



Roger Stoutenburgh 02541007

Ben-Zvi Wins IEEE NPSS Merit Award

BNL Senior Physicist Ilan Ben-Zvi has won the 2008 IEEE Nuclear & Plasma Sciences Society (NPSS) Merit Award. IEEE originally represented electrical and electronics engineers, but it has expanded its scope and today is the world's leading professional association for the advancement of technology. Ben-Zvi will receive his award, which consists of \$2,000, a plaque, and a certificate, at an IEEE/NPSS meeting of his choice.

Ben-Zvi's award citation states: "For outstanding contributions to the fields of high energy physics accelerators and free electron lasers (FELs)." FELs are used to study a wide variety of materials and chemical reactions.

As Director of BNL's Accelerator Test Facility (ATF) 1992-2007, Ben-Zvi saw to its development as the premiere advanced accelerator physics facility in the world. Commissioned in 1992, the ATF is a small linear accelerator, which operates in conjunction with a high-powered, short-pulse laser to produce an electron beam. Physicists from around the world use the facility to study new concepts in accelerator physics. Working at the ATF, Ben-Zvi invented devices for improving the operation of accelerators for physics research and for FELs.

After earning a Ph.D. in physics from the Weizmann Institute of Science, Israel, in 1970, Ben-Zvi went to Stanford University, where he helped develop the earliest stages of superconducting linear accelerators. In 1975, he returned to Weizmann, where he founded a cryogenic technology laboratory. From 1980-1982, Ben-Zvi was a visiting associate professor of physics at Stony Brook University, where he helped to establish an accelerator at the school, and he invented and developed accelerator systems now used throughout the world.

Ben-Zvi joined BNL in 1988 and is currently the associate chair for superconducting accelerator R&D at BNL as well as an adjunct professor of physics at Stony Brook University.

A Fellow of the American Association for the Advancement of Science and the American Physical Society, Ben-Zvi is also a senior member of IEEE and
See Ben-Zvi on page 2

LIPA Commissions New Superconducting Cable System, Involves Present and Past Brookhaven Lab Research



At LIPA's Holbrook substation last November are: (from left) Tom Welsh, Keyspan (now National Grid); Tom Muller, BNL; Rich Thomas, BNL retired; Dan Kimlicka, LIPA; Eric Forsyth, BNL retired; and Bill Horak, BNL.



At BNL are superconducting cable researchers: (from left) Vyacheslav Solovyov, Department of Condensed Matter Physics & Materials Science (CMPMS), Tom Muller, Physics Department; and Masaki Suenaga, CMPMS.

BNL Staffers Attend LIPA Commissioning Ceremony For New Superconductor Power Transmission Cable System Early Lab Technology Enabled System Development

Current and former members of BNL joined officials of the Long Island Power Authority (LIPA) and American Superconductor Inc. on June 25 at the commissioning ceremony for the world's first high-temperature superconductor (HTS) power transmission cable system. The innovative 138 kilovolt (kV) system is capable of carrying 574 megawatts of power in a right-of-way of only four feet and is an important addition to Long Island's power supply.

Tom Muller, Ramesh Gupta, and Mike Harrison of BNL's Physics Department, Vyacheslav Solovyov of the Department of Condensed Matter Physics & Materials Science, and Masaki Suenaga, a retiree still active with this department, were among those who visited the site of the first such demonstration project to be integrated into an existing power grid. BNL research led to the technology's being demonstrated by the new cable system.

The system, which consists of three individual HTS power cable phases running in parallel, was energized on April 22, and is operating successfully in LIPA's Holbrook right-of-way. The cable system contains hair-thin, ribbon-shaped HTS wires that conduct 150 times the electricity of similar-sized copper wires. The present cables employed the so-called first generation HTS conductor composite wires, made of a bismuth-calcium-copper-oxygen/silver ($\text{Bi}_2\text{Ca}_2\text{Cu}_3\text{O}_8/\text{Ag}$) compound. This power density advantage enables transmission-voltage HTS cable to utilize far less wire and yet conduct up to five times more power in a smaller right of way than traditional copper-based cable.

DOE previously funded \$27.5 million of the \$58.5 million total project cost, which

advances DOE's ongoing efforts through the Office of Electricity Delivery & Energy Reliability to modernize the nation's electric delivery infrastructure. At BNL now, Solovyov continues to research second generation HTS wires, made of yttrium, barium, copper and oxygen, ($\text{YBa}_2\text{Cu}_3\text{O}_7$), under a Cooperative Research & Development Agreement (CRADA) between American Superconductor and DOE. This effort pursues enhanced properties and lower cost for the wires. (See CRADA sidebar, right)

Last November, Muller was part of another BNL group that made a journey to the LIPA substation at Holbrook. It was a trip he and others had been anticipating for more than 20 years. Along with Energy Sciences & Technology Department Chair Bill Horak and retirees Eric Forsyth and Rich Thomas, Muller inspected the system whose development they had fostered at the Lab in the 1970s and '80s.

A 100-meter BNL demonstration cable, installed near the site of the current Science Learning Center, was based on low-temperature superconductors, made of niobium-tin (Nb_3Sn) and cooled with liquid helium. Although successful, the BNL project terminated in 1986 after four years of intensive testing, the same year the discovery of superconductors that could operate at temperatures above 77 Kelvins opened up the possibility of designing superconducting devices cooled with liquid nitrogen instead of helium. Superconducting cables conduct electricity with virtually no electrical losses, meaning that more of the power generated at power plants gets to customers. Conventional power grids typically lose 7 to 10 percent of power due
See LIPA Ceremony on page 2

DOE/American Superconductor, Inc. CRADA Will Produce Second Generation Wire

The new LIPA transmission system uses the first generation ($\text{Bi}_2\text{Ca}_2\text{Cu}_3\text{O}_8/\text{Ag}$ composite) of the high-temperature superconductor (HTS) wire technology first studied at BNL. Vyacheslav Solovyov of the Department of Condensed Matter Physics & Materials Science is working on the technology's second generation ($\text{YBa}_2\text{Cu}_3\text{O}_7/\text{Cu}$ composite). Under a Cooperative Research & Development Agreement (CRADA) between DOE and American Superconductor Inc., Solovyov is studying the factors necessary for wider commercialization of HTS based on yttrium barium copper oxide (YBCO)-coated conductor technology for electric power applications.

