upcoming issue of Solar Physics.

The NJIT chapter of Alpha Phi Omega, the national service fraternity, made quite a splash at their sectional conference dressed in kilts and plaidies and accompanied by bagpipes. The contingent including Humberto “Humby” Baquerizo, assistant director of Greek Life, and students Amir Fakhradzadeh, J.P. Polewczak Christopher Ju, Ketan Gujarathi, David Troll, Jeremy Peters, Paul Lorenz, Amber Morrissey, Greg Manning, Glen Hanlon, Chris Dowd, Daniel Ovalle, Julian Raymar, Josh Rosenhants, Munish Shed, carried off top honors for school spirit.
**Faculty Activities**

*Nirwan Ansari*, professor of electrical and computer engineering, was the recipient of an IEEE Leadership Award for his role as the 2007 IEEE Sarnoff Symposium co-chair. He was also elected the Vice-Chair of IEEE Communications Society Technical Committee on Sensor and Ad Hoc Networks.

*Gabrielle Esperdy*, associate professor of architecture, has been named assistant editor of the *Buildings of the United States*, a multi-volume series sponsored by the Society of Architectural Historians, and appointed to the Editorial Board of the *Journal of Architectural Education*, published by the Association of Collegiate Schools of Architecture.

*Jerry Fjermestad*, associate professor of management, was named associate editor of the *International Journal of Information Security and Privacy and Advances in E-Collaboration* Book Series.

*Doris Fleisher*, senior university lecturer in humanities, is a peer reviewer for *The Sociological Quarterly*. She is also author of three articles to appear in *The Encyclopedia of American Disability History*.

*Norman Loney*, professor of chemical engineering, is editor of the international journal, *Chemical Product and Process Modeling*. He was a NASA faculty fellow and served as science advisor to the NASA DEVELOP program.

*Paul G. Ranky*, professor of industrial engineering, was named associate editor of *Assembly Automation*, a well-established international journal by Emerald Publishers in the UK.

**New Books**

*Burt Kimmelman*, professor of humanities, is the author of *There Are Words*, published by Dos Madres press.

*Joseph Leung*, distinguished professor of computer science is an editor, along with Insup Lee and Sang H. Son, of *Handbook of Real-Time and Embedded Systems*, published by Chapman & Hall/CRC.

*Why Birds Sing* by *David Rothenberg*, professor of humanities, has now been published in Italian, Spanish, Chinese and German and is the basis for an 80-minute television documentary produced by the BBC. His *Always The Mountains* has been released in paperback by the University of Georgia press.

*Karl W. Schweizer*, professor of humanities, is an editor of *The International Thought of Herbert Butterfield*, published by Palgrave McMillan, and *The Seven Years War: A Transatlantic History*, published by Routledge.

*Lisa Simone*, assistant professor of biomedical engineering, is the author of *If I Only Changed the Software, Why is the Phone on Fire?: Embedded Debugging Methods Revealed: Technical Mysteries for Engineers*, published by Elsevier.