

# HIGHLIGHTS

## University Achievements

The *Princeton Review* has ranked **NJIT** among the nation's top 50 public undergraduate institutions for outstanding value.



According to *The Princeton Review*, NJIT "stands today as one of the nation's most prominent research schools, specializing in nanotechnology, solar physics, and polymer science..."

and retains its reputation as New Jersey's top choice for the hard sciences."

*U.S. News & World Report's 2010 Annual Guide to America's Best Colleges* has named **NJIT** among the nation's top tier of national research universities offering a range of undergraduate majors and master's and doctoral degrees. NJIT is now ranked 115 among the nation's best national universities. The university is also seventh in the nation in campus diversity.



**NJIT** has received a proclamation from N.J. Governor Jon S. Corzine recognizing the university and Panasonic "for their continued commitment to developing the creative thinking and technical skills of New Jersey's students." NJIT student interns help to design the Panasonic Creative Design Challenge, with NJIT faculty and staff serving as judges. Since 1991, NJIT has partnered with Panasonic in the competition sponsored by the company, which tests many skills as high school teams vie for college scholarships and other prizes.

**NJIT** received a 2009 Wealth Engine Award for Educational Fundraising from the Council for Advancement and Support of Education (CASE), an award that honors superior fundraising programs across the country. NJIT

merited an Overall Improvement Award based on the judges' analysis of three years of fundraising data submitted to the Council's annual survey.



**NJIT** is the 2009 recipient of the Rising University Star Award from the National



Action Council for Minorities in Engineering. The award

recognizes the achievements of universities that are contributing to increased diversity in engineering, science and technology.

*Diverse Issues in Higher Education* once again listed **NJIT** among the nation's top 100 colleges and universities for awarding under-

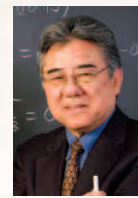


graduate degrees to students from underserved groups. The university ranked in the top 25 in engineering, computer and information science and architecture, and in the top 50 for mathematics and statistics.

## Faculty and Staff Honors

**Dominique Clarke** and **Sharon Gilbert** of Career Development Services received the inaugural Practitioner of the Year Award from the New Jersey Cooperative Education and Internship Association in recognition of outstanding achievement in experiential education.

**Gregory Kriegsmann** and **Robert Miura**, both distinguished professors of mathematical



sciences, were named to the inaugural class of Fellows by the Society for Industrial and

Applied Mathematics (SIAM). Among 191 of the world's leading mathematical scholars, Kriegsmann was cited for "contributions to the analysis of problems of electromagnetics and heating," while Miura was recognized for "contributions to nonlinear wave propagation and mathematical neuroscience."

**Ali Abdi**, associate professor of electrical and computer engineering, received the 2008 New Jersey Inventors Hall of Fame Innovators Award for his work on underwater acoustic communication.

*New Jersey Monthly* magazine named NJIT President **Robert A. Altenkirch** one of the



Garden State's 101 most influential people for 2009. In addition to leadership as an educator, Altenkirch was cited as "a highly visible figure on the Newark political landscape." The magazine highlighted his service as chair of the Newark Downtown Core Redevelopment Corporation, which oversees projects like the Prudential Center, and his role in the Gateway Project, designed to promote dynamic redevelopment of the neighborhood surrounding the NJIT campus.



**Nirwan Ansari**, professor of electrical and computer engineering, is now a Fellow of the Institute of Electrical and Electronics Engineers (IEEE) for his contributions to broadband networks

and communications.

**Tim Camp**, assistant athletic director for sports information, received the Mike Cohen "Good Guy" Award at the 76th Annual Metropolitan Basketball Writers Association Awards Dinner at Giants Stadium. This award is given annually to individuals who have been especially friendly and helpful to the media, often going above and beyond to make media jobs easier and more pleasant.



**Nancy W. Coppola**, professor of humanities, was named one of 25 associate Fellows of the Society for Technical Communication. The program advances the theory and practice of technical communication across all user abilities and all media.

The Urban Land Institute of Northern New Jersey has honored NJIT adjunct professor **Jerry Fitzgerald English** as "Land Use Educator of the Year" for her 23 years of leadership and service to the environmental sector especially within the region.



**Jerry Fjermestad**, associate professor of management, won the New Jersey Business and Industry Association's Bright Idea Award for his paper "Communication and Leadership Differences in Virtual Design Teams: Why Some Teams Do Better Than Others."