Both BNL and American Superconductor are studying the growth of $\text{YBa}_2\text{Cu}_3\text{O}_7$ films on a cerium oxide (CeO_2) buffer layer, and studies have shown that the properties of a CeO_2 buffer layer are critical to the superconducting performance of those films. The CRADA focuses on developing a fundamental understanding of the relationship between the surface morphology and chemistry of the buffer layer and the nuclei density of $\text{YBa}_2\text{Cu}_3\text{O}_7$ in the thick and thin films.

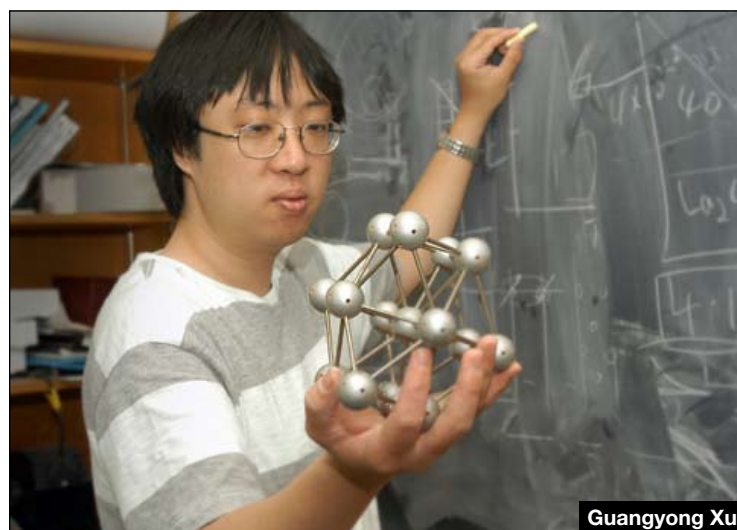
"We're trying to understand the properties of the wire and how to improve it," Solovyov said. "The current technology can run at high temperature — about 77 Kelvins — reducing the operational cost, but the cost of the wire is still too high for widespread applications. The demonstration project is an important milestone, but we will make it better and cheaper." — Kay Cordtz

438th Brookhaven Lecture: Xu on Polar Nanoregions, Relaxors

If you think that this lecture will be about the shrinking Arctic habitat of polar bears, or humans lounging in deck chairs, think again!

But the talk will certainly be about explorations of nature coupled with certain modern conveniences — finding out why materials known as relaxors have an enormous electromechanical response and therefore are so suited to modern applications such as ultrasonic sensors in medical imaging, actuators, transducers — even controlling ink flow in a printer.

To learn about this forefront research, which is reported in the July 1, 2008, issue of *Nature Materials*, join lead author Guangyong Xu of the Condensed Matter Physics and Materials Science Department as he gives the 438th Brookhaven Lecture, on "Polar Nanoregions and Relaxors: How Nanoscale Disorder Leads



Guangyong Xu

Joseph Rubino 00010708

to Enormous Electromechanical Response," on Wednesday, July 16, at 4 p.m. in Berkner Hall. All are welcome to this free event, open to the public. Refreshments will be served before and after the talk. Visitors to the Lab of 16 and over must carry a photo ID.

As Xu will explain, relaxors is the "relaxed" name given to a special class of materials, relaxor ferroelectrics. He will describe a series of experiments done by BNL researchers with collaborators from Stony Brook University, Johns Hopkins University, and the

National Institute of Standards and Technology, to discover why relaxors have such an exceptional electromechanical response. As he will show, the explanation is dependent on "polar nanoregions" — tiny, nanometer-scale regions within the relaxors. The team established a link between polar nanoregions and the relaxors' ability to deform in response to an electric field, or to have a pulse of electric current induced by a deforming physical force. This understanding promises to lead to more improvements to relaxor materials for an even greater variety of applications.

Guangyong Xu, who earned his Ph.D. in physics from The Johns Hopkins University in 1999, joined BNL in May 2002. To accompany Xu for lunch at an off-site restaurant the next day, July 17, contact Eileen Levine, Ext. 3995. — Karen McNulty Walsh and Liz Seubert

CALENDAR

OF LABORATORY EVENTS

- The BERA Store in Berkner Hall is open weekdays from 9 a.m. to 3 p.m. For more information on BERA events, contact Andrea Dehler, Ext. 3347, or Christine Carter, Ext. 2873.
- Additional information for Hospitality Committee events may be found at the Lollipop House and the laundry in the apartment area.
- The Recreation Building #317 (Rec. Hall) is located in the apartment area.
- Contact names are provided for most events for more information.
- Events flagged with an asterisk (*) have an accompanying story in this week's Bulletin.

— EACH WEEK —

Weekdays: Free English for Speakers Of Other Languages Classes

Beginner, Intermediate, Advanced classes, various times. All are welcome. Learn English, make friends. See www.bnl.gov/esol/schedule.html for schedule. Jen Lynch, Ext. 4894

Mondays: BNL Social & Cultural Club
Noon-1 p.m., Brookhaven Center, South Room, free beginners dance lessons. Rudy Alforque, Ext. 4733, alforque@bnl.gov

Mondays & Wednesdays: Pilates
To be resumed in September

Mondays & Thursdays: Kickboxing
\$5 per class. Noon-1 p.m. in the gym. Registration is required. Ext. 8481

Mon., Thurs., & Fri.: Tai Chi
Noon-1 p.m., B'haven Cntr N. Rm. Adam Rusek, Ext. 5830, rusek@bnl.gov

Tuesdays: Hospitality Coffee
To be resumed in September

Tuesdays: BNL Music Club
Noon, B'haven Center, N. Room. Come hear live music. Joe Vignola, Ext. 3846

Tuesdays: Knitting Class
2-4 p.m. Berkner Hall lobby. All levels of skill. Ext. 5090 for information.

