

Fab Lab Adds Beauty to a Building Site

Richard Garber, assistant professor in New Jersey School of Architecture, won first place in a competition to design and build a visually pleasing yet utilitarian construction-site walkway at Manhattan’s MTA Fulton Street Transit Center. The largely plywood creation was conceived and prefabricated by Garber and students at NJIT’s Fab Lab — a contraction of Fabrication Laboratory — the university’s state-of-the-art facility for translating creative concepts into reality in a variety of media. The Lower Manhattan Cultural Council and the Alliance for

Downtown New York sponsored the contest. The council challenged creative thinkers to enhance the experience of pedestrians who must navigate dim and labyrinthine walkways in the vicinity of World Trade Center construction projects. ■

See “Imagination Made Tangible” in the winter 2006 NJIT Magazine at <http://magazine.njit.edu>.

New Jersey School of Architecture: <http://architecture.njit.edu>



Owen Fitzgerald (left), a construction engineering technology major, and Allyn C. Luke of NJIT’s Department of Civil and Environmental Engineering calibrate a GPS system in Milot, Haiti.

ENGINEERS WITHOUT BORDERS MAKE A DIFFERENCE IN HAITI

“With a little bit of effort, we can make a big difference,” says Jay Meegoda, professor of civil and environmental engineering and faculty advisor to the new NJIT chapter of Engineers Without Borders (NJIT-EWB). EWB is a non-profit humanitarian organization established to partner with developing communities worldwide to improve the quality of life. It was in this spirit that members of the NJIT chapter traveled to Haiti to assess the requirements for their inaugural project — designing a water filtration system for a family in the city of Milot. The team plans to help construct 100 such systems, and students will earn graduate or undergraduate credits while applying their knowledge and skills in raising living standards with critically needed facilities. ■

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HELPING THE SMITHSONIAN ACQUIRE COMMUNICATIONS HISTORY

Daniel A. Henderson, president of PhoneTel Communications, Inc. and a member of the Albert Dorman Honors College Board of Visitors, helped the Smithsonian Institution's National Museum of American History acquire two prototype devices and documentation related to pioneering wireless picturephone technology. Henderson holds six U.S. patents for innovations in the wireless field, and the new donation adds to a previous collection associated with wireless technology that he gave to the museum's Information Technology and Communications Division in 2003. This includes the Casio Z-7000 "Zoomer," immediate predecessor to the PalmPilot, and the Atari Portfolio, the first palmtop computer. ■

See Daniel Henderson's "Hard Copy" column "Living in the Wireless Neighborhood" in the fall 2003 NJIT Magazine at <http://magazine.njit.edu>.

A Gift to Manufacture the Future

A demonstration of leading-edge manufacturing technology was one of the highlights of a February open house showcasing NJIT's new Vincent A. Stabile Systems Engineering and Management Laboratories. The facility is a central resource for graduate students and faculty researchers participating in the Stabile Systems Engineering and Management Program — NCE's flagship master's program emphasizing the innovation, entrepreneurship and management skills essential in today's global economy.

Located in the Stabile wing of the university's Guttenberg Information Technologies Center, the lab complex includes ten experimental stations, the Festo System, which gives students "hands-on" training in solving practical problems using robotics for automated manufacturing.

Gifts totaling \$2 million from the Stabile Foundation created, and now support, the lab group, the graduate program, the Vincent A. Stabile Endowed Graduate Scholarships and the Stabile Memorial Lecture. The Stabile gifts, and a \$1 million matching contribution by NJIT, will support education and research in fields that offer the prospect of significant personal success for students, and which are vital for U.S. economic prosperity. Tailored for both full-time students and part-time working professionals, the program was launched in fall 2007 with 56

students on board for the MS in Engineering Management, the principal degree associated with the Stabile program. The Department of Industrial and Manufacturing Engineering administers the program.

