

ABSTRACTS

BLOOM NAMED NJIT PRESIDENT

“It is in the best interest of NJIT to appoint a president at the earliest possible date to provide stability and continuity to the important work of the university...educating New Jersey’s future science and technology leaders, responding to opportunities presented by the Governor for workforce and economic development, building NJIT’s national academic and research reputation, and proceeding with our ongoing significant fundraising initiatives...” – NJIT Trustee Kathleen Wielkopolski

The NJIT Board of Trustees voted unanimously on January 9 to appoint Joel S. Bloom president of the university, effective immediately. He has been appointed for an initial term ending June 30, 2014.

A highly regarded statewide and national educational professional, Bloom is most qualified to serve as president and has provided exceptional service as interim president following the September 28 resignation announcement of former president Robert A. Altenkirch.

Trustee Kathleen Wielkopolski, who thanked the Presidential Search Committee for its efforts and service, said, “It is in the best interest of NJIT to appoint a president at the earliest possible date to provide stability and continuity to the important work of the university; that is, educating New Jersey’s future science and technology leaders, responding to opportunities presented by the Governor for workforce and economic development, building NJIT’s national academic and research reputation, and proceeding with our ongoing significant fundraising initiatives, specifically, the \$150 million NJIT NEXT campaign.”

Bloom, who is NJIT vice president for academic and student services and founding dean of Albert Dorman Honors College, is ideally suited for this leadership role. With an NJIT career spanning 20 years, he is passionate about the university

and its students as their education in the sciences, engineering, technology, design and management transforms their future and that of their families.

Bloom’s impact on the university has been significant. Enrollment increased from 7600 to over 9500, including increases in female and minority students. The average SAT math score is now in the top quarter nationally. Dorman Honors College enrollment increased 70 percent, totaling 685 with combined average SAT scores over 1335 for fall 2011. There are articulation agreements with the state’s high-tech high schools and 19 county colleges, and accelerated joint admission agreements with UMDNJ Medical and Dental Schools, St. George’s Medical School, SUNY School of Optometry and Seton Hall Law School.

Bloom has integrally helped to shape the university’s academic plan. Further, Bloom is leading development of the Warren Street Village project that will include the residential Albert Dorman Honors College and new Greek housing planned in collaboration with fraternity and sorority alumni and current students. Previously, he led the successful effort



PHOTO: BUD GLICK PHOTOGRAPHY

to raise \$23 million for Dorman Honors College scholarships.

Bloom expanded the Center for Pre-College Programs to prepare students for the rigors of studying at NJIT. Working with college deans and faculty, he expanded honors courses and opportunities for undergraduate research, and established a faculty committee to advise undergraduates about graduate study and professional education in the health and life sciences. He increased retention and graduation rates, and planned residence halls that transformed a commuter campus into one where more than 50 percent of freshmen live on campus.

Bloom has served the Newark community through participating in the development of Science Park High School and initiating other programs with the Newark Public Schools, most recently with the new Central High School – yielding the largest

number of graduates to enroll as NJIT freshmen. His work with many education organizations includes serving as vice chair of the board for Community in Schools, a national dropout prevention program; as a trustee for NJEDGE, the New Jersey research and education network; and on the executive board of the NSF-funded Philadelphia Alliance for Minority Participation.

Before joining NJIT, Bloom served as an assistant commissioner for education under Governor Thomas Kean, responsible for statewide assessment, curriculum standards, math/science/technology education, and improving urban education through piloting the Effective Schools Research and Alternative Education programs.

Bloom holds baccalaureate and master’s degrees from Hunter College, City University of New York, and master’s and doctoral degrees from Teachers College, Columbia University. ■

Lanzerotti's research interests include space plasmas, geophysics, and engineering challenges related to the impact of atmospheric and space phenomena on space and terrestrial technologies.

LANZEROTTI AWARDED WILLIAM BOWIE MEDAL

Louis J. Lanzerotti, distinguished research professor in the Department of Physics, has been awarded the William Bowie Medal by the American Geophysical Union for "outstanding contributions to fundamental geophysics and for unselfish cooperation in research."