NJIT Humanities associate professor and digital poet **Christopher Funkhouser** was among the 10 American poets commissioned for the Presidential Inauguration by the Associated Press and featured by the *New York Times*.



An image from the lab of **Raquel Perez-Castillejos**, assistant professor in the department of electrical and computer engineering, was selected as a winner of the



2008 *Materials Today* cover competition. The image was featured on the journal's December 2009 cover.

**Philip R. Goode**, distinguished professor of physics at NJIT, was inducted into the New Jersey High-Tech Hall of Fame. The Hall of Fame was created in 1999 to recognize the best and the brightest New Jersey achievements in life science and high-tech by research and business leaders, educators, and government officials who have demonstrated exemplary work in innovative products and therapies. Sponsors of the event are BioNJ, HINJ, and TechAmerica.



The newly-created Academy of Geo-Professionals, established by the American Society of Civil Engineers, inducted NJIT professor of civil engineering **Priscilla Nelson, PhD**, former provost, into its inaugural class.

The American Council of Engineering Companies of New Jersey (ACEC) honored **Bryan J. Pfister**, assistant professor of biomedical engineering, with the 2008 Educator of the Year Award at the 38th Annual Engineering Excellence Awards ceremony at Rutgers University.



*Thousand Mile Song: Whale Music in a Sea of Sound* (Basic Books, 2008) by NJIT humanities professor, author and clarinetist **David Rothenberg**, has been named one of the ten best science and technology books for 2008 by *Booklist Online*, a publication of the American Library Association.



**M. Ala Saadeghvaziri**, professor in the Department of Civil and Environmental Engineering, has been named a Fellow of the American Society of Civil Engineers (ASCE).



**John Schuring**, professor of civil and environmental engineering, received the Educator of the Year Award from the New Jersey Chapter of the American Society of Civil Engineers. He is also Stable Professor for Innovation and Technology.

**Richard B. Sher**, distinguished professor of history, has been elected a Corresponding Fellow of the Royal Society of Edinburgh (RSE). Sher is one of only 44 new Fellows and one of five new Corresponding Fellows. He also received a National Endowment for the Humanities (NEH) Fellowship to edit a volume of the correspondence of James Boswell, the eighteenth-century Scottish writer. Boswell is best known for his biography of Samuel Johnson.



**Kamalesh K. Sirkar**, distinguished professor of chemical engineering and Foundation Professor in Membrane Separations, has been elected a Fellow of the American Association for the Advancement of Science. He also received the Clarence G. Gerhold Award of the separations division of AIChE during the Centennial Annual AIChE meeting in Philadelphia.



**Leonid Tsybeskov**, professor of electrical and computer engineering, was one of 59 professors worldwide selected to receive a 2009 HP Labs Innovation Research Award. The project will support his research in novel thermoelectric devices utilizing unique structural and electronic properties of Si/SiGe semiconductor nanowire heterojunctions. He was also principal guest editor for the July 2009 *Proceedings of the IEEE*, which focused on silicon photonics.



**Chao Zhu**, professor of mechanical and industrial engineering, has been elected a Fellow of American Society of Mechanical Engineers (ASME).

**Student Honors**



The NJIT ASCE Steel Bridge Team won the 2009 Metropolitan Region Steel Bridge Competition held on April 4 at Polytechnic Institute of New York University in Brooklyn. In addition to winning first place overall, the team placed first in Structural Efficiency and Stiffness. The team advanced to the 2009 Steel Bridge Nationals at the University of Nevada-Las Vegas where they finished 24th overall.

Eleven undergraduate mathematical sciences majors were inducted in Pi Mu Epsilon, the national mathematics honor society:

**Matthew Albano\***, **Paul Accasano**, **Cassayndra Basarab\***, **Jonas Brobbey\***, **Fatima Elgammal\***, **Steven Elliott\***, **Clifford Hilaire\***, **Kyle McCarthy\***, **Dawid Midura**, **Mohammed Naqvi\***, and **Aminur Rahman\***

A team of students from NJIT's School of Management took third place at the East Coast Venture Challenge sponsored by Draper Fisher Jurvetson and DFJ Gotham at Columbia University. **Quaison Carter**, **Louis Noto** (Dorman honors scholar) and **Paulius Skema** won for their business plan for fetchFire, a web-based business, invented by Carter that provides subscribers with a repository of information that families and others can use to stay in touch with each other during emergencies. Cornell and Duke finished first and second.