Tuesdays: Jiu Jitsu
6:30-7:30 p.m. Gym. All ages, 6 yrs. to adult. First-time students get first class free. \$10/class, pay as you go. Tom Baldwin, Bldg. 452, Ext. 4556

Tuesdays: Toastmasters
1st & 3rd Tuesday of month, 5:30 p.m., Bldg. 463, Rm 160. Guests, visitors welcome. www.bnl.gov/bera/activities/toastmstrs/

Tue., Wed. & Thu: Rec Hall Activities
5:30-9:30 p.m. General activities, TV, ping pong, chess, games, socializing. Christine Carter, Ext. 5090

Tue., Thurs. & Fri.: Ving Tsun Kung Fu
Noon-1 p.m., B'haven Center, North Room. Taught by Master William Moy. Scott Bradley, Ext. 5745, bradley@bnl.gov

Tuesday & Thursday: Aerobic Fitness
To be resumed in September

Tuesday & Thursday: Aqua Aerobics
To be resumed in September

Wednesdays: On-Site Play Group
10 a.m.-noon. Rec. Hall. Infant/toddler drop-in event. Parents meet while children play. Petra Adams, 821-9238

Wednesdays: Ballroom Dance Class
B'haven Center, N. Ballroom. Instructor: Giny Rae. Starts September 12 and 19. Ext. 3845

Wednesdays: Weight Watchers
Noon-1 p.m. Michael Thorn, Ext. 8612

Wednesdays: Yoga
Noon-1 p.m., B'haven Center. Free. Ila Campbell, Ext. 2206, ila@bnl.gov

Wednesdays: LabVIEW
1:30-3 p.m., Bldg. 515, 2nd fl. Seminar Rm. Free technical assistance from LabVIEW consultants. Ext. 5304

Thursdays: BNL Cycletrons Club
Noon-1 p.m., First Thurs. of month. Berkner, Rm. D. Toni Hoffman, Ext. 5257

Thursdays: Reiki Healing Class
Noon-1 p.m., Call for location. Nicole Bernholc, Ext. 2027

Fridays: Family Swim Night
5-8 p.m. BNL Pool. \$5 per family

Fridays: Family Gym Night
5-8 p.m. Family gym activities. Free

Fridays: BNL Social & Cultural Club
Noon-1 p.m., B'haven Center, S. Room, free beginners dance lessons. 7-11:30 p.m. N. Ballroom, Dance Social, workshops. Rudy Alforque, Ext. 4733, alforque@bnl.gov

CIGNA Representative

A CIGNA Healthcare representative is available as needed in Human Resources, Bldg. 400, or by phone to assist with claims issues you have been unable to resolve yourself through CIGNA's Customer Service number (1-800-CIGNA24). Mary Beth Kivlen will be available by appointment only. You will need to provide all pertinent documentation. To schedule, call the Benefits Office, Ext. 5126.

BNL Celebrates as 36 Supervisors Complete Supervision Awards



Joseph Rubino D0820508

This year, 36 BNL supervisors completed the supervisor-certificate program and were honored at ceremony held on May 14.

"What's special and telling about this group is that this is a voluntary program in which each of you chose to participate — even knowing that there was a significant commitment," said Lab Director Sam Aronson. Aronson congratulated the participants and offered his appreciation and encourage-

Gathered are many of the supervisors who completed the Supervisor Certificate this year, who are: John Aloï, Anthony Arno, Steven Bellavia, Martha Bryant, Patricia Carr, Linda Cavaliere, Todd Corsa, William Dorsch, Jack Ellerkamp, Joshua Federmann, Andrew Ferguson, Nicholas Franco, Joann Giambalvo, John Gottlieb, Richard Jones, Robyn Koebel, Kathryn Lancaster, Cathleen Lavelle, Dewey Lederle, Robert Lee, Nancy Losinno, Christine Madonia, Yousef Makdisi, Michael Mapes, Alexa McGill, Susan McKeon, Vincent Racaniello, Marcel Rosenfeld, Thomas Schlagel, Ralph Schoenfeld, Ernest Simon, Lisa Soto, Michael Stangel, Ernest Tucker, Joseph Tuozzolo, and Richard Wagener.

ment for the future challenges that each supervisor will face in their leadership roles. He also congratulated managers for having such motivated supervisors, who are now bet-

ter equipped to be more effective leaders.

The supervisor-certificate program was implemented so that new and experienced supervisors could improve their

communication, delegation, and performance management skills. Currently, about 25 percent of the Lab's managers and supervisors have completed or are enrolled in this program. For more information about the program and to find other resources for supervisors, visit the Supervisory and Management Development site at www.bnl.gov/HR/staffdev/Supervisory-Site.asp or contact Starr Munson, Ext. 7631, munson@bnl.gov.

Office Management: SCCC Course Offered on Site

Suffolk County Community College (SCCC) will offer the following course on site for the fall 2008 semester that will satisfy requirements for most SCCC degrees as a business or unrestricted elective. A minimum of 15 students is needed to offer the course.

BA52 – Office Management – 3 credits

Introduces scope and responsibilities of administrative office management. Topics include planning, organizing, operating and controlling operations; leadership and human relations factors; and an overview of the effect office technology has had on the business world including telecommunications, reprographics, office systems, records management, data processing, word processing and voice processing.

Employees who take college courses may apply for tuition assistance. BNL offers tuition advances or reimbursements at 75 percent for undergraduate courses. For more information, contact Starr Munson, munson@bnl.gov or Ext. 7631.

DEADLINE APPROACHING

New Grants for Nonprofits To Promote Science, Math, More

Nonprofit, community organizations in Suffolk County now have until July 31 to apply for BNL's new BreakThru Mini-Grants. Local organizations that apply may receive up to \$5,000 to fund a new or existing program intended to increase interest and strengthen skills in science, technology, engineering, and math among 10- to 15-year-old females, African Americans, Hispanics/Latinos(as), and/or Native Americans.

"BNL is thrilled to offer financial support to nonprofits that can expose students to science, technology, engineering, and math in fun and engaging ways," said Jeanne D'Ascoli, manager of

the Community Relations Office at BNL. "It is expected that the U.S. demand for scientists and engineers will increase at four times the rate of all other occupations during the next decade. These new grants were designed to help local organizations stir up interest in these subjects among Suffolk County students while working to develop a qualified, diverse workforce."

BreakThru Mini Grants, are funded by Brookhaven Science Associates, which manages BNL, and administered by the Lab's Community Relations Office. The awards were created to stimulate organizations that can inspire a new generation growing up in

an increasingly scientific and technological world. A total of \$25,000 in grants will be awarded in allotments of up to \$5,000.

The deadline for BreakThru Mini-Grant applications has been extended to July 31 for programs operating between September 1, 2008, and August 31, 2009. Applicants are encouraged to apply online at www.bnl.gov/community/breakthru. All awardees will be notified in August 2008. For detailed information on BreakThru Mini-Grants including eligibility, criteria, and more, go to www.bnl.gov/community/breakthru or contact Jeanne D'Ascoli (631) 344-2277 or dascoli@bnl.gov.

LIPA Ceremony from page 1

to the inherent electrical resistance experienced with copper wires.