Vincent Stabile, who passed away in 2002, was an outstanding engineer and entrepreneur. The manufacturing innovation that Stabile patented simplified the handling and application of retaining rings - industrial fasteners used in innumerable products from automobiles to household appliances. Stabile's hands-on involvement, his basic patent on the "Dispensing of Retaining Rings," and his innovative management were largely responsible for the rapid success of the business Stabile started in 1950, Industrial Retaining Ring Company.

Based in Irvington, the company contributed to New Jersey's prosperity for many years, creating jobs and generating economic growth. Vincent, together with his sister Antoinette, was a generous philanthropist dedicated to fostering talent in a wide range of fields, including education, medicine and the arts.

On the cover of this issue is Newark College of Engineering Dean Sunil Saigal in the new systems engineering and management labs. Also see the interview with Dean Saigal on page 10. ■

<http://industrial.njit.edu>

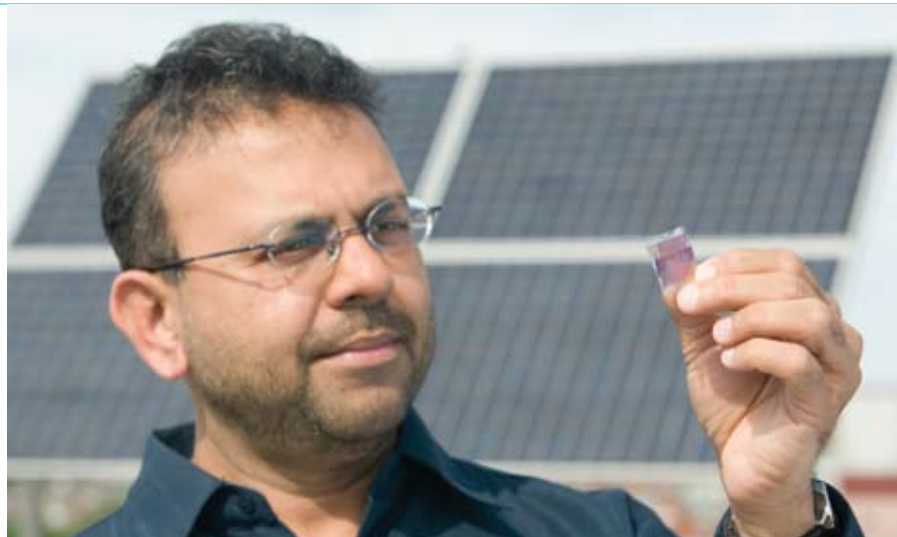


Part of the new laboratory and teaching facility dedicated to the late Vincent A. Stabile

SCHOLARLY EXCHANGE WITH JAPAN

The global economy is expanding geographic horizons in higher education as well as in commerce. NJIT's newest international engagement is an agreement launching a three-year exchange program between the School of Management and Ube National College of Technology (UNTC) in Ube City, Japan. As part of the exchange, Takao Ito, head professor of UNTC's business department, began a one-year sabbatical at NJIT in spring 2008. Ito is an expert on network organization, especially Toyota's management systems. ■

<http://management.njit.edu>



Professor Somenath Mitra holding the material for a "printable" solar cell



Printing Power from the Sun

NJIT RESEARCHERS HAVE TAKEN MAJOR STEPS TOWARD INEXPENSIVE SOLAR-POWER CELLS THAT CAN BE PRINTED ON FLEXIBLE PLASTIC SHEETS, AND WHICH ONE DAY MIGHT EVEN BE PAINTED ONTO A BUILDING'S WALLS OR ROOF.

In 2007, the science of this advance was detailed in "Fullerene single wall carbon nanotube complex for polymer bulk heterojunction photovoltaic cells," a cover story of the *Journal of Materials Chemistry* published by the Royal Society of Chemistry. The society, based at Oxford University, is the British equivalent of the American Chemical Society. The article was co-authored by NJIT Professor Somenath Mitra, leader of the university's pioneering solar-power team and acting chair of the Department of Chemistry and Environmental Science.