For the eleventh time in the last 12 years, NJIT has taken first place in the prestigious ASME Student Sections Committee Contest (formerly the Ingersoll-Rand Contest) for District A, which includes all the major universities and colleges in the Northeast. The contest involves the writing of a comprehensive report that documents activities by the ASME Student Section.

\*Dorman honors scholar

Doctoral student **Yelda Alkan** won a student paper and travel award from the IEEE Neural Engineering Conference held in Antalya, Turkey. Her work investigates different circuits within the brain performing a visual learning task quantified via functional MRI. The goal is to understand how vision rehabilitation occurs to improve the vision system of those who have suffered from a traumatic brain injury.



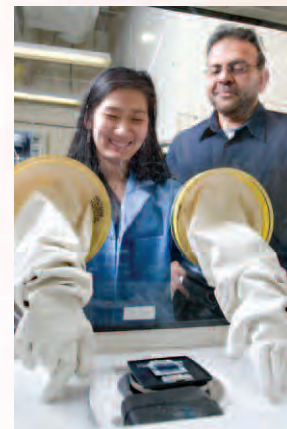
**Katherine August, '09 PhD**, was awarded the Whitaker International Scholarship enabling her to spend two years pursuing post doctoral research at Eidgenössische Technische Hochschule Zürich, Switzerland (ETH). She will collaborate with Dr. Robert Riener's Sensory Motor Systems Laboratory on a study of neuro-rehabilitation and sensory motor learning in virtual reality.

**Steve Erickson**, management major, won the Flight A Singles Championship of the Eastern College Athletic Conference (ECAC) Open, hosted by Connecticut's Trinity College. Erickson is the first NJIT men's tennis player to capture the ECAC Open Championship.

**Salman Naqvi**, electrical engineering major and Dorman honors scholar, was named a prestigious Goldwater Scholar by the Barry M. Goldwater Scholarship and Excellence in Education Program.

**Wycliffe A. Graham**, a doctoral student in materials science and engineering and an NSF Alliance for Graduate Education and the Professoriate scholar, received NSF summer research support to continue his study of "Synthesis, X-ray Structures and Magnetic Properties of the First Fluorophthalocyanine Sandwich Complexes." The study, which he presented in part in April at NJIT's Dana Knox Student Research Showcase, involves development of a novel magnetic material. He has additional funding from the U.S. Department of Energy to continue his research in the fall at the Argonne National Laboratory to make use of their highly specialized equipment. His advisor is **Sergiu M. Gorun**, associate professor of chemistry and environmental science.

**Susana Addo Ntim**, a PhD student in the department of chemistry and environmental science, has been awarded a Faculty for the Future fellowship from the Schlumberger Foundation. The Faculty for the Future awards are open to women in science and engineering from developing and emerging countries and provide funding for advanced graduate study. Her advisor is **Somenath Mitra**, professor of chemistry and environmental science.





**Ornthida Sae-Khow**, a doctoral student in the department of chemistry and environmental science, took first place and received a \$1,000 cash award in the

North Jersey Chromatography Group (NJCG) Student Research Poster Competition. Her poster was entitled, "Micro Scale Solid Phase Extraction Using Carbon Nanotubes as Adsorbents." **Somenath Mitra** (right in photo above), professor of chemistry and environmental science, is her advisor.

Graduate student **Priya Santhanam** took first place among master's-level students in the American Institute of Aeronautics and Astronautics (AIAA) Region I-NE Student Conference held at Worcester Polytechnic Institute. Priya's paper is based on her MS thesis work at NJIT.

## Grants And Patents


Twenty-two **NJIT faculty members** received new grants from the National Science Foundation. **Wenda Cao**, assistant professor of physics, received a prestigious CAREER award to upgrade the focal plane instrumentation suite (specifically the infrared imaging magnetograph, or IRIM) from the now-retired 65-cm telescope at the **Big Bear Solar Observatory**. The goal is to develop high resolution instrumentation to explore solar activity. **Other awards included:**