The Holbrook cable allowed LIPA to gain operating experience and train workers in the new technology. The existing overhead line was left in place with the superconducting cables connected in parallel; however, switches now allow the overhead lines to be disconnected, enabling the cables to carry the full load of about 500 megawatts. LIPA engineers are hoping the experience gained will lead to the installation of a circuit several miles long at the western end of Long Island where congestion will not permit more overhead lines.

Forsyth, who headed the engineers on the BNL project and, in 2007, was awarded the Herman Halperin Transmission & Distribution Prize by the Institute of Electrical & Electronic Engineers for his pioneering work on the technology, commented, "The Brookhaven demonstration more than two decades ago established the feasibility of this technology. The advent of high-temperature superconductors has simplified the engineering to some extent but the development of these materials to carry sufficient current for this kind of installation has been slow, which probably accounts for our 20-year wait."

"We were all impressed by the high quality of the work at Holbrook," continued Forsyth.



Roger Stoulenburgh D0291107

The group inspects the pipes containing the HTS cables, capable of carrying 574 megawatts of power in a four-foot right of way.

"We wish LIPA every success in this pioneering effort by a commercial company." — Kay Cordtz

New, Web-based Obituary Page Starts
Will provide a supplement to the 'In Memoriam'
column in The Bulletin

A new "Obituary Page" website has been created, to which family, friends and colleagues may send their memories of life experiences, contributions, and achievements of BNL retirees or employees who have died. A photo can also be attached. These obituaries will supplement the "In Memoriam" announcement of a death in the printed Bulletin. The Obituary Page website will be available on the public BNL homepage as well as on the intranet homepage, so that retirees may view it from off site.

The new Obituary Page is available at <http://www.bnl.gov/bnlweb/pubaf/bulletin/obit.asp>. The obituary may recall a retiree who died either long ago or recently, and more than one article may be added for each person. All information about the individuals featured will be supplied by readers. Entries will be edited for suitability, but BNL and its staff will assume no responsibility for the accuracy of the information. To enter an obituary, e-mail the article and photo to bulletin@bnl.gov, with "Obituary" in the subject head. If you are unfamiliar with e-mail and need assistance, contact Liz Seubert, Bldg. 400C, Ext. 2346; she will be happy to help you.

In the printed version of The Bulletin, "In Memoriam" announcements will be made as usual about the passing of current employees and guest researchers, with brief notices for most retirees and some longer articles for retirees who made notable scientific contributions.

Says Seubert, Bulletin Editor, "We look forward to receiving stories or letters about Lab community members that illustrate a loved and respected person's involvement with science, the Lab, and the neighborhood. These glimpses may recall scientific research or personal contributions that everyone values. Already we have entries made on behalf of Stanton Cohn and Frank Magnani, who both retired many years ago, but who will be remembered more clearly through the articles posted on the new obituary page."

In Memoriam

Joseph Sheehan, Jr., who arrived at the Accelerator Development Department on December 1, 1964, to become a development engineer II, died on March 26, 2008, at the age of 76. He moved to the National Synchrotron Light Source Department in 1982, retiring as an electrical engineer on November 30, 2001.

Stanton Cohn, who joined the Medical Department as a scientist on March 10, 1958, died at the age of 87 on April 28, 2008. He was granted tenure in 1967 and, after retiring as a senior scientist on April 30, 1986, he worked on as a research collaborator until September 30, 1994.

Margaret Dienes, who became an associate editor in the Information Services Division on April 23, 1956, and retired as Editor on December 31, 1986, died on May 12, 2008. She was 89.

Richard Richard, who joined the Plant Engineering Division as a laborer on November 23, 1964, died on May 23, 2008, at age 68. He became a firefighter A trainee in 1979 and retired as a Safety & Health Services Division firefighter/EMT on July 21, 2000.

Nicholas Thomas, who came to the Accelerator Development Department as a senior drafting specialist on August 26, 1991, and retired from the Relativistic Heavy Ion Collider Project as a design engineer on June 20, 1997, died at 76 on May 23, 2008. He held guest contract appointments during two years before joining and for six months after leaving the Lab.

John Te Nyenhuis, who, after four months as a BNL contract laborer in 1988, became a technical specialist in the Department of Nuclear Energy on June 20, 1988, and left the Lab on June 30, 1997, died on June 2, 2008. He was 81.

George Radlhammer, who joined the Physics Department on April 2, 1962, as an intermediate technician, and retired as a principal technician from the Alternating Gradient Synchrotron Department on September 25, 1981, died at 90 on June 13, 2008.

Concert: Rock Band Argent Fantasy, 8/1

Argent Fantasy, a Long Island-based rock band, will perform in concert on Friday, August 1, at 7 p.m. in the Brookhaven Center. Sponsored by the BNL Music Club, the concert is open to the public. All visitors to the Lab age 16 and over must bring a photo I.D.

Argent Fantasy opens up the Long Island music scene with a cross-section of popular sounds from the 1960s to 1980s, including hits by Jefferson Airplane and the Zombies, classic tunes by the Beatles, the Rolling Stones, the Doors, and more. On the pop side, the list includes hits by bands such as the Turtles and Badfinger, as well as the grassroots sounds of the Doobie Brothers, Robert Palmer, and the Eagles.

Six seasoned musicians make up the band — Marty Houlroyd on bass; Bill Blais on keyboard and male lead vocals; Angie Billings, female lead vocals; Larry Weiss on percussion and vocals; and John Yaeger and Dominic Cuoccio on rhythm guitar. The band members share a common passion to perform the music they consider to be an important element of their generation, and to them, the music from the 1960s, 1970s and 1980s seems ageless.

Tickets are \$10; buy them at the BERA Store or at the door. For more information call 631 344-5139, or go to: www.argentfantasy.com.

— Jane Koropsak

BERA Hispanic Heritage Club
Awards Five 2008 Scholarships



With Lab Director Sam Aronson (right) are: (from left) Donnie Mason, Andrew Castro, Carmen Narvaez, Jessica Cruz, Alejandro Sonzogni, Javier Alonso Rivera, Reynaldo Alvarez, Yvette Malavet-Blum, Carmen Alvarado.

On May 16, BERA's Hispanic Heritage Club (HHC) awarded five academic scholarships to Javier Alonso Rivera, Reynaldo Alvarez, Andrew Castro, Jessica Cruz and Donnie Mason. The \$500-dollar scholarships are offered to college-bound high-school seniors from the local area, who are interested in pursuing a degree in science or engineering.

The award ceremony was attended by BNL Director Sam Aronson, Human Resources & Occupational Medicine Division Director Bill Hempfling, the Diversity Office's Rosa Palmore, representatives from BERA and affiliated clubs, members of the HHC, BNL employees, and the scholarship recipients and their families.

