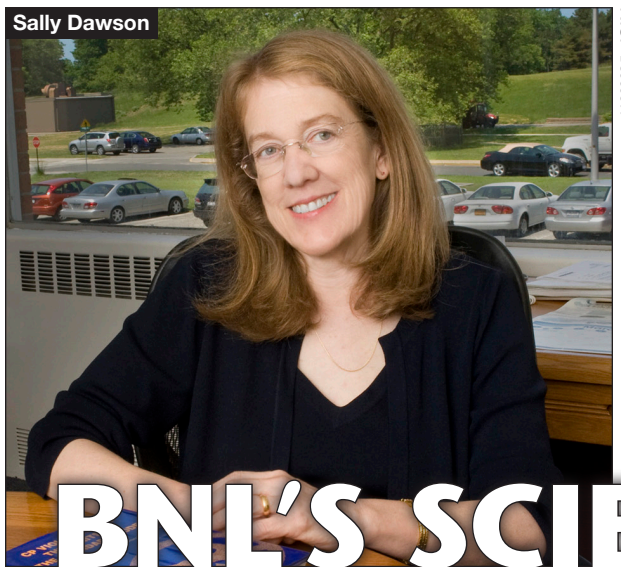
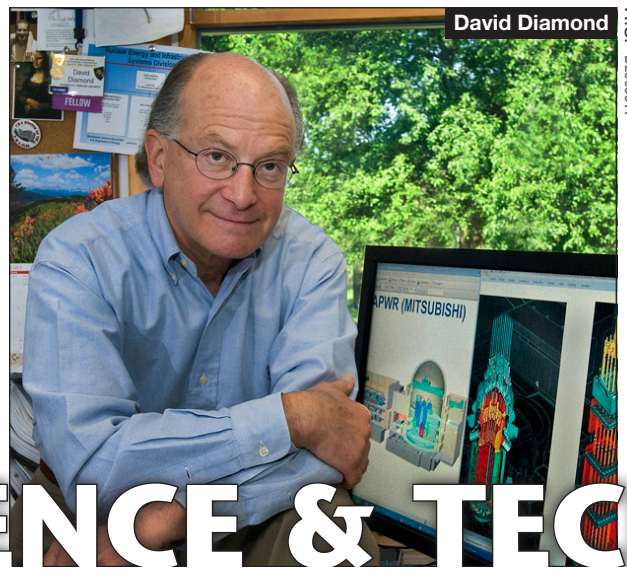
the Bulletin

BROOKHAVEN NATIONAL LABORATORY

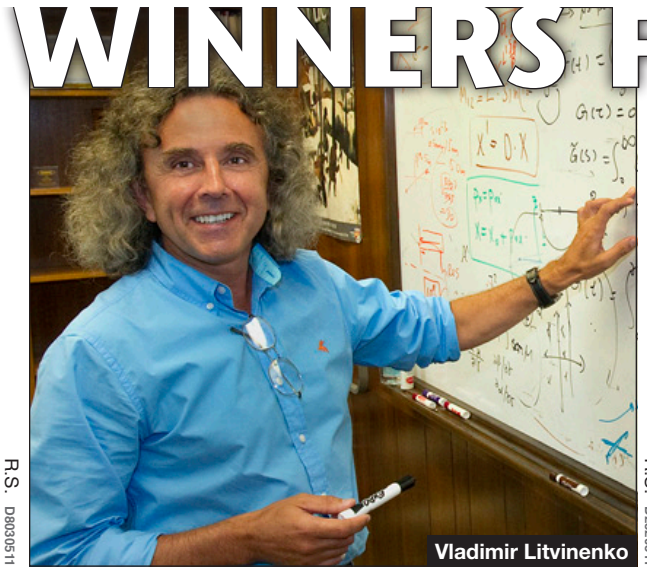
Vol. 65 - No. 25

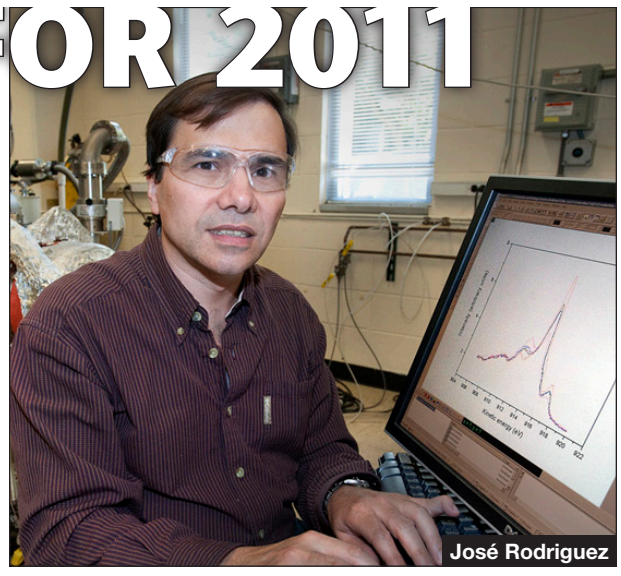
July 22, 2011





BNL'S SCIENCE & TECHNOLOGY AWARD WINNERS FOR 2011





BNL's Science and Technology Awards for 2011 were presented by Deputy Lab Director for Science and Technology Doon Gibbs to the six winners — Sally Dawson, Physics Department; David Diamond, Nuclear Science & Technology Department; Oleg Gang, Center for Functional Nanomaterials; Animesh Jain, Superconducting Magnet Division; Vladimir Litvinenko, Collider Accelerator Department; and José Rodriguez, Chemistry Department — at the annual Employee Recognition Award Ceremony held in Berkner Hall on Friday, June 17. The awards, consisting of a plaque and $10,000 each, are given to recognize distinguished contributions to the Laboratory's mission in each of three broad areas of work, and are the highest accolades given by Brookhaven to its employees. The 16 awards were first announced in The Bulletin of June 24; more about the contributions of the six Science & Technology Award winners follows below, left.

Sally Dawson, Physics Department

Senior Physicist Sally Dawson is recognized as one of the world's leading theoretical physicists, whose work in high energy theory has strongly influenced more than two decades of particle physics research. Early on, she recognized the importance of the Higgs particle, which is the critical missing link in the Standard Model of particle physics — its discovery.....*See* ***Sally Dawson*** *on p. 2*

David Diamond, Nuclear Science & Technology Department

Senior Nuclear Engineer David Diamond, Chief Scientist in the Nuclear Science & Technology Department, is recognized for his leadership in developing and applying computational methods to improve the safety of nuclear reactors. These contributions, which require expert knowledge of numerical methods and the physics and engineering of reactor.....*See* ***David Diamond*** *on p. 2*

Oleg Gang, Center for Functional Nanomaterials

Oleg Gang, a scientist in the Center for Functional Nanomaterials (CFN), and his team demonstrated the use of DNA molecules to assemble three-dimensional ordered arrays of nanoparticles. This groundbreaking research, conducted at the CFN and published in *Nature* in 2008, brought Gang worldwide recognition as a leader in the field of nanoscience. *See* ***Oleg Gang*** *on p.2*

Animesh Jain, Superconducting Magnet Division

Animesh Jain of the Superconducting Magnet Division is recognized for his outstanding achievements in the effort to create a unique system for measuring the magnetic fields of magnets in BNL's National Synchrotron Light Source II (NSLS-II).