- **Ali Abdi**, associate professor of electrical and computer engineering, to study underwater acoustic communication.
- **Daljit Ahluwalia**, professor and chair of mathematical sciences, to organize the annual "Frontiers in Applied and Computational Mathematics" conference. 
- **John Bechtold**, professor of mathematical sciences, to develop new mathematical theories of flames in high-pressure environments.
- **James Calvin**, associate professor of computer science, to develop new algorithms for global optimization.
- **Roy Goodman**, associate professor of mathematical sciences, to study nonlinear waves and dynamical systems.
- **Shidong Jiang**, assistant professor of mathematical sciences, to advance computational theories and techniques, in order to meet the demand and challenge for large scale simulations of complex systems in scientific, medical and engineering studies.
- **Lou Kondic**, associate professor of mathematical sciences, for a study that integrates new geometrical techniques, modeling, and experiments to address fundamental open questions concerning the physical properties of granular media and other jammed materials such as glasses, foams, and colloids. 
- **Lev Krasnoperov**, professor of chemistry, to study the kinetics and mechanisms of unimolecular and bimolecular reactions of free radicals over extended temperature and elevated pressure ranges.

- **Chang Liu**, postdoctoral fellow in physics, to study magnetic reconnection and distribution of accelerated electrons in solar flares.
- **Victor Matveev**, associate professor of mathematical sciences, to study calcium dynamics in exocytosis and synaptic facilitation using a combination of analytical, computational and experimental techniques.
- **I. Joga Rao**, associate professor of mechanical and industrial engineering, to develop models predicting the behavior of light-activated shape memory polymers. These novel materials can undergo large changes in shape on exposure to specific frequencies of light for applications ranging from implantable biomedical devices and actuators to aerospace application.
- **Horatio Rotstein**, assistant professor of mathematical sciences, to study rhythmic oscillations in the brain that have been implicated in learning, memory, spatial navigation and path integration using biophysical modeling, dynamical systems techniques and computational simulations.
- **Osvaldo Simeone**, assistant professor of electrical and computer engineering, to develop technologies underlying cognitive radio, a wireless technology in which either the network or the wireless node itself changes the parameters for transmission or reception to execute its tasks efficiently without interfering with the licensed users.
- **Laurent Simon**, associate professor of chemical, biological and pharmaceutical engineering, to develop educational materials to enhance the chemical engineering curricula with applications in biological engineering.
- **Andrei Sirenko**, associate professor of physics, to develop an advanced spectroscopic ellipsometer for far-infrared and THz spectral ranges.
- **Jian Yang**, associate professor of mechanical and industrial engineering, to study the nonatomic-game approach to revenue management under competition.

### University researchers gained 13 new U.S. patents:

- **Ali Abdi**, associate professor of electrical and computer engineering for a "System and Method for Using Acoustic Field Parameters for Communication," designed to optimize conveyance of communications through a fluid, such as wireless signals through the ocean.


- **Yehekel Bar-Ness**, distinguished professor of electrical and computer engineering, "Transmit Power Adaptation for CDMA Communication Systems using Successive Interference Cancellation," and "Combined Frequency-Time Domain Power Adaptation for CDMA Communication Systems," both enabling technologies for next-generation wireless telecommunications. 


- **Timothy Chang**, professor of electrical and computer engineering, "System and Method for Pressure Wave Transmission and Measurement."

- **Edward Dreizin**, professor of chemical, biological and pharmaceutical engineering,



"Nano-Composite Energetic Powders Prepared by Arrested Reactive Milling."

- **John Federici**, professor of physics, "Non-linear Terahertz Spectroscopy for Defect Density Identification in High K Dielectric Films." 

- **Yun-Qing Shi**, professor of electrical and computer engineering, three patents related to data hiding: "System and Method for Robust Reversible Data Hiding and Data Recovery in the Spatial Domain," "Methods and Apparatus for Reversible Data Hiding Through Histogram Modification," and "System and Method for Steganalysis." 

- **Kamalesh Sirkar**, distinguished professor of chemical, biological and pharmaceutical engineering, "Highly Selective Membrane Systems and Methods for Protein Ultrafiltration."

- **Sirin Tekinay**, associate professor of electrical and computer engineering, "Wireless Network Assisted GPS System."

- **Yulu Wang '05**, for work done as a doctoral student with Professor Emeritus **Robert Pfeffer** and Distinguished Professor **Raj Dave**, both of chemical, biological and pharmaceutical engineering, "Polymer Coating/Encapsulation of Nanoparticles Using a Supercritical Antisolvent Process."
- **Hong Zhang '07**, with **Ali Abdi**, associate professor of electrical and computer engineering, "System and/or Method for Estimating Speed of a Transmitting Object."