Purified silicon, also used for making computer chips, is a core material for fabricating conventional solar cells, seen in

the background of the accompanying photo. The less costly and simpler solar-cell technology developed at NJIT employs carbon nanotubes and carbon "Buckyballs" (fullerenes) to produce an electric current from solar radiation.

"Someday, I hope to see this process become an inexpensive energy alternative for households around the world," says Mitra. "Or imagine driving in a hybrid car with a solar panel painted on the roof, which produces electricity for the engine. The opportunities are endless." ■

<http://chemistry.njit.edu>

IN THE TOP 50

Student comments on the RateMyProfessor website placed Soha Abdeljaber — NJIT university lecturer in math and '01 alum — at number 45 among the 50 highest-rated college teachers in the nation for 2007. RateMyProfessor is the most popular site of this type in the country, with a recent tally of some 7.5 million faculty ratings for schools nationwide. Abdeljaber, who has taught pre-calculus and calculus, has also been honored by NJIT with an excellence in teaching award. ■ <http://math.njit.edu>



Biomedical Breakthrough Garneres R&D Council Award

Recently patented technology to speed identification of afflictions ranging from cancer to bird flu has earned NJIT Professor Timothy Chang a Thomas Alva Edison Award from the Research and Development Council of New Jersey. Chang, a member of the Electrical and Computer Engineering Department, shared the honor with co-innovator Peter Toliás, executive director of the Institute of Genomic Medicine at UMDNJ-New Jersey Medical School. The technology offers small and medium-sized facilities a precise and economical way to test minute amounts

of fluid, a capability especially important for quick detection of dangerous diseases in parts of the world where labs with more costly equipment may not be available. Central to the patent “Delivery of Metered Amounts of Liquid Materials” is Chang’s innovative SmartPin system, which facilitates dispensing and analyzing droplets less than 60 microns in size — about half the thickness of a typical human hair. ■ <http://ece.njit.edu>



CYBER-PIONEERS HONORED

Long-time NJIT professors Starr Roxanne Hiltz and Murray Turoff were lauded in a traditional European manner — with a celebratory “festschrift” — for achievements that include their prescient 1978 book *The Network Nation*, which envisioned the communications revolution made possible by the personal computer. At the October campus event, colleagues worldwide attested to the influence of the two cyber-pioneers’ work on their own, either in person or electronically via text and video messages. Although Hiltz and Turoff did not invent e-mail, they developed the first groupware systems, and a platform for evaluating applications now commonplace, such as group communications for emergency management, planning and forecasting, online learning, project management, decision support and more. Officially retired, they plan to remain active researchers, working with doctoral students. ■ <http://ccs.njit.edu>

DEROGATIS CITED AS OUTSTANDING STUDENT-ATHLETE

Austin DeRogatis, NJIT graduate and four-year member of the Highlanders baseball team, was honored by the Collegiate Athletic Administrators of New Jersey as the male 2007 Student-Athlete of the Year from among the state's NCAA Division I, Division II and NAIA athletic programs. DeRogatis, who majored in civil engineering, was enrolled in Albert Dorman Honors College, graduating with a cumulative GPA of 3.915. He was a four-year regular, three-year starter and senior captain of the team, playing in 132 career games (101 starts) and posting a .268 career batting average on 91 hits in 339 at-bats. He finished with nine doubles, 11 home runs and 62 RBI's. As a senior in 2007, he was tri-captain of the first NJIT team to compete at the Division I level. ■



Sabrina Baby

DIVISION I VOLLEYBALL HONORS

Academic performance as well as athletic ability won women's volleyball players Sabrina Baby, Katrina Hornstein and Danielle Thompson berths on the national NCAA Division I Independent All-Academic Team for 2007. In order to be eligible for the honor, the student-athletes needed a cumulative GPA of at least 3.20, at least sophomore athletic standing and play as a starter or important reserve. Baby, a sophomore from Florianopolis in Brazil, and Thompson, a graduate of Ward Melville High School in New York, are both business majors. Hornstein, a graduate of Marshall School in Minnesota, is a mechanical engineering major.