A member of the National Academy of Engineering, Lanzerotti is a retired Distinguished Member of Technical

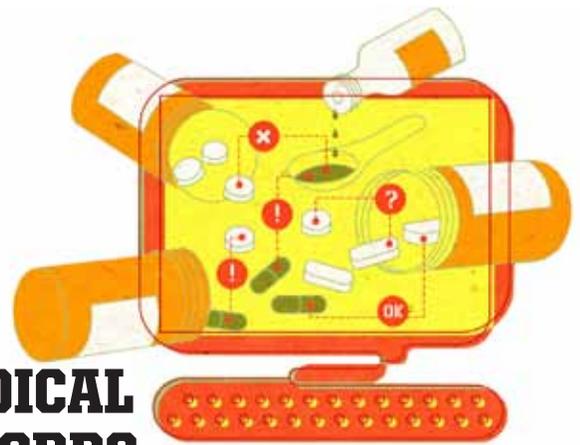
Staff at Lucent Technologies. His research interests include space plasmas, geophysics, and engineering challenges related to the impact of atmospheric and space phenomena on space and terrestrial technologies.

Lanzerotti has chaired a number of boards and committees for the National Research Council of the National Academies. These include the Space Studies Board, the Committee for the Assessment of Options for Extending the Life of the Hubble Space Telescope, and the Committee on the Safety and Security of Commercial Spent Nuclear Fuel Storage. In addition, he has been a principal researcher for NASA and commercial satellite missions. ■

<http://physics.njit.edu>



LANZEROTTI PHOTO: JOHN MICALE



MEDICAL RECORDS MILESTONES

A pioneering group of 25 New Jersey physicians was recognized and rewarded in September for taking an important transitional step from paper to electronic health records (EHRs) with the help of the New Jersey Health Information Technology Extension Center (NJ-HITEC). NJIT established NJ-HITEC in 2010 with a \$23 million grant from the U.S. Department of Health and Human Services to promote the use of EHRs to improve the quality, timeliness and cost-effectiveness of health care delivery.

The 25 physicians, who came to campus for an EHR milestone celebration and forum, have received monetary incentive awards from the federal government for achieving Stage 1 Meaningful Use in switching their practices to EHRs. More than 200 other attendees were updated on EHR implementation in New Jersey. Amit Tailor, MD and NJ-HITEC's Meaningful Use Manager, Bala Thirumalainambi, demonstrated the user-friendly process of verifying that all Stage 1 parameters have been met. A panel led by the CIO of the New Jersey Hospital Association, Joseph Carr, also discussed how hospitals are facilitating and encouraging the transition to EHRs.

To date, some 5,000 New Jersey primary care providers have signed up with NJ-HITEC, one of 62 national Regional Extension Centers, to become "meaningful users" of EHRs. This is well in advance of the federal milestone deadline of April 2012. ■

Amit Tailor, MD (center) with Donald H. Sebastian, NJIT Senior Vice President for Research and Development and Pamela Kathuria, deputy executive director of the New Jersey Health Information Technology Extension Center.



PHOTO: COURTESY OF NJ-HITEC

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Local college students presented innovative product concepts and business plans during the Newark Innovation Acceleration Challenge hosted by NJIT.

OUTSTANDING YOUNG ENTREPRENEURS

Many young men and women enrolled at NJIT dream of starting their own business. And the university has found innovative ways to help them become entrepreneurs while they are still students – among them undergraduates Kevin Ly and Asim Zaman.

NJIT's Innovation Acceleration Center recently hosted the Newark Innovation Acceleration Challenge, a competition during which local college students presented innovative concepts and business plans to executives from Challenge co-sponsor Capital One Bank and angel and venture capital investors. Six finalists representing the Rutgers Business School and the University of Medicine and Dentistry of New Jersey, as well as NJIT, vied for \$3000 fellowships that would help the winners to develop the concepts described. Ly and Zaman received two of the awards for their presentations.

Ly, a sophomore majoring in biology, was recognized for giving the best presentation, on a device that would allow diabetics to monitor their glucose levels painlessly using infrared light. An Albert Dorman honors scholar, Ly is honing his business acumen in the Interdisciplinary Design Studio (IDS), a four-year class that prepares teams of students to become entrepreneurs and start their own companies, which can be based at NJIT's Enterprise Development Center (EDC). This summer, Ly and his team intend to apply the \$3000 fellowship toward developing the glucose monitoring device at an EDC lab sponsored by Capital One.