**Jo-Ann Raines** and **Sharon Gilbert**, of Career Development Services, received a Call to Service grant from the Partnership for Public Service to encourage NJIT students and alumni to seek internships and employment in the federal government.

**Boris Khusid**, professor of chemical, biological and pharmaceutical engineering and director of the Electro-Hydrodynamics Laboratory, has a NASA research grant to study electrohydrodynamic technology in microgravity. Using theoretical studies, ground-based experiments, and short-term tests in reduced gravity aboard NASA aircraft, he will develop a scalable design of devices for a gas-liquid phase separation in advanced thermal and fluid management systems for space applications.



### Appointments and Promotions

**Stephen Tricamo**, professor of mechanical and industrial engineering, was named associate provost for academic affairs.



**Glenn Goldman**, professor in the College of Architecture and Design,

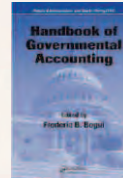
was named director of the newly-formed School of Art+Design.

### New Books



**Denis Blackmore** and **Amitabha Bose**, professors of mathematical sciences, and **Peter Petropoulos**, edited *Proceedings of FACM'08*, (World Scientific, 2008), which was dedicated to **Daljit Ahluwalia**, professor and chair of mathematical sciences, on his 75th birthday.

**Frederic B. Bogui**, SOM university lecturer, is the editor of *Handbook of Governmental Accounting* (CRC Press, 2009).



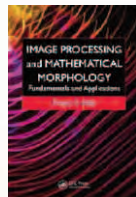
**Robert S. Friedman**, associate professor of humanities, is the author of *Principle Concepts of Technology and Innovation Management: Critical Research Models* (IGI Publishing, 2008) with Desiree M. Roberts, University of New York-Empire State College and Jonathan D. Linton, University of Ottawa, Canada.

**Richard Garber**, assistant professor of architecture, is editor of *Closing the Gap: Information Models in Contemporary Design Practice*, an edition of *Architectural Design* (John Wiley & Sons, 2009). He was also co-editor of *Bell Labs Charrette: A Sustainable Future*, with architects **Nina Rappaport**, **Michael Calafati**, **Richard Southwick** and **Sean Khorsandi**, for which the project team won a 2009 New Jersey Historic Preservation Award.



**Carol S. Johnson**, associate professor in the department of humanities, is the author of *The Language of Work: Technical Communication at Lukens Steel, 1870 to 1925* (Baywood Publishing Company, Inc., 2009).

**Kenneth D. Lawrence**, professor of management, is the author of *Fundamentals of Forecasting Using Excel* (Industrial Press, 2009).



**F. Y. Shih**, professor of computer science, is the author of *Image Processing and Mathematical Morphology: Fundamentals and Applications* (Taylor & Francis Group, CRC Press, 2009).

### Professional Activities



**Denis Blackmore**, professor of mathematical sciences, was appointed to the editorial board of *Differential Equations and Applications*.

**Robert S. Friedman**, associate professor of humanities, has been named associate editor of *ACM Transactions on Computing Education*.



**James Geller**, professor of computer science, chaired "The Semantic Web Meets the Deep Web" workshop held in conjunction with the 2008 IEEE Joint Conference on E-Commerce Technology and Enterprise Computing.



**Robert Miura**, distinguished professor of mathematical sciences, is chairman of the board of the NSF-funded Mathematical Biosciences Institute at The Ohio State University. He is also a member of the editorial board for the *Journal on Applied Mathematics*, published by the Society for Industrial and Applied Mathematics (SIAM) and SIAM's book editorial board.

**F. Y. Shih**, professor of computer science, was named associate editor, *Journal of Information Hiding and Multimedia Signal Processing*. He also joined the editorial boards of *The Open Nanoscience Journal* and the *Journal of Recent Patents on Computer Science*.

**Hindy Lauer Schachter**, professor of management, became book review editor of *Public Administration Review*, the premier journal in the public administration field.

**Georgen Theodore**, assistant professor of architecture and associate director of the Infrastructure Planning program, was selected as a juror of the 56th Annual Progressive Architecture (P/A) Awards sponsored by *Architect* magazine. She is also curator of the American Community portion of the 2009 International Architecture Biennale Rotterdam which will be exhibited at the Netherlands Architecture Institute September through January.

**Jason Wang**, professor of computer science and director of the university's Data and Knowledge Engineering Laboratory, has been appointed associate editor of *International Journal of Computational Bioscience* and an editorial board member of *International Journal of Bioinformatics Research and Applications*.