Rivera, who is from Mastic and attends William Floyd High School, has been accepted by St. Joseph's College and plans to major in biology. Alvarez, from Bellport, attends Bellport High School and has been accepted by Polytechnic University to major in electrical engineering. Cas-

tro is from Aquebogue, attends Riverhead High School and has been accepted by Western Connecticut State University. He is planning to major in meteorology. Cruz is from Shirley, attends Longwood High School and has been accepted by Marist College planning to major in Special Education. Mason is from Mastic, attends William Floyd High School, and has been accepted by New York University. He plans to major in Computer Science.

The HHC was founded in 2001 and currently has about 30 members. This is the second year that the HHC is granting scholarships, which have been mainly funded by proceeds from ticket sales of past concerts. Current HHC board members are: Carmen Alvarado, president; Alejandro Sonzogni, vice president; Carmen Narvaez, treasurer; Anabelle Petway, recording secretary; and Yvette Malavet-Blum, corresponding secretary. More information about the HHC can be found in its web page, www.bnl.gov/bera/activities/hispanic.

The Next Top Model in Science

Camera Club to seek models

Next month, the BERA Camera Club will conduct a studio lighting photography demonstration, featuring male and female models as subjects. The club is currently looking to select models, and anyone, male or female, who is 18 or older and interested in serving as a model, may apply. Call Ripp Bowman, Ext. 4672. Test screening will be held on July 22 in Berkner Hall, Room C, from noon to 1 p.m. All models in the final shoot will be given a CD of their images.

For more information, contact Bowman.

Arrivals & Departures

— Arrivals —

- Townsend Anschutz NSLS II
- Brian Cohen Chemistry
- Ravindra Bhide ES&T
- Wei Kang CFN
- Maxim Khodas Physics
- Michelle Scaduto NSLS II
- Kurt Vetter NSLS II
- Jun Wang NSLS
- Limin Wang Chemistry

— Departures —

- Charles Edwards III Plant Eng.
- Anatoly Evdokimov Physics
- Richard Kuczumski Plant Eng.
- Min Lu Biology
- Haiding Mo NSLS
- Hiroki Okada Physics
- Nicholas Satterley Cent.Fabr.S
- George Yim ITD

Join a BERA Trip!

Buy tickets at the BERA Store, Berkner Hall, Bldg. 488, Ext. 3347, weekdays, 9 a.m.-3 p.m. Trips leave from the Brookhaven Center.

- **New York City**, Sun., 7/20. Do-as-you-please in the city for the day, drop off and pick up point in the Bryant Park mid-town area. Leave BNL 9 a.m., leave city 6 p.m. \$10/person, adult or child.
- **Wildwater Kingdom, Dorney Park, PA**, Fri., 8/1. \$35/adult or child (recommended for children of 4 and over). Leave BNL 7 a.m., leave PA 6 p.m.
- **Boston — overnight trip**. Sight-seeing tour of Boston, Sat. & Sun., 8/9 & 10. Park at Port Jeff ferry (on the left), free for Brookhaven Town residents, \$20/day for others, meet at ferry on Sat. 9th at 5:45 a.m. Cost of \$280/person double, \$255/person triple, \$230/person quadruple, includes ferry, luxury coach, Duck Boat tour, lodging at 1927 Boston Park Plaza Hotel located in historic downtown by the Gardens, lunch at Vinnie T's, full Sunday breakfast at hotel's Swan Café, all-day City View Trolley ticket.
- **US Open**, Tues., 9/2, not a Lab holiday. \$58/person for ticket & coach. Leave BNL 8:30 a.m., leave stadium 7:30 p.m. Section 311 & 312, upper promenade level.
- **New York City Dinner Cruise**. Sat. 9/27. Leave BNL at 5 p.m. by luxury coach to sail on the *Skyline Princess* in New York Harbor, 7-11 p.m. Cost of \$90/person includes tax, full buffet dinner with desert, coffee, cash bar; DJ dancing; coach transportation, and tax. For ages 21 and over only. <http://www.skylinecruises.com/>

CALENDAR

— WEEK OF 7/14 —

Wednesday, 7/16

***438th Brookhaven Lecture**
 4 p.m. Berkner Hall. Guangyong Xu, Ph.D., Condensed Matter Physics & Materials Science Department, will talk on "Polar Nanoregions and Relaxors: — How Nanoscale Disorder Leads to Enormous Electromechanical Response." All are welcome to this free lecture, open to the public. Refreshments will be offered before and after the talk. Visitors to the Lab of 16 and over must carry a photo ID. See story, p. 1.

Sunday, 7/20

***Start of Summer Sundays: NSLS**
 10 a.m.-3 p.m. From today and for four more Sundays, all are invited to visit the Lab to explore different scientific facilities. The public is warmly welcomed at these free tours of BNL. No reservations needed. Witness the Whiz Bang Science Show, try your hand at the Brain Teasers exhibit. This week, visitors will be taken to the National Synchrotron Light Source, the brightest light on Long Island and one of the most intense sources of light in the world. Find out how synchrotron light is used to look into all kinds of materials, from moon rocks to computer chips. Visitors to the Lab of 16 and over must carry a photo ID. See p. 4.

— WEEK OF 7/21 —

Tuesday, 7/22

Sambamurti Lecture
 3:30 p.m. Physics Large Seminar Room, Bldg. 510. Christine Aidala, University of Massachusetts Amherst, will talk on "The Whole Story Behind a Half: The Quest to Understand the Proton's Spin." All are welcome.

Wednesday, 7/23

***BSA Noon Recital: Pianofest**
 Noon. Berkner Hall. Prize-winning participants in Pianofest, a summer workshop held in the Hamptons, will be selected by the workshop's founder and director, Paul Schenly to perform from the great classical repertoire Sponsored by Brookhaven Science Associates, the company that manages the Lab, the concert is free and open to the public. All visitors to the Lab age 16 and over must bring a photo ID. For more information on Pianofest go to: <http://www.pianofest.com/>

Sunday, 7/27

Summer Sundays: Science Learning Center
 10 a.m.-3 p.m. From today and for four more Sundays, all are invited to visit the Lab to explore different scientific facilities. The public is welcome at these free tours of BNL. No reservations needed. Witness the Whiz Bang Science Show, try your hand at the Brain Teasers exhibit. This week, visitors will be taken to the Science Learning Center, to have fun playing and testing out hands-on science skills. Visitors to the Lab of 16 and over must carry a photo ID. See p. 4.