Zaman, a Dorman honors scholar and sophomore civil engineering major, will also spend his summer doing research at the EDC. His presentation on a plan to develop fuel cells that convert household waste into electricity took second place in the competition. He and the members of his IDS team have a comprehensive plan to develop and market what they call an Organic to Electricity Coupled Cell System. ■



PHOTO: WINNIE YEUNG

NEW NANOPARTICLE PROJECT, EDITOR'S POST FOR SIRKAR

Distinguished Professor of Chemical Engineering Kamalesh K. Sirkar is leading a new project to develop advanced nanoparticle coating technology for the pharmaceutical industry with funding from the National Science Foundation. Goals include releasing drugs in a more sustained and controlled manner; improving bioavailability, or increasing the fraction of a drug dose that reaches systemic circulation unchanged; and improving patient compliance by reducing the number of doses that must be taken.

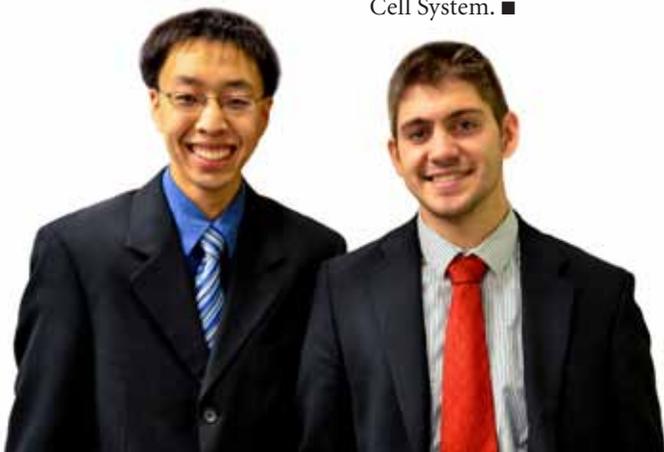
Additionally, the technology that Sirkar and his colleagues are working on will allow nano-sized drug particles to overcome mucus barriers and target

specific organs, and prevent macrophages, or immune cells, from attacking and eliminating the drug particles in the bloodstream. Bristol-Myers Squibb, the project's industrial partner, will help to test the coating technology and collaborate on production scale-up and commercialization.

Sirkar, who also heads the Membrane Science, Engineering and Technology Center at NJIT, was recently named editor-in-chief of the new journal *Current Opinion in Chemical Engineering*, published by Elsevier. The publication will seek to stimulate the exchange of ideas about chemical engineering advances through short and focused articles written by experts in the field. ■

<http://chemicaleng.njit.edu>

PHOTO: RICKY KHARAWALA



Kevin Ly (left) and Asim Zaman



CAMPUS GETS A STONE PHONE

Daniel A. Henderson – noted inventor, entrepreneur and sculptor – has donated his 11,000-pound interpretation of an iconic 1970s telephone to NJIT. Crafted from Carrera marble, *Sculptura* joins the *The Brick* by Henderson, a large marble and aluminum version of the first portable cellular phone on display in the lobby of Fenster Hall. An exhibition of Henderson’s work, “The Art of Invention,” was held at NJIT in 2011. ■



PHOTO: CHRISTINA CROVETTO

NJIT President Joel S. Bloom, Daniel A. Henderson and *Sculptura*.

See “At the Edge:” <http://magazine.njit.edu/2011/fall/index.php>

UNDERSTANDING BUBBLES – FINANCIAL, THAT IS

Deeper and more precise understanding of financial bubbles is the mission of a new research center based at NJIT’s School of Management. With funding from the Ridgefield Foundation, the Leir Center for Financial Bubble Research will investigate better detection of developing bubbles, the stages of growth, and practical strategies for managing their economic impact. Management Professor William Rapp, NJIT’s first Henry J. Leir Professor of International Trade and Business, directs the center with Assistant Professor Michael Ehrlich as associate director. ■

www.leirbubblecenter.org



Top: Homes and Color, St. Louis Square, Montreal

Above: Schloss Neuschwanstein, Bavarian Alps

WELL-TRAVELED WINNERS

Two award-winning travel photos taken by Glenn Goldman, director of NJIT’s School of Art+Design, will grace many walls in 2012. *Homes and Color* and *Schloss Neuschwanstein* won, respectively, Best Color Photo and Merit awards in the sixth annual juried competition sponsored by the West Jersey Chapter of the American Institute of Architects. Selected from among more than 200 entries, Goldman’s images and eleven other Best Photo winners are also individually featured on the cover and pages of months in a calendar published by AIA West Jersey. Merit winners appear in open date boxes throughout the calendar.