The NSLS-II design calls for magnets that are more accurately made, measured, and positioned.....*See* ***Animesh Jain*** *on p. 2*

Vladimir Litvinenko, Collider Accelerator Department

Senior Physicist Vladimir Litvinenko of the Collider Accelerator Department was recognized for his outstanding leadership and groundbreaking contributions in research and development (R&D) for a complex new machine that will collide electrons with ions from the Relativistic Heavy Ion Collider (RHIC). This machine, eRHIC, combined.....*See* ***Vladimir Litvinenko*** *on p. 2*

José Rodriguez, Chemistry Department

During his 20-year career at BNL, José Rodriguez, Chemistry Department, has focused on catalysts used for the production of clean, efficient, renewable fuels and the control of environmental pollution. His research, which couples sophisticated experimental studies with state-of-the-art theory, has established him as a world leader in catalysis research and.....*See* ***José Rodriguez*** *on p. 2*

NY State Utilities Witness Smart Grid Technology Demonstration at BNL

The U.S. electrical transmission and distribution system currently sees losses that range from eight to 11 percent, most of which occur in the distribution system, the part that delivers electricity to homes, commercial businesses, and industry. One goal of the emerging "Smart Grid" under development at BNL and elsewhere is to reduce those losses by as much as 50 percent.

At the July 6 meeting of the Lab's Smart Grid Management Team — organized by Associate Lab Director for Global & Regional Solutions Gerald Stokes, Associate Lab Director for Basic Energy Sciences Jim Misewich and Associate Lab Director Patrick Looney, who chairs the Sustainable Energy Technologies Department — representatives from the New York State Energy Research & Development Authority, Orange and Rockland Utility, Central Hudson Gas and Electric, Pepco Holdings, Inc., and the Long Island Power Authority were among those who received a demonstration of a new modeling technology. The technology, already being used in several locations, will assist in identifying recommendations on where to place components and how to operate the system in order to reduce losses within the distribution system.


Joseph Rubino D0010711

Attendees at the Smart Grid Technology demonstration held on July 6 included: (front, from left) Stephanie Hamilton, BNL; Robert Broadwater, Electrical Distribution Design; Gerald Stokes, BNL; (second row, from left) Pete Harpolis, Central Hudson Gas & Electric (CHGE); Paul Haering, CHGE; Pat Looney, BNL; Mike Villaran, BNL; Mike Razanousky, New York State Energy Research & Development Authority (NYSERDA); (third row, from left) Charlie Scribano, Orange and Rockland Utility (ORU); Jim Tarpey, ORU; Ed Murphy, BNL; Todd McGregor, Pepco Holdings, Inc.; (fourth row, from left) Tony Abate, NYSERDA; Shawn Wang, BNL; Bob Lofaro, BNL; Meng Yue, BNL; John Franceschina, Long Island Power Authority; Robert Gordon, DOE Brookhaven Site Office.

The technology, the Integrated System Model/Distributed Engineering Workstation (ISM/Dew) was developed by Robert Broadwater from Virginia Polytechnical Institute and State University (Virginia Tech) through Electrical Distribution Design. Broadwater demonstrated the capabilities of the technology through simulations of various utility scenarios during the meeting's afternoon session.

Stephanie Hamilton, who manages BNL's Smart Grid R&D program, explained that "the ISM/Dew technology allows the grid to move from a static mode, where you plan around a single data point, to having 8,760 of them — which is every hour, 24 hours a day for a full year. This technology can compile the data very quickly, taking into account all the different components on the utility grid, including poles and wires."

A primary purpose of the Smart Grid meeting was for New York State utilities to hear from others already using the technology. Representatives from Orange and Rockland Counties in New York, using ISM/Dew under a DOE grant, and Silicon Valley Power in California both detailed how the modeling program has helped them...
See ***Smart Grid*** *on p. 2*

Calendar

- *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.*

— REGULARLY —

Weekdays: Free English for Speakers Of Other Languages Classes
Beginner, Intermed., Adv. classes, various times. All welcome. Learn English, make friends. See *http://www.bnl.gov/esol/schedule.asp* for schedule. Jen Lynch, Ext. 4894.

Mondays & Thursdays: Kickboxing
$5 per class. 12:15–1:15 p.m. in the gym (Bldg. 461). $5 per class. Ext. 2873.

Mon., Tues., Thurs., & Fri.: Tai Chi
Noon–1 p.m., B'haven Cntr (Bldg. 30), N. Rm. Adam Rusek, Ext. 5830, *rusek@bnl.gov*.

Tues.: Hospitality Welcome Coffee
On hold until September.

Tuesdays: Zumba
On hold until September.

Tuesdays: Knitting Class
On hold until September.

Tuesdays: Toastmasters
Two monthly meetings: 1st & 3rd Tuesdays, 5:30 p.m., Bldg. 463, Room 160. Guests and visitors welcome. *http://www.bnl.gov/bera/activities/toastmstrs/*.

Tuesdays & Thursdays: Aerobic Fitness
On hold until September.

Tues., Wed., & Thurs.: Rec Hall Activities
5:30–9:30 p.m. in Bldg. 317. General activities, TV, ping pong, chess, games, socializing. Christine Carter, Ext. 5090.

Tuesday & Thursday: Aqua Aerobics
On hold until September.

Wednesdays: Ballroom Dance
On hold until September.

Wednesdays: Pilates
On hold until September.

Wednesdays: Play Group
On hold until September.

Wednesdays: Yoga
Noon–1 p.m., B'haven Center (Bldg. 30). Free. Ila Campbell, Ext. 2206, *ila@bnl.gov*.

1st Wednesday of month: LabVIEW
1:30–3 p.m., Bldg. 515, 2nd fl. Seminar Rm. Free technical assistance from LabVIEW consultants. Ext. 5304, or Terry Stratoudakis, (347) 228-7379.

Thursdays: BNL Cycletrons Club
5 p.m., Brookhaven Center. First Thurs. of month. Andy Mingino, Ext. 5786.

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

Thursdays: Postdoc Social Night
6:30 p.m. ASAP Lounge (Bldg. 462). *www.bnl.gov/asap*.

Thursday: Judo Class
7:30 p.m. Gym (Bldg. 461). Tom Baldwin, Ext. 4556.

Fridays: Family Swim Night
5–8 p.m. Pool (Bldg. 478). $5/family. Ext. 2873.

Beware of Ticks

Adult ticks are now prevalent on the BNL site. All individuals who walk, work, or play sports outdoors should be alert to the summertime problem of disease-transmitting ticks. At this time of year, adult ticks are present. The smaller nymphal stage of ticks will also be present until about August. Both the adult and nymph stages of ticks can transmit one of several diseases, such as Lyme disease, Ehrlichiosis (now called Anaplasmosis), and Babesiosis, a small parasite related to malaria that causes malaria-like symptoms.