— WEEK OF 7/28 —

Monday, 7/28

IBEW Meeting
 6 p.m. Centereach Knights of Columbus Hall, 41 Horseblock Rd., Centereach. A meeting for shift workers will be held at 3 p.m. in the union office. The agenda includes nominations for union president and officers.

Friday, 8/1

***Rock Band: Argent Fantasy**
 7 p.m. Brookhaven Center. Sponsored by the BNL Music Club, the concert by Argent Fantasy and his six-musician band will feature hits from the 1960s to the 1980s. Tickets are available at the BERA Store, at \$10 each. All visitors to the Lab age 16 and over must bring a photo ID. See notice at left.

Classified Advertisements

To apply for a position, go to www.bnl.gov. Select "Careers at Brookhaven" then "Employment Opportunities."

OPEN RECRUITMENT - Opportunities for Lab employees and outside candidates.

POSTDOC RESEARCH ASSOCIATE - Requires a Ph.D. in chemistry or a related field. Experience in the following areas is desirable: preparation and characterization of transition metal complexes and organometallic compounds, manipulation of air-sensitive complexes, electrochemistry, mechanistic and kinetic studies in solution, and techniques for characterization (UV-vis, FTIR, NMR, GC, ESMS, stopped-flow, X-ray diffraction, XANES/EXAFS, etc.). A strong background in physical inorganic chemistry is a plus. The successful candidate will explore the production of solar fuels (methanol, hydrogen) from carbon dioxide and water and will conduct basic research toward the development of such catalysts including the investigation of their physical and chemical properties, and a mechanistic understanding of their reactions in water and at the electrode/water interface. The successful candidate will also work collaboratively with a few scientists including theoretical chemists owing to the interdisciplinary nature of our work. When applying for this position, make sure to attach curriculum vitae and three letters of reference to the Candidate Gateway application. Under the direction of E. Fujita and C. Creutz, Chemistry Department. Apply to Job ID # 14527.

POSTDOC RESEARCH ASSOCIATE - Requires Ph.D. chemistry or a related field. Experience in one or more of the following areas is also required: preparation and characterization of transition metal complexes and organometallic compounds, manipulation of air-sensitive complexes, electrochemistry, mechanistic and kinetic studies in solution, pulse radiolysis, and techniques for characterization (UV-vis, FTIR, NMR, GC, ESMS, stopped-flow, X-ray diffraction, XANES/EXAFS, etc.). A strong background in physical inorganic chemistry is a plus. The successful candidate will explore the production of solar fuels and catalysis of water oxidation using transition metal complexes and will conduct basic research toward the development of such catalysts including the investigation of their physical and chemical properties, and a mechanistic understanding of their reactions. The successful candidate will work collaboratively with a few scientists including theoretical chemists owing to the interdisciplinary nature of our work. When applying for this position, make sure to attach curriculum vitae and three letters of reference to the Candidate Gateway application. Under the direction of E. Fujita, Chemistry Department. Apply to Job ID # 14529.

POSTDOC RESEARCH ASSOCIATE - Requires a Ph.D. in biochemistry or biophysics, with experience in protein structure determination by x-ray crystallography, to study a class of metal transporters. This is a challenging and rewarding project ideal for career development in membrane protein structural biology (for more information on research program <http://www.biology.bnl.gov/structure/fu.html>). A multidisciplinary approach of molecular biology, biochemistry, biophysics and x-ray crystallography to explore novel metallochemistry employed by membrane transporters will be used (see JBC (2004) 279:12043; Science (2007) 317:1746; Science (2000) 290:481). The National Synchrotron Light Source offers an outstanding environment for x-ray crystallography. Under the direction of D. Fu, Biology Department. Apply to Job ID # 14530.

POSTDOC RESEARCH ASSOCIATE - Requires a Ph.D. in chemistry, physics, biology, material science or related field. The successful candidate will join an interdisciplinary research program focused on understanding the fundamentals and developing methods for the programmable assembly of hybrid bio-inorganic nano-systems using biology inspired approaches, such as proteins, nucleic acids and their specific interactions. Required experience in one of the following fields: self-assembly of biological and synthetic nano-systems; peptide-DNA complexes; molecular biophysics; soft-matter interfaces; colloids. Technical hands-on experience in one of the following areas is highly desirable: scanning probe techniques; x-ray/light scattering; biochemical methods. Will work under the direction of O. Gang, Center for Functional Nanomaterials, and D. van der Lelie, Biology Department. Apply to Job ID # 14532.

DEPUTY BUDGET OFFICER (M-2) - Requires an advanced degree or equivalent in business administration or finance, excellent analytical and communication skills, and extensive managerial experience in budget planning and control, and financial management of a large organization. Requires broad knowledge of the development of budget plans, analysis and control of expenditures versus budget plans, and preparation of an annual budget for submission to applicable government agencies. Requires a minimum of 15+ years of progressively responsible related budgetary and financial analysis work experience including 5 years in a management level position. Candidate should be versed in the Cost Accounting Standards (CAS), Generally Accepted Accounting Principles (GAAP), enterprise

business system software, and financial controls. Experience with a DOE Laboratory or government contractor would be highly desirable. Budget Office responsibilities include funds control, budget execution, planning, and control, financial analysis, revenue and cost projections, rate development, signature authority, the chart of accounts, institutional strategic planning, and a variety of special projects. Responsible for assisting in the management of the Laboratory's Budget Office which includes acting for the Budget Officer during periods of absence. Reports directly to the Budget Officer. Budget Office. Apply to Job ID # 14539.

MATERIALS SCIENCE ASSOCIATE II (P-5) - Requires a master's degree in physics, chemistry, materials science, biophysics, physical chemistry or closely related field. Ph.D. degree highly desirable. Minimum five years' related experience in one or more of the following areas: simple and complex fluids, physics of polymers or biopolymers, self-organization phenomena, self-assembled molecular structure. A strong background in experimental methods for soft matter physics or biophysics and their applications to nanoscale phenomena is essential. Must have good communication and interpersonal skills. The successful candidate will join an interdisciplinary team working on assembly and optical properties of organic-inorganic hybrid nanomaterials. Will be responsible for operation and development of Center for Functional Nanomaterials (CFN) experimental facilities, including spectroscopic instruments, atomic force and optical microscopes, and thin-film characterization instruments. Will work closely with BNL scientists and CFN users, and will have an opportunity to develop an independent research program aligned with the group's scientific directions. Center for Functional Nanomaterials. Apply to job ID # 14535.