This year’s competition is a family affair for Goldman as well. Goldman’s son Jacob, a Spanish and economics major at Emory University, also won in both categories, for photos taken in Italy of the dome of St. Peter’s Basilica and the Florence landscape. ■

<http://design.njit.edu>

FLAMES – floating light-activated micro-electrical stimulators – could help people regain lost motor functions.

NEW LIGHT ON SPINAL CORD INJURIES

Unique light-controlled stimulator technology under development at NJIT has impressed the biomedical research community with its potential to help victims of spinal cord injuries regain some lost motor functions. Associate Professor Mesut Sahin, Department of Biomedical Engineering, is working on the implantable, sub-millimeter-sized semiconductor devices. The project is progressing with the support of a \$1.4 million grant from the National Institute of Neurological Disorders and Stroke of the National Institutes of Health.

Known by the acronym FLAMES – for floating light-

activated micro-electrical stimulators – the devices are implanted in the spinal cord and allowed to float in the tissue. They are remotely controlled by light from a low-power near-infrared laser via an optical fiber located just outside the spinal cord. When an injured person activates an implant with the external control unit, it stimulates spinal cord nerves below the point of injury, thus allowing the use of muscles that were once paralyzed.

In addition to the size of the implants, Sahin explains, a major plus is not relying on wires for control like other nerve-stimulation devices. This minimizes reaction with tissue and avoids the complications associated with the deterioration of wires over time. ■

<http://biomedical.njit.edu>



Assistant Professor Mesut Sahin

PHOTO: WINNIE YEUNG

END NOTES

HAIMOVICH NAMED TO YING WU CHAIR



Professor Alexander M. Haimovich, Department of Electrical and Computer Engineering, has been named to the new Ying Wu Endowed Chair in Wireless Communications. Haimovich recently served as director of the New Jersey Center for Wireless Telecommunications, a state-funded consortium that includes NJIT, Princeton, Rutgers and Stevens Institute of Technology.

The new chair is supported by a \$1.5 million gift from Ying Wu '88, a highly successful telecommunications innovator and entrepreneur.

ZHOU HONORED AS AAAS FELLOW



Professor Mengchu Zhou, Department of Electrical and Computer Engineering, has been named a Fellow of the American Association for the Advancement of Science. In announcing the honor, the AAAS cited Zhou's "distinguished contributions to the field of Petri nets, discrete event systems, and their applications to manufacturing, transportation, workflow, disassembly, Web services, and software design."

Professor Nirwan Ansari,

Department of Electrical and Computer Engineering, worked with European and Asian colleagues in the IEEE Communications Society (COMSOC) to take an important environmental step as organizers of September's "Online Conference on Green Communications." Dedicated to the challenges of energy-efficient communications, it was the first COMSOC conference conducted entirely online.

Professor Nancy Coppola,

founding director of the MS program in professional and technical communication, has been elected a Fellow by the Society for Technical Communication. Consideration for election requires previous induction as an Associate Fellow and a significant record of achievement in the field of technical communication.

Assistant Professor Gautham

Rao, director of the Law, Technology and Culture major in the Federated Department of History, has been appointed by the American Society for Legal History to chair the Kathryn T. Preyer Committee. The committee chooses annual winners of the Preyer Award recognizing

outstanding legal-history works by early career scholars, including graduate students and law students. A broader goal is to encourage the study of legal history in law schools and history departments.

Professor Yehoshua Perl,

Department of Computer Science, has been named a Fellow of the American College of Medical Informatics, an achievement that represents "recognition by peers of sustained and significant contributions to the field of biomedical informatics."

University Lecturer Roumiana S.

Petrova, Department of Chemistry and Environmental Science, was elected an ASM International Fellow for "excellence in teaching, dedicated promotion of materials science as a profession, and sustained research and commercialization of advanced boron diffusion coatings."

University Lecturer Rima Taher,

College of Architecture and Design, has been elected chair of the Structural Technical Group of the Northern New Jersey branch of the American Society of Civil Engineers.