Chigger bites do not transmit disease but are extremely itchy, so treatment is directed at reducing the itch. Treatments include benzocaine or hydrocortisone ointments, calamine lotion, Chigarid, or New Skin liquid bandage. Oral Benadryl (antihistamine) can be helpful but should not be used at work or before driving or operating machinery due to a drowsiness side effect. Some individuals have a more severe allergic-type reaction, with symptoms such as skin swelling. This requires prompt medical attention.

Safety
http://intranet.bnl.gov/safety

Sally Dawson *from p. 1*
…crucial to scientists' understanding of the origin of mass. The Higgs has been pursued at Fermi National Accelerator Laboratory's Tevatron, and it is now central to the mission of the CERN Large Hadron Collider (LHC). Dawson's seminal publications on how to search for the Higgs are a key part of experimental efforts to capture this particle

In addition, the two papers that Dawson co-authored on top and bottom quark production at colliders have proved essential in interpreting results from the Tevatron and are expected to prove equally useful in understanding the properties of heavy quarks at the LHC. Together, these two papers have already received about

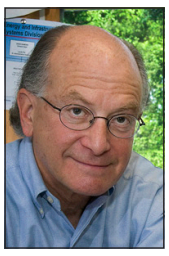

R.S. D8060511

2,000 citations — 500 citations classifying papers as "renowned" in the SPIRES-HEP database of particle physics literature.

Dawson, who joined BNL in 1986, headed the BNL High Energy Theory group from 1998 to 2004, and chaired the BNL Physics Department from 2005 to 2007. She has served as Chair of the American Physical Society's Division of Particles and Fields, Vice Chair of the National Research Council's Decadal Survey on Particle Physics, and Chair of the Fermilab Program Advisory Committee. — Liz Seubert

David Diamond *from p.1*
…systems, have become the standard for safety analysis in nuclear reactors.

Diamond, who joined BNL in 1968, is widely regarded in the international nuclear engineering community as a leading expert in nuclear reactor dynamics, with a fundamental understanding of the physics of diverse reactor systems. One aspect of this is his work to simulate how nuclear reactors function under various transient and hypothetical accident conditions — crucial information to assure the safety of both power plants and research reactors. Previously, as head of BNL's Nuclear Energy and Infrastructure Systems Division, he oversaw 25 staff members — including civil, nuclear, mechanical, electrical, and human performance engineers. Diamond is consulted on safety, design and

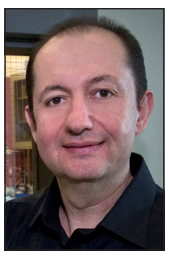

R.S. D2300511

related technical aspects of nuclear reactors, primarily for the U.S. Nuclear Regulatory Commission, but also for the Department of Energy, the Advisory Committee on Reactor Safeguards, the National Research Council, and the International Atomic Energy Agency. His expertise in nuclear reactor safety has been applied to problems in the United States, and also in Argentina, Canada, Finland, Russia, Switzerland, and other countries.

A Fellow of the American Nuclear Society, Diamond was honored with the Society's "Tommy" Thompson award in 2010 for "outstanding wisdom and direction to key elements of world nuclear safety activities." — Liz Seubert

Oleg Gang *from p.1*
The method Gang developed can be used to manipulate the structure — and therefore the properties and potential uses — of many materials at the molecular level. Such fine-tuning of materials promises applications in photovoltaics, energy storage, catalysis, cell-targeted systems for drug-delivery, and bio-molecular sensing for environmental monitoring and medical applications.

Since his landmark achievement, Gang has developed a method for high-throughput assembly of nanoparticle clusters, and he has characterized the nanoscale lattices of particles using x-ray facilities at the National Synchrotron Light Source. Also, Gang and his group have made important contributions to rational nanoparticle cluster design and molecularly switchable


R.S. D2310511

structures, and to the study of the optical behavior of particle arrays.

Gang earned a Ph.D. in soft matter physics from Bar-Ilan University in 2000, and he was a Rothschild Fellow at Harvard University from 1999 to 2002. After joining BNL as a Goldhaber Fellow in 2002, he became an assistant scientist at the CFN in 2004. He rose through the ranks to become the CFN's leader for Soft Matter and Biomaterials Theme in 2006, and scientist in 2009. Gang has received numerous honors and recognitions, including the 2010 Gordon Battelle Prize for Scientific Discovery.

— Diane Greenberg

Animesh Jain *from p. 1*
…than those in previous light sources and that require extremely accurate measurements of their field quality. Also, strong quadrupole and sextupole magnets are placed close enough for their fields to interact. A unique design was needed for a rotating coil sensitive enough to measure the field in the quadrupole and sextupole magnets simultaneously — covering a large range of high order fields, as high as 42-pole, compared to the 30-pole maximum for magnets at the Relativistic Heavy Ion Collider on which Jain had worked when he joined BNL in 1991.

For NSLS-II, Jain devised a unique coil that not only met all the NSLS-II requirements, but also provided redundant data to ensure accuracy. He developed and codified an understanding of the relation between magnet con-


R.S. D8030511

struction errors and measured harmonics and traveled to help NSLS-II magnet vendors correct errors in magnet production. Jain led work to extend and refine an existing method using a vibrating wire to measure the center of a magnet's field so as to be able to align the centers of the different NSLS-II magnets' fields to within 5 microns along a 4-meter length, and he wrote the code for trained technicians to make these measurements. Jain's excellent leadership, meticulous experimental technique, and excellence in physics and analysis have resulted in a world-leading magnet measurement system at NSLS-II.

— Liz Seubert


Joseph Rubino D0020711

Associate Lab Director Gerry Stokes (right) details BNL's Smart Grid strategy. Robert Broadwater (left), Virginia Tech, developed the ISM/Dew technology.

Smart Grid *from p. 1*
…improve reliability and reduce losses.

BNL is currently assessing the technology for the Smart Grid and is actively trying to engage local utilities in the conversation.

"If you want to add new components to the system or move a large customer from one circuit to another, this can help you anticipate what the effect is going to be on the overall grid," Hamilton said. "It will allow utilities to go in and tweak their systems to bring them into balance and reduce their losses. Its ability to provide hourly data points for the entire year and its computational speed are the principal reasons why it may be a technology that will help the grid become 'smarter.'"

Hamilton noted that Silicon Valley Power, which services companies like Google and Yahoo, has the highest reliability in the U.S. for a utility — the least number of hours out of power in their transmission and distribution area.

"It was a great meeting and the utilities felt as though the meeting was worthwhile," Stokes said. "We are now looking to develop a topic for another meeting in October on a different aspect of the Smart Grid." — Kay Cordtz

Vladimir Litvinenko *from p. 1*
…with an upgraded RHIC, is strategically important for next-generation nuclear and particle-physics programs at BNL and would also open a pathway to future fourth-generation X-ray Free-Electron Laser (FEL) light sources.