MATERIALS SCIENCE ASSOCIATE II (P-5) - Requires master's degree in physics, chemistry, materials science, electrical engineering, or closely related field. Ph.D. degree highly desirable. Minimum five years of experience with lithography and thin film processing in a clean-room environment. Expertise developing high-resolution plasma etch processes, including use of the Bosch process, is highly desirable. Must have good communication and interpersonal skills. The successful candidate will join an interdisciplinary team working on photovoltaic materials and other functional nanomaterials, and on the development of advanced nanofabrication processes using state-of-the-art equipment (e.g., electron-beam, ion-beam, and nano-imprint lithography, thin-film deposition and plasma etching) housed in a class-100 facility. Will work closely with BNL scientists and Center for Functional Nanomaterials users, and will have an opportunity to develop an independent research program aligned with the group's interest in nanofabrication processes. Center for Functional Nanomaterials. Apply to job ID # 14536.

SENIOR TECHNOLOGY ENGINEER/CYBER SECURITY ANALYST (I-8) - Requires a bachelor's degree in computer science, engineering, or a related discipline. Requires at least eight years of Unix/Linux administration/InfoSec experience plus additional experience in one or more of the following areas: Microsoft Windows administration, network engineering, database administration. Working knowledge of networking technologies and programming/shell scripting a must. Experience working with security appliances (firewalls, proxy servers, security gateways, etc.) a plus. Excellent oral and written communication skills are critical. Responsibilities include (but not limited to) tuning intrusion detection systems, conducting security audits, performing penetration tests, as well as incident response and investigations. The possession of, or the ability to obtain U.S. Top Secret Security Clearance is required. CISSP certification (or the ability and willingness to obtain) is required. Information Technology Division. Apply to Job ID # 14525.

SENIOR TECHNOLOGY ENGINEER/CYBER SECURITY (I-8) - Requires a BS degree and/or equivalent work experience and 8+ years experience in the Information Security field. IT auditing experience including risk management, familiarity with NIST/FIPS requirements, general controls, information security, data center and operational audits along with application reviews required. Excellent oral and written communication skills are critical. Ideal candidates will also have experience working with Windows, Unix/Linux, as well as networking equipment. Working knowledge of TCP/IP, VPNs, wireless networking a plus. Responsibilities include (but not limited to) conducting security audits and reviews, performing risk assessments, as well as monitoring information systems for compliance. The possession of or the ability to obtain U.S. Top Secret Security Clearance is required. CISSP, CISA certifications (or the ability and willingness to obtain) is required. Information Technology Division. Apply to Job ID # 14524

PHYSICAL THERAPIST (A-6) - Requires a minimum of a master's degree or higher degree, or equivalent from an accredited physical therapy program and verification of a valid physical therapist licensure from the New York State Department of Education. Compliance with all applicable rules of the NYS Board of Regents when performing physical therapy is essential. Minimum of five years' (full-time equivalent) direct work experience

in delivering and managing physical therapy services in clinical and/or workplace setting required. Coordinates and provides physical therapy services to large and occupationally diverse employee population. Oversees and provides the delivery of safe, current and effective physical therapy evaluation, treatment and prevention techniques based on referrals from physicians and other authorized health professionals. Maintains required and appropriate clinical patient records; communicates with referring physicians on a regular and ongoing basis as necessary; schedules clinical services and acquisitions of support equipment, materials and services. Develops policies and procedures for operation and delivery of workplace physical therapy programs; gives exercise consultations and designs exercise programs for individual employees for injury rehabilitation; evaluates physically demanding jobs and provide employees with recommendations on biomechanics for injury prevention and exercises to help prepare for physically challenging job tasks; and designs and performs job-specific functional capacity evaluations/pre-placement screenings of candidates for physically-demanding positions. Participates in meetings and worksite visits as part of BNL's Occupational Injury Management Team. Coordinates clinical data as required for reporting. Consults with appropriate management regarding development or implementation of new programs or services that might improve employee health and safety. Interacts regularly with health promotion and benefits managers to recommend new and innovative ways to deliver physical therapy services to the employees. Reports to the Manager, of the Occupational Medicine Clinic. Human Resources & Occupational Medicine Division. Apply to Job ID # 14537.

HEAVY EQUIPMENT MECHANIC OPERATOR - Under minimum supervision maintains, operates, and repairs all material handling, earth moving, grounds and similar equipment, including complete repair and maintenance of gasoline and diesel engines and the use of required machine tools. Plant Engineering Division. Apply to job ID # 14538.

OFFICE SERVICES ASSISTANT (CW-2, part time, 60 percent) - Requires excellent communication and customer service skills, and knowledge of Microsoft Office products. Will provide primary support to the Housing Office and act as backup to the Transportation and Division Offices as required. Duties will include reservations, check-in/check-out of customers, data management, Guest Information System (GIS), and report generation. Will act as liaison with all residents and assist in the scheduling of housekeeping and maintenance services. Required hours to work are Sunday, Monday and Tuesday evenings 4 p.m. to midnight. Staff Services Division. Apply to Job ID # 14522.

Motor Vehicles

05 HONDA PILOT EX-L - Sunroof 6 cd Grey Leather white new tires . 56K mi. \$16,500/neg. James, 631- 603 -2350 cell.
04 SUSUKI INTRUDER - blue/silver 1500 cc, windshield bags, lights, low mi., like new 44/100mpg. 4600 mi. \$6,200/neg. Edward, Ext. 4427.
03 MERCURY MARAUDER - black/black, auto start, 6 cd changer, loaded, warr., excel. cond. 19K mi. \$28,500/neg. 379-7961.
02 YAMAHA VSTAR 1100 CLASSIC - windshield, bags, Mustang seat, pipes, sissy bar/rack, new www tires, always maint'd, 47K mi. \$4,200/neg. 433-9205.
01 NISSAN SENTRA GXE - silver, a/c, p/b, p/s, p/w, c/c, dual air bags, am/fm, cd. 44K mi. \$6,200/neg. 278-0606.

01 VW NEW BEETLE SPORT - red, 5 spd, a/c, mp3/cd/c/c, p/w,p/l,30 mpg, spoiler, heated leather seats, sunroof, turbo, great c 74K mi. \$9,900/neg. Ariane, Ext. 5245.
98 CHEVY K1500 SUBURBAN - 5.7L, 4X4 a/t, a/c, lthr. seats 7, v/clean, cd, am/fm/cass, ps, pb, new 17 whls & tires. 108K mi. \$5,995. Fred, Ext. 3498 or 849 2520.