Baby led the Highlander defense with 694 digs and 62 service aces, ranking first in Division I Independent Volleyball statistics in

both categories. She recorded double-figure totals in every game but one while posting a Highlander Division I record for 42 digs against Sacred Heart on October 31, surpassing her own record of 41 set in September. Baby was also honored on October 2 and 16 as Defensive Player of the Week.

Hornstein is a strong all-around player who recorded 16 double-doubles this year, posting a season-high 18 kills on two occasions and 26 digs against Harvard on September 22. She ranked second on the team with 299 kills and tied for third in service aces (34).

Thompson, a junior, ranked second on the team with 443 assists and fifth in service aces (24). She reached double-figure totals in 22 out of 27 games for the year. ■

IRONBOUND EXPRESS SOCCER ARRIVES AT NJIT

The Newark Ironbound Express soccer team, one of 63 teams that comprise the United Soccer Leagues Premier Development League, will play their home games on NJIT's Lubetkin Field beginning in May 2008. Ironbound Express President Joseph Branco '74, an NJIT soccer alumnus, made the announcement at a university press conference in early February. Branco is also a member of the NJIT Highlander Athletic Advisory Board. The Ironbound Express provides the best U.S. and Canadian players ages 19-23 with the opportunity to perform in a professional setting during the summer months while maintaining their college eligibility. "We are hoping to attract the best players in New Jersey to play with us over the summer and give them the opportunity to go to Europe and South America," said Branco. ■



Get in the Game with The Highlanders Athletics Campaign

The Highlanders Athletics Campaign, now in its broader public phase, has already scored big among contributors — with \$3.96 million raised toward its \$5 million goal by the end of February. The campaign's overall objective is to build a solid foundation for future excellence in athletics at NJIT.

"We launched the campaign to raise funds essential for upgrading athletic facilities and increasing the scholarships available to outstanding student-athletes," says Charles R. Dees, Jr., president of the NJIT Foundation and vice president for university advancement. "We want to dedicate \$3 million to upgrading facilities, \$1.5 million for scholarships and \$500,000 for program support. Among the campaign's giving options in each of these areas, there are still opportunities for commemorative and honorary naming gifts."

Upgrading NJIT's athletics program to match its academic stature has been a priority for NJIT President Robert A. Altenkirch since his arrival on campus in 2002. "Fostering academic success is of primary importance at NJIT with respect to all students," says Altenkirch. "However, our young women and men are also encouraged to participate in activities outside the classroom to enrich their college experience. Many of them choose to don a Highlanders uniform and pursue the same excellence in athletics."

For more information about participating in the Highlanders Athletics Campaign, contact Darlene Lamourt, campaign director at (973) 596-3403 or darlene.lamourt@njit.edu. Also, visit www.njit.edu/athleticscampaign. ■

THREE MAKE ALL-ATLANTIC SOCCER CONFERENCE

Erik Magnusson, Gustav Warfving and captain Scott Rietze were named to the All-Atlantic Soccer Conference (ASC) team for 2007. Magnusson, a sophomore midfielder, won First-Team recognition while Warfving and Rietze were selected for Second-Team honors.

Magnusson started 15 of the team's 17 games. He scored a team-leading six goals and picked up two assists combining for 14 points. Erik leads the team in shots (26) and shots on goal (18). He was selected ASC Player of the Week on three different occasions and was named Offensive Most Valuable Player of the Soccer Post/Aztec Classic men's soccer tournament, where he scored two goals over

nationally ranked San Diego State.

Warfving, playing with a year of college soccer under his belt, ranked second on the team with two goals and two assists totaling six points. His 21 shots and 14 shots on goal rank him under teammate Magnusson.

Rietze, a strong defender whose leadership was recognized on the field, played and started 17 games in the back for the Highlanders. Scott was named to the All-ASC Second Team in 2006. ■

Get the latest news about all NJIT sports at www.njithighlanders.com.



Erik Magnusson