Litvinenko developed the current vision of eRHIC with a design providing extra-high luminosity, low cost, and many benefits to detectors. His contributions included the idea of small-gap magnets, which will enable the machine to reach extremely high energy while preserving the beam quality. He invented the concept of providing the required high current by a device called a funneling multi-cathode polarized electron gun, and he pioneered an exceptional beam-cooling method called coherent electron cooling, laid its theoretical principles, and derived analytical formulae describing its performance. Other creative contributions included a way to suppress so called "kink" instability characteristic for linac


R.S. D2320511

(linear accelerator) based electron-ion colliders like eRHIC.

After joining BNL in 2003, Litvinenko made critical contributions to R&D on the high-energy electron cooling of RHIC and to discoveries in designing high-brightness electron beam injection to an energy recovery linac machine. He also played key role in the National Synchrotron Light Source II team developing the design philosophy for this unique light source. With colleagues, he also established the Center for Accelerator Science & Education at Stony Brook University and BNL, where he is a co-director and teaches students. In 2004, the International Free Electron Laser (FEL) community awarded him the FEL Prize for his outstanding contributions for FEL science and technology.

— Liz Seubert

José Rodriguez *from p. 1*
…has earned him his current recognition at BNL.

Rodriguez has made significant contributions to the understanding of surface catalytic processes, particularly in metals and metal alloys. Early in his career he pursued a highly productive research program in hydrodesulfurization catalysis – a process for the removal of sulfur from petroleum feedstocks to control pollution and produce cleaner fuels.

In critical research performed at the National Synchrotron Light Source, Rodriguez and his colleagues have shown that nanoparticles of either gold or copper, supported on a metal, can perform an effective catalytic role in the "water-gas shift" reaction, a process that purifies hydrogen feed streams, thereby improving the performance and lifetime of fuel cells used to con-


R.S. D1730511

vert hydrogen into electricity.

Born and raised in Venezuela, Rodriguez earned his undergraduate degrees from the Simon Bolivar University in Caracas, and he received a Ph.D. in physical chemistry from Indiana University in 1988. After pursuing postdoctoral studies in chemistry at Texas A&M University, he joined Brookhaven as a research associate in 1991, rising through the ranks to become a senior chemist in 2002. While at BNL, Rodriguez authored or coauthored more than 300 peer-reviewed papers, which have been cited often in scientific literature. He is an adjunct professor of chemistry at Stony Brook University.

— Diane Greenberg

Comments Requested: Vending Machine Survey

An online survey is open from now until August 5 for comments regarding vending machines on site. Ruth Comas, Conference Support Supervisor, particularly asks that as many people as possible complete the survey as it is used to improve services. Take the survey here: *http://intranet.bnl.gov/NoviSurvey/n/vending.aspx*.

INCREASE Signs MOU With BNL, Develops Energy Storage Proposal

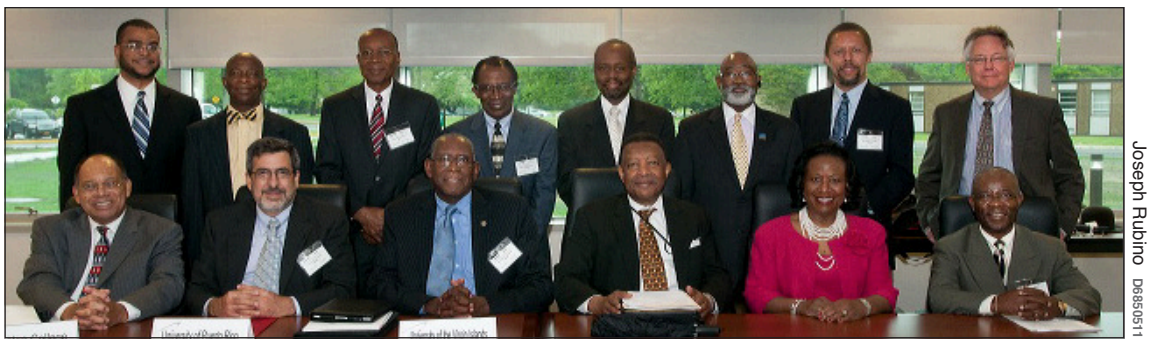
The annual Joint Users' Meeting of the National Synchrotron Light Source (NSLS) and Center for Functional Nanomaterials (CFN) brought together a special subset of current and future facility users. More than 50 faculty members from minority-serving institutions came to the Lab from May 23 to 26, to finalize a research proposal that would unite them in energy storage studies at the CFN and NSLS.

The ultimate goal of the professors, who belong to the Interdisciplinary Consortium for Research and Educational Access in Science and Engineering (INCREASE), is to assist minority-serving institutions in gaining access to world-class research facilities. The group also aims to facilitate education and research training, especially for African-, Hispanic-, and Native-Americans and women.

The week's activities began with the signing of a memorandum of understanding (MOU) between the consortium and BNL.

"This MOU should seal and document our joint efforts to increase the number of minority-serving institution faculty and students who use the CFN, NSLS, and other research facilities at Brookhaven and other national laboratories around the country," said workshop organizer Noel Blackburn, from the Lab's Office of Educational Programs.

Eleven core institutions from the United States, the Virgin Islands, and Puerto Rico signed the agreement. They include Alabama A&M University, Delaware State University, Hampton University, Morgan State University, North Carolina A&T State University, Northeastern State University, Southern University — New Orleans, Tennessee State University, Tougaloo College, University of Puerto Rico, and the University of the Virgin Islands.



Joseph Rubino D6850511

The presidents and representatives of the 11 INCREASE core institutions with workshop organizer Noel Blackburn (standing, left) and Brookhaven Deputy Director for Science and Technology Doon Gibbs (standing, right).

"Relationships like these are just as beneficial for Brookhaven Lab as they are for the consortium members," said BNL Deputy Director for Science & Technology Doon Gibbs, who welcomed the participants and signed the MOU on behalf of BNL. "In order to solve the problems the nation faces in energy, as well as to grow the Laboratory consistent with our vision, it is critical that we attract a larger and more diverse workforce. We can't succeed without that."

Based at Hampton University and formed at BNL in 2007, INCREASE has held yearly workshops with support from the Photon Sciences Directorate, the Office of Educational Programs, and a National Science Foundation (NSF) grant through Southern University. With hands-on research demonstrations and proposal-writing tutorials, the workshops have taught INCREASE members how to transform themselves and their students into successful NSLS and CFN users. To date, the workshops have resulted in 16 new NSLS users and 11 potential CFN users.

"INCREASE is really about leveling the playing field for research and education," said INCREASE President Eric Sheppard, Dean of the School of Engineering and Technology at Hampton University. "We can do it ourselves. It's about building infrastructure and institutions. It's also about building people."

Now, INCREASE members are working on a project that could join these new users in one collective research effort. During a day-long workshop, after learning about the latest in energy research at BNL from Associate Laboratory Director for Global & Regional Solutions Gerry Stokes, the professors developed a letter of intent to submit a proposal for a National Science Foundation Science and Technology Center on energy storage and fuel cell technologies. If selected, the consortium would receive up to $5 million per year for five years, renewable for an additional five years, to explore topics such as utilizing thermoelectric materials for combined heat and power, nanomaterials and ionic liquids for applications in batteries and electrochemical capacitors, large geothermal energy storage systems, power conversion systems, and fuel cells.