Miscellaneous

BABY'S SEATS - Fisher Pr swing seat w/ music/lights; pink Bumbo seat, 3-14 mo. \$15/ea. cdavis@optonline.net. Carol, Ext. 3667 or 928-6955.
BICYCLE - lady 26", 18-spd, excel \$15; Coleman cooler, 50 qt, \$5; portable grill, \$3. Ext. 7505 or 689-8605.
BREAST PUMP - Ameda, elec., grt cond., boxed w/carry case, insulated compartments, \$45; sells for \$180/new. 928-6955.

Furnishings & Appliances

ADJUST-A-BED - head/ft adjust independently, double size, pick-up in Rocky Point, \$75/obo. Roger, Ext. 7440 or 929-8475.
APPLIANCES - Gas stove, dishwshr, over the range m/wave, \$400/obo takes all, like new, clean, rarely used. Jorge, Ext. 5126.
ARMOIRE - French country style, Honey Alderwood, 39wx78hx19d, \$300. 878-9020.
ART PRINTS - by local artist, 2 scenes available, view: <http://tinyurl.com/6qggnb>, 18x24, \$25 ea. Kathleen, Ext. 7114.
FURNITURE & HOUSEHOLD ITEMS - desk w/shelves, triple dresser, etc. Noreen, 697-3260.
FUTON SOFA/BUNK BED - full, twin, white metal frame, excel., \$100; 4 solid wd dinette chairs, \$6/ea. Ext. 7505 or 689-8605.

Summer Sundays Start: BNL Opens to Public, 7/20 - 8/17

BNL will again open its doors to the public this summer, every Sunday from July 20 through August 17. The Lab will feature a different tour on each of five Sundays. Both adults and children can enjoy a variety of entertaining activities, including the Whiz Bang Science Show and the Brain Teasers exhibit each week.

Summer Sundays are offered free, and no reservations are needed. Visitors may arrive any time between 10 a.m. and 3 p.m. The Whiz Bang Science Show will be staged at 10:30 a.m., noon, 1:30 p.m. and 3 p.m. each Sunday. All visitors age 16 and over must bring a photo ID. For more information, visit the BNL website: www.bnl.gov.

The Summer Sundays schedule follows:

July 20 — National Synchrotron Light Source (NSLS)

This Sunday, visit the NSLS and see the brightest light on Long Island, one of the most intense sources of light in the world. Find out how synchrotron light is used to look into all kinds of materials, from moon rocks to computer chips.

July 27 — Science Learning Center

Play with science, no matter what your age. Have fun testing your hands-on science skills. Enjoy a science magician's tricks.

August 3 — National Weather Service

August 10 — Center for Functional Nanomaterials

August 17 — Relativistic Heavy Ion Collider

Join In Summer Talent Show, 7/22

The Office of Educational Programs invites all the Lab community, both students and staffers, to attend the annual Summer Student Talent Show on July 22, at 5:30 p.m. in Berkner Hall. This annual event is wild, creative, fun, and, of course, talented. Students and BNL staff members who would like to perform in the show, contact Tabatha Wyche, Ext. 4503.

IKEA FURNITURE - 2 sofa beds , Europ. bed 1.4x2m, kit. table, 2 chairs, coffee table, gd to excel. cond., price neg. Kay, Ext. 2115.
KING BEDROOM SET - headbrd, dresser/mirror, 2 end tables, light maple, pick-up in Rocky Point, \$125/obo. 929-8475.
VACUUM CLEANER - Dirt Devil bagged upright, works well, \$10; refrig, half-sized, white, gold star, works well, \$20. 278-0606.

Audio, Video & Computers

IPOD - brand new in sealed box, touch, 8GB \$265 retail/\$324. Zhening, Ext. 2787.

Sports, Hobbies & Pets

BIKE - professional grade recumbent bike for your home, Lifecycle fitness 9500R, u-pick-up, ask/\$400. Ariane, Ext. 5245.
METS TICKETS - 2, 7/27 @ 1pm vs STL Cardinals, kids lunchbox giveaway, Mr. Met Dash, Mezz Sec 27 Row E Seats 3&4, \$80/pr. Ext. 8709.
POP-UP TRAILER - '83 Coleman, sleep 6, sink, stove, storage, 1600 lbs., gd. cond., needs tires, \$700. Ext. 2716 or 878-2425.

Free

HAMSTER CAGE - Habitat Cozy Cottage, like new. Millie, Ext. 7245.
NAT'L GEOGRAPHIC - miscellaneous copies over the last 40 yrs. David, Ext. 2604.
TABLE - Butcher block, 4'x4' sq, rounded corners, needs sanding, plus 4 chairs, pick up in Old Bethpage. Millie, Ext. 7245.

Wanted

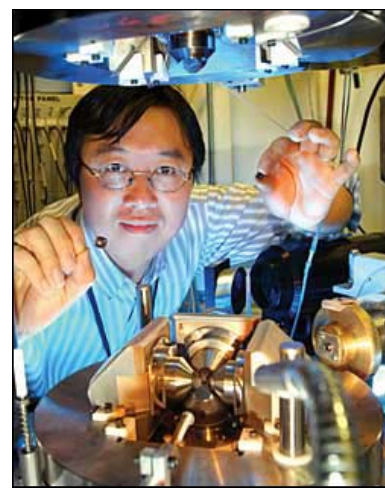
COMPANION WHEELCHAIR - borrow/rent lightweight, portable for elderly relative this summer. Elaine, Ext. 3830.
REPAIR AQUABOT TURBO - Need someone to repair Aquabot. Have schematics, will pay reasonable \$\$ 631-793-4551.
TILE FLOOR REPAIR - expert 744-8386.

Lost & Found

LOST - blk/white motorcycle seat cover, Wed. around 1:15pm, sth wst of bldg. 510, Physics. Achim, Ext. 4750 or 816-0348.

For Rent

CENTEREACH - 5 rm 2 entry updated cottage 2 BR l/r kitch. bath, utl/rm w/ W&D hk up attic strge, off st parking culdisac, no pets 1 mnth sec prop heat/water \$1,100/mo. 737-0482.
CENTEREACH - beautiful 2 bdrm. apt., priv. ent., recently built, all util. incl., no smkg/pets, avail. Aug. 1st. \$1,400/mo./neg. Jairo, Ext. 3633.



Roger Stoutenburgh 02/27/002