"We've been committed to INCREASE for the last four or five years," Sheppard said. "Now we need to start seeing results. The proposal to NSF is one step in that direction."

Among presenters at the workshop, the group heard from Nancy Hebron-Isreal, a grants program manager at the U.S. Nuclear Regulatory Commission, who discussed a number of available nuclear education grants and fellowships. In addition, Alexander Nicholas, senior policy advisor from the Office of Innovation and Entrepreneurship at the Department of Commerce, spoke about the "i6 Challenge," which encourages researchers to bring innovative ideas to the marketplace.

INCREASE plans to collaborate with other national labs by holding its 5th annual Synchrotron Science Workshop at SLAC National Accelerator Laboratory and Lawrence Berkeley National Laboratory this month. This proof of concept will eventually allow INCREASE to hold annual workshops for minority professors throughout the entire DOE complex, creating access and developing new users for these cutting-edge facilities.

— Kendra Snyder

BNL Noon Recital: Pianofest, 7/27

Participants in Pianofest, a summer workshop held in the Hamptons, will be showcased in a recital on Wednesday, July 27, at noon in Berkner Hall. Pianofest is now in its 23rd season. Its alumni have gone on to make their mark nationally and internationally. For this recital at BNL, the workshop's founder and director, Paul Schenly, will select outstanding participants to perform from the great classical repertoire.

Sponsored by BSA, 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 I.D.

Register for Workplace Challenge, 7 p.m., 7/26 Join BNL's Group on the Jones Beach Run/Walk

Register now for the Marcum Workplace Challenge taking place on July 26 at 7 p.m. This 3.5 mile run/walk at Jones Beach, which is also underwritten by the BNL Health Promotions Program, is a great event for family, friends, and co-workers. For several years, BNLers have attended this fun event, often winning age-grouped contests. The day ends with all the BNL party enjoying a picnic together.* Captains for this event are: Paul Geiger, *pgeiger@bnl.gov* Bldg. 460, (631) 344-3308; and Mike Mapes, *mapes@bnl.gov*, Bldg. 911A, (631) 344-2841. All the Lab community is welcome to join the group who will participate. As part of the BNL team you will receive a tee shirt and a post-run picnic. Transportation is on your own.

Race Registration: Register online at *https://secure.MarathonGuide.com/register/MKWorkplaceChallenge/TeamAdditions.cfm?Code=661P4XK*. Entries cost $23.

*The fee for the picnic is $10 per person. Please send a check, made payable to Betty Elder, to Betty Elder, Bldg. 1005S. Help is also needed in setting up the picnic. Contact Elder at *belder@bnl.gov*, Ext. 3562; or Sue Wells, *swells@bnl.gov*, Ext. 7427.

Summer Intern Talent Show, 8/2

The Office of Educational Programs (OEP) cordially invites the Lab community to participate in its annual Summer Intern Talent Show at 5:30 p.m. on Tuesday, August 2, in Berkner Hall. Along with showcasing the talents of the summer interns, OEP hopes to feature performances from the BNL family — employees, guests, and facility users. All are encouraged to join in a night of laughs and good times. To participate in the show, please contact Joseph Heard, *jheard@bnl.gov*, or Krystal Cole, *kcole@bnl.gov*. Or, join in as part of the audience.

Hope to see you there!

BERA Trips, News

The BERA Store, located in Berkner Hall, opens weekdays, 9 a.m. to 3 p.m. Looking for things to do this summer? At the Store, you can purchase discounted tickets for the Long Island Ducks, Long Island Aquarium, and local movie theaters. You can also buy Splish Splash discount tickets at the Store, or print them from home. (Go to *www.splishsplashlongisland.com/*. Click on Corporate tickets at the top right, and use the BNL Code 2011106. Discount included at the end when you pay by credit card. $25 children, $31 adults, $12 parking.).

Also, the Summer Times Guide Book offers great family ideas, coupons & information about the area: *www.northshoreoflongisland.com/SitePage-21765.112114-Times-Supplements.html*. Find out more about BERA sports and clubs at *www.bnl.gov/bera/*.

A Note From the Payroll Office

Annual Vacation Carryover Cutoff Date Changes From September to January

For years, employees had to use vacation days by September 30 to avoid forfeiting earned vacation days that they had earned. To prevent employees from being pressured to use vacation days while also working to complete projects before the close of the fiscal year on September 30, the Laboratory has changed the cutoff date for carrying vacation days to January 20.

Monthly exempt & nonexempt employees may carry 20 accrued vacation days from January 21 of a calendar year until January 20 of the next calendar year. Accordingly, vacation accruals should be no higher than the 20 day maximum by January 20. Any vacation time accrued by monthly employees during January will not be included.

Weekly employees are required to reduce their vacation carryover to 31 days or less by January 20. Weekly employees may carry 31 accrued vacation days from January 21 of a calendar year until January 20 of the next calendar year.

For monthly exempt and non-exempt employees the electronic timecard ending January 20 should reflect any remaining vacation time over 20 days. For weekly employees, the Fiscal Services Division will notify all departments of the January weekly leave report cutoff date for charging vacation usage before their vacation accrual balance would be reduced. Any vacation time accrued by weekly employees after their cutoff date will not be included in the reduction.

There is no change in policy for the IBEW employees whose vacation cutoff date is September 17. This policy is stated in Article VI, Section 6.03 of the collective bargaining agreement.

Calendar

— WEEK OF 7/25 —

Monday, 7/25

Tech-Transfer Mtg. Open to Public

5 p.m. Brookhaven Center South Room. A distinguished panel of experts on funding technology startups will hold discussions. 5-5:30 p.m., refreshments and networking, 5:30-6:30 p.m. panel discussion, Q&A; 6:30-7:30 p.m., refreshments and networking. The fee is $10. For information on the panel speakers and on preregistration, which is required, see *www.bnl.gov/efw/*. Visitors to the Lab of 16 and older must carry photo ID.

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 regular business, committee reports, and the president's report.

Defensive Driving Course, Part II

6-9:15 p.m. Berkner, Room B.

Wednesday 7/27

***BSA Noon Recital: Pianofest**

Noon. Berkner Hall. Star pianists will perform. All are welcome to this free public event, sponsored by Brookhaven Science Associates. Visitors to the Lab of 16 and older must carry a photo ID.

Thursday, 7/28

***AdoptaPlatoon Benefit Car Wash**

11 a.m.-1 p.m. Firehouse. Have a glittering clean car and donate $5 to support AdoptaPlatoon's work in sending benefit packages to soldiers deployed overseas. See notice below.

— WEEK OF 8/1 —

Tuesday, 8/2

***Summer Intern Talent Show**

5:30 p.m. Berkner Hall. Join in or come to applaud. See notice below, left.

Wednesday, 8/3

Award-winning Documentary: Liberian Women Act for Peace

Noon.-1 p.m. Berkner Hall. The showing of Abigail Disney's award-winning film "Pray the Devil Back to Hell" chronicles the story of a group of Christian and Muslim Liberian women wo banded to end a civil war and bring peace. Sponsored by Brookhaven Women in Science, Peconic Bay Zonta, and Suffolk County Community College Office of Multicultural Affairs. The public is invited to this free event. Visitors to the Lab of 16 and older must bring a photo ID.

Car-Wash to Support AdoptaPlatoon, 7/28

To support the Brookhaven Veterans Association's AdoptaPlatoon efforts, get your vehicle washed at the Fire House between 11 a.m. to 1 p.m., Thursday, July 28 (raindate, Friday, July 29). Your donation to have a spiffy clean car will be $5.

Arrivals & Departures

— Arrivals —

Tim Chou..... Physics
Kazimierz Gofron..... Photon Scis
David Levy..... Photon Scis

— Departures —

Michael Pena..... NS&T
Richard Weston... Site Resources

TIAA-CREF One-on-One Retirement Counseling

A TIAA-CREF consultant will visit BNL on July 28, August 1, 4, 18, and 23, and September 7, 8, 12, 19, and 27, to answer employees' questions about their financial matters. For an appointment, please call 1-800-732-8353 or go online at *www.tiaa-cref.org/bnl* and select "set up a meeting."

Classified Advertisements

Current job openings and a statement of job placement policy at BNL are available on the homepage at *www.bnl.gov/HR/careers/*. To apply for a position, go to *www.bnl.gov* and select "Search Job List." For more information, call Ext. 2882.

Motor Vehicles

06 HD MOTORCYCLE NIGHT TRAIN – 6K mi. shwrm cond, Vance & Hines Short Shop Pipes. $12,000 neg. 845-490-1458.

06 SCION TC – 56K mi. blk, excel cond in/out, well maint'd. $11,000 neg. 848-1305.

02 CHEVROLET CAMARO – 38K mi. convertible, 35th Anniv Ed, Z28, V8, loaded, mint. $12,000. 275-0694 or irachel@bnl.gov.

99 HONDA ODYSSEY – 165K mi. 7-pass minivan, a/c, a/t new trsm 110K mi, new rad, clean, gd cond. $3,900 neg. 745-8633.

98 TOYOTA COROLLA LE – 163K mi. grn, a/c, a/t, m/roof, tpe/cd, c/c, side arbs, new catconv/brks/tires, $2,995 neg. 828-6201.

87 CHEVROLET CORVETTE – 96K mi. yellow, manl. trans, grt shape. $4,500 neg. Nick, Ext. 4028, 261-2502.

76 PONTIAC TRANS AM FIREBIRD - cmplet restor, a/t, 8 cyl, a/c, p/s, p/w, am/fm w/8 track, 1400/mi. $25,000 neg. 845-490-1458.

74 VW BEETLE – fully restor w/new paint, int. & eng, excel cond, black/gray, grt gas mi. $5,750. Ext. 2913 or guida@bnl.gov.

MOTOR HOME – '98 Newmark Kountry Air, 40', fully equip, 1 slideout, 50K mi, ask/$40K. Bob, 289-1834.

MOTOR SCOOTER – '07 Vespa 250cc, red, less than 600/mi, perfect cond w/2 helmets and cover, $3,350. 924-6937.

Boats

20' SEA RAY BOW RIDER – 1991, mint cond. 350 CI I/O Motor, s/s prop 2008 alum. trailer, extras. $5,700 neg. 312-6796.

20' SEASPORT 210 FAMILY FISH – '02 w/3.0 merc i/o, new carb, fuel pmp; full canvas, in water will demo. $9,200 neg. 445-2720.

19' 1986 BAYLINER CAPRI – '98, 120 Merc Force outbrd eng, well maint'd, Trailer incl. $2,300 neg. Bob, 804-2438.

Furnishings & Appliances

BIKE,REFRIGERATOR AND DESK – 9 spd bike,$40; compact 2/dr refrig/$35, wood desk/$25, all in gd cond. 882-0840.

COL. SECRETARY – 4 drawers, 30wx16d x66h, drop frt desk, hutch w/3 shelves, glass drs; w/maple chr, $150. Henry, Ext. 7509.

DINING RM SET – Briana buffet and table 42x72x32, 18" leaf, natural color, 4/chrs all black, $500/neg, 284-3956.

KIDS BUNK BED: twin top, couch/double bed below, needs futons/$100; wrought iron couch/lounge/chr/tbl/$200. 721-8440.

KITCHEN TABLE & CHAIRS – light maple table w/leaf and 4 spindle back chairs, 60"x 36", excel cond, $300. 678-3299.

KITCHEN TABLE SET – 36"x48" wht. Formica tbl w/remv leaf, 4 vinyl padded chrs, $150. Recliner, blck vinyl w/stool, Henry, Ext. 7509.

COUCH, LEATHER SECTIONAL – brand new w/2 built in recliners, pd over $3200, ask/ 1800, u- pic-up. Joseph, 264-5473.

BED – single, Col maple, w/white canopy, attached underbed drawers, $200. King headbrd. mahog., $150. Henry, Ext. 7509.

SLEIGH BED – q/size, iron, antique brnze fin., handpaintd wheat dsign on hdbrd/ftbrd, w/frame,hardware, $275. 395-9610.

WICKER PORCH SET – Love seat and 2/chairs, beige/$50. Susan, 929-0596.

Audio, Video & Computers

DVD/CD – 3 movies: The Pagemaster, The Seeker, Transformers, 1 DVD/TV Game; Deal or No Deal, $5/ea. Ext. 7918.

HOME STEREO EQUIPMENT – Technics 4 ch. amp & older Paradigm speakers w/sub, b/o. tsummers@bnl.gov.

MACBOOK AIR – 11" screen, 1.6GHz, 4 gig 1066 MHz DDR3 SDRAM, 128 GB Flash Storage, in orig. box, $1050. Ext. 8278.

MESA BOOGIE NOMAD 45 2X12 – barely used, all-tube 45W combo amp, LOUD!! 3/position ft switch, $700, tflanagan@bnl.gov.

SONY PORTABLE DVD PLAYER – 10" screen, in case, like new, pd/$227, ask/$75, 284-3956, eptsmiles@aol.com.

TV GAME – EA Sports Plug n'Play TV Game, 2 connected controllers, $5. Ext. 7918 or difilip@bnl.gov.

TV/VCR SYLVANIA – 19", manual, remote. Biling. Eng/Span. scrn instr., wake/sleep timers, more. $40. brookhaven@optonline.net.

Sports, Hobbies & Pets

CRAFT/READING TASK LIGHT – Ott-Lite True Color Lamp, missing swivel base, but fine stationary, $20. Donna A., Ext. 4599.

PUPPIES – Purebred Rottweiler, 3m/4f ask/$1,500, beautiful & loveable, seen by VET, 806-4714 or bmccafferty@bnl.gov.

TREADMILL – Nordic Track Power, Model PT60, rarely used, great cond, pd/$1300, ask/$500, have photos. 516-477-9119.

TREADMILL – Sears Proform 745CS, excel cond, folds up for storage, $250. 678-3299 or dgordon@bnl.gov.

TURTLE TANK – 20 gal long w/filter/light/stand, $50. Richard, Ext. 7129 or rlagattolla@bnl.gov.

WEIGHT BENCH W/WEIGHTS – adjust. angle bench, incl leg station, 155 lbs of weights & bar, $65. Ext. 3932.

Tools, House & Garden

MAILBOX POST – stainless steel, black powder coat, Post 4.5"x7', Arm 8"x18", $25. Ext. 5873.

TABLE SAW – 10" Delta contractor's table saw w/moveable base, great cond, ask/$300, have photos. 516-477-9119.

Miscellaneous

AUDI & VW REPAIR – Certified VW tech w/7 yrs exper. All types of repairs, maint to eng diag. day! William, 484-9888.

BABY TREND NURSERY CENTER – w/bassinet attchmt & musical mobile, $40. Donna, Ext. 2716, 897-2736.

BALDWIN SPINNET PIANO – great beginner piano, black, gd cond, always kept tuned, $500. Susan, 721-8440.

TODDLERS' ITEMS – 2 bikes: 1 boy's, red; 1 girl's princss/$10/ea, L. Tykes Climbing Struc. w/slide/$20; 2 chrs $5/ea; Ext. 5753.

COMIC BOOKS – Selling collector comics (DC/Marvel) up to 1985. Collection of 4500+, 375-9621, higgsboson70@yahoo.com.

PIANO – Upright, wood finish, painted blck, $200. Kelly, Ext. 7203, kroy@bnl.gov.

TICKET – 1/extra ticket to the DEF LEPPARD/HEART concert at Jones Beach, Sat, July 30, $30. Ext. 4656, awund@bnl.gov.

Lost & Found

EYE GLASS CASE – found, Anne Klein, leather-like, please call w/description. Gloria, Ext. 6273.

Happenings

CRUISE – 7 Day Caribbean Carnival Cruise, Apr 15, 2012: St Thomas, Barbados, St Lucia, St Kitts, St Marten w/1-fun day at sea. All for $846.72 dbl occup balc. Call for details. Kim, Ext. 2896, 399-3098 or khayes@bnl.gov.

MACHU PICCHU & THE GALAPAGOS – Aug 4, 7pm @ Brookhaven Free Library, sponsored by Richard Witkover of the Travel Program, call to reserve seat. 286-1923.

SUPPORT OF DONA BRANNIGAN – Bone Marrow Donor Drive, Sunday 7/31/11, 11am-5pm, Miller Place Firehouse, 12 Miller Place Road. 877-365-2949.

Free

MOVING BOXES – Approx 50 strong cardboard boxes incl 10 wardrobes, u-pic-up. Carol, Ext. 8964, ckessler@bnl.gov.

Wanted

ADOPT-A-PLATOON – Monetary donations gratefully accepted towards mailing shipments to military overseas and send goodie packages to BNL family members. Thank you. Joanne, jrula@bnl.gov.

BNL FAMILY MEMBERS IN MILITARY – If you have a family member that has been deployed overseas, please contact Adopt-a-Platoon so that we may send them a goodie package. Joanne, jrula@bnl.gov.

BOXTOPS & CAMPBELL'S UPCS – send to Bldg, 911A. Nina, Ext. 5894 or nrivera@bnl.gov.

CAR SEAT – I'm in need of a secondary Convertible/Toddler car seat for a 14 mo old. Rachel, Ext. 3500 or irachel@bnl.gov.

CAR WASHERS NEEDED! – Adopt-a-Platoon is having its car wash at the Fire House on 7/28 from 11a-1p. If you can help wash vehicles, please call. Thank you. Joanne, Ext. 8481.

FISHING GEAR – looking for fishing gear, rods/tackle etc at low cost. Ext. 3621.

SOCCER GOAL NET – seeking 6x12 soccer net, pref. portable, will pay reasonable fee. Deborah, Ext. 7582 or lange@bnl.gov.

For Rent

B'HAVEN/BELLPORT – 3 br ranch. 1 br = office, hwd flrs, new b/r, furn shared areas, Cbl/int, water, heat incl; not elect, 1 mo rent + sec. $900/mo. coachperryjv2@aol.com.

FARMINGVILLE – 1 v/lg/legal bdrm apt, l/r, eik, lg bath, 12 min to Lab, fully furnd, priv ent, no smkg/pets, bkyd, igp, all util, cable/int incl, prkg. $1,000/mo neg. 732-2472.

MASTIC – new 1 bdrm apt, full bath, new eik, new carpting/paint, priv ent, quiet, 8 min to BNL, walk to shop, util incl, no smkg/pets, $850 mo, 1/mo sec. $850/mo. 335-4907.

MEDFORD – 4 bm hse, w/state of art kitch, pool, IGS, 2 bth, att. gar, 15 mins to Lab; int. in hse swap in Nassau Cty, equiv $2100-$2500, call, discuss. $2,500/mo. 475-1297.

MIDDLE ISLAND – excel cond, Artistlake Dr, nr Walmart, 7 min to Lab, 1 BIG bdrm, Up Flr, 900sq ft, Sth Window, new appli. &decoration, no pets. $980/mo. 828-338-2328.

MIDDLE ISLAND – 1 BR Co-Op Hidden Meadows, cac/igp/tennis courts, beautiful. $1,100/mo. 516-297-1588.

RIDGE – spac. 4 rm apt, 4 mi to BNL gate, sep. outside ent, off st prkg, all util incl cble/int/heat/elec, Prof sing. pers., no smkrs/pets, flex lease, 8/15. $1,000/mo. 516-885-9113.

RIDGE – Studio, priv ent/prkg, 1 bdrm,l/r, kitchenette, minutes to Lab, non smkr/no pets, avail 08/01. $975/mo. 924-0002.

RIDGE – lg sunny studio, full kitch, bath, priv patio, cable, int access, all util incl, 5/mins from lab. $800/mo. Maggie, Ext. 4720, 775-0828 or mrando@bnl.gov.

RIDGE – 2 bdrm 2nd flr apt full bath w/tub, full kitch priv ent, 2 car off st prkg, plus utils. $1,200/mo. 793-1002.

RIDGE – 2 bdrm lower level bsmt apt bright and cheery lg and priv backs up to state land trails for bike riding $1000 + util. $1,000/mo. 793-1002.

ROCKY POINT – 1 bdrm upper unit, Rocky Point co-ops, no smkg/pets, must meet board approval, + util LIPA/Cable, heat incl, ics avail. $1,050/mo. 516-527-4902.

WADING RIVER – 1 bdrm apt, 2nd flr, kitch, l/r, d/r, full bath, incl heat/elec, Waterfront no smkg/pets, off st prkg, 1 or couple only, avail 8/1. $1,200/mo. 487-6841.

WADING RIVER – new, furn or not, studio apt, sep eik, tiled bath, priv ent, util/int/HD incl, no smkg, walk beach, 15 mins to Lab. $925/mo. Lisa, 804-8117.

For Sale

CALVERTON – Move right In, charming 2b/r, 2/bath cape nestled in quiet neighborhd w/views of Swan Lake and mins away from all. $299,000 neg. 831-0152.

MIDDLE ISLAND – 1 BR Co-Op Hidden Meadows, just reduced, cac/igp/tennis courts, beautiful. $84,900. 516-297-1588.

S. SETAUKET – Pristine 3 bdrm, 1 ba ranch, Three Village SD, CAC, new kitch, bath, windows, siding, drway & roof patio, priv yd, igs. $310,505 neg. awund@bnl.gov.

SHOREHAM – 3 bdrm Col., cul de sac, 1.5 ba, updated bath & kit w/stainless applis; new w/d, den w/f/p; wdshed, deck, SWRSD, 10 mins BNL. $369,000. Andrea, Ext. 3347.

SHOREHAM – 3 bdrm ranch, 1 bath, eiken, updated kit w/stainless appli, updated bath, SWRSD, 10 mins to BNL. $265,000 neg. 258-4607.

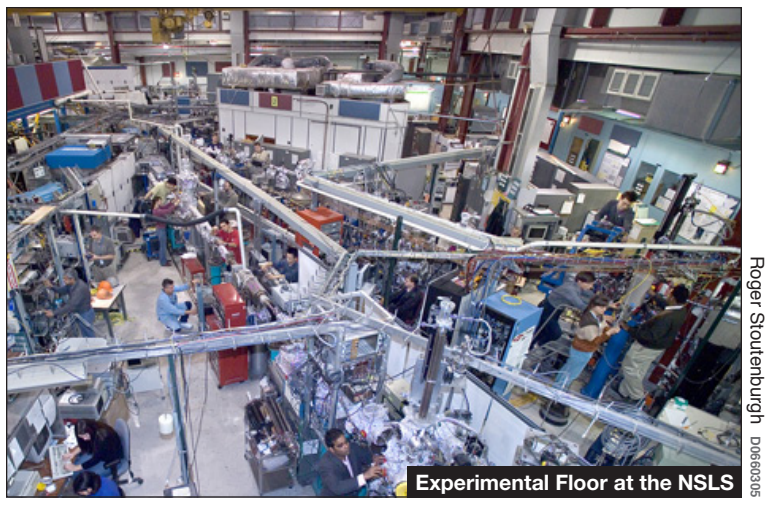
WESTHAMPTON BEACH – Turnkey 2/bdrm mobile home, 1/2 hr to BNL, quiet, any age park. $50,000 neg. Marty, 874-3478 or mhwoodle@gmail.com.

YAPHANK – 2 bdrm Condo, v/clean, 1.5 bath, l/r w/fp, full bsmt, oakwd flrs, fen patio, community pool/tennis/court, 4 min to Lab. $200,000. Vadim, 680-9247.

In Appreciation

Thank you to all my co-workers for your support, hugs, cards, and generous donations to Big Brothers Big Sisters of L.I. in memory of my Dad. Your kindness will forever be remembered. — Celeste Tymann

Remember the BNL Food Drive!



Experimental Floor at the NSLS

Roger Stoutenburgh D0660305

LOBs Taking Shape Around NSLS-II Ring

On this Summer Sunday of July 24, visitors will get the chance to check out the National Synchrotron Light Source II (NSLS-II) site, seen above in an artist's rendition. Visitors will be able to see how the actual construction is coming along and see some of the latest additions, such as the first laboratory-office building (LOB) for staff and users at NSLS-II. This LOB has taken shape quickly, in full view of Brookhaven Avenue on the north side of the ring building.

E.W. Howell is building two complete LOBs and three LOB shells. According to Mike Bromfield, NSLS-II Project construction engineer, the five LOBs are labeled starting with LOB1 at 12 o'clock on the north and continuing clockwise around the ring at the 2, 5, 7 and 10 o'clock positions. All construction is scheduled to be completed by December 2012.

Howell is also constructing the building that will house the hard x-ray nanoprobe (HXN) beamline, which hangs off LOB3.

Each LOB is approximately 40,000 square feet, said Bromfield. The building housing HXN is 4,200 square feet. He described the satellite HXN building as having a 39-inch-thick foundation to attenuate vibration and 10-inch-thick reinforced concrete walls on the experimental hutch for radiation shielding.

The LOBs are designed by HDR Architecture, Inc.

Said Ove Dyling, Assistant Director for Conventional Facilities Design Management, "The buildings are designed to bring in daylight, with clerestory windows in the ceilings. Built out, each LOB will have 10 shared laboratories plus a machine shop. The labs include wet labs, dry labs, electronics labs, optical labs and materials labs. Additionally, each LOB will be able to accommodate at least one special fume hood for nanomaterials work."

— Mona S. Rowe

Summer Sunday of 7/24: Visit the NSLS, NSLS-II

BNL's Summer Sundays — exciting science shows, tours of world-class science facilities, and hands-on educational activities for the whole family — are all for free! BNL is open on Summer Sundays through August 14, for the public, employees, and their families to enjoy a fun-filled visit while learning about dynamic scientific developments at the Lab.

No reservations are needed, but visitors age 16 and over must bring a photo ID. Visitors may arrive any time between 10 a.m. and 3 p.m. A different tour and new science show will be featured each week. The last facility visit takes place at 3 p.m. each week, and science shows will be held at noon, 1:30 p.m., and 3 p.m. each Sunday in Berkner Hall. A cafeteria and gift shop, also located in Berkner Hall, will be open until 2 p.m. and 4 p.m. respectively.

This Sunday, July 24: Brilliant Light, Dazzling Discoveries

Tour the National Synchrotron Light Source (NSLS). Visit the next-generation NSLS-II, now under construction and open to the public for the first time. Take the quiz on photon sciences for a chance to win a behind-the-scenes tour of NSLS. Hear local school teachers talk about bringing big science into their classrooms by accessing NSLS remotely. See how scientists use light to probe proteins, polymers, computer chips, and more. And don't miss the "Science Laser Light Spectacular" show.

July 31: More to Explore Day

A fabulous day of hands-on family fun! Use the basic scientific method to explore magnets, mirrors, and more. Hop aboard a fire truck and learn all about the Laboratory's protective services. Enjoy the "Phenomenal Physics with Mr. Fish" show.

August 7: Storm Hunters

Learn how meteorologists at the National Weather Service forecast the weather and track storms across the New York metropolitan area. Watch the launching of a weather balloon at 3:30 p.m. See the "Weather" show.

August 14: Atom-Smashing Fun

Visit the Relativistic Heavy Ion Collider, a world-class particle accelerator where physicists recreate the conditions in the universe as they believe it existed microseconds after the Big Bang! Stump a physicist, and meet "Einstein Alive." This science facility tour is appropriate for children age 10 and over.

the Bulletin

Published weekly by the Media & Communications Office for the employees, facility users, and retirees of Brookhaven National Laboratory.

Liz Seubert, editor
Joe Gettler, assistant editor
Roger Stoutenburgh, photographer

On the Web, the Bulletin is located at *www.bnl.gov/bnlweb/pubaf/bulletin.asp*. A calendar listing scientific and technical seminars and lectures is found at *www.bnl.gov/bnlweb/pubaf/calendar.asp*.

Bldg. 134, P.O. Box 5000
Upton, NY 11973-5000
phone: (631) 344-2345
fax: (631) 344-3368
e-mail: *bulletin@bnl.gov*