



Ryan K. Morris

## BNL's Joanna Fowler Awarded National Medal of Science

At a White House ceremony on October 7, President Barack Obama presented Joanna Fowler, a senior chemist and Director of the Radiotracer Chemistry, Instrumentation and Biological Imaging Program at BNL, with the National Medal of Science. Fowler is one of nine researchers named by the President to receive the medal, the nation's highest award for lifetime achievement in science. The National Medal of Science was created by statute in 1959 and is administered for the White House by the National Science Foundation. The annual award recognizes individuals who have made outstanding contributions to science and engineering. For more on Fowler and the award, see the Bulletin of October 9, 2009, or [http://www.bnl.gov/bnlweb/pubaf/pr/PR\\_display.asp?prID=1010](http://www.bnl.gov/bnlweb/pubaf/pr/PR_display.asp?prID=1010), where a video of the presentation ceremony is also available.

## More Breakthrough Research Conducted by NSLS Users...

The following news, taken from a press release distributed by New York University, highlights breakthrough research conducted, in part, at BNL's National Synchrotron Light Source and now published in the journal *Nature*.



Roger Stoulenburgh CH-544-88

## Chemists Create 3-D DNA Crystals Promising Range of Industrial, Pharmaceutical Applications

A team of chemists has created three-dimensional DNA structures, a breakthrough bridging the molecular world to the world where we live. The work, reported in the journal *Nature* 461, 74-77 (3 September, 2009), also has a range of potential industrial and pharmaceutical applications, such as the creation of nanoelectronic components and the organization of drug receptor targets to enable illumination of their 3D structures.

Researchers from New York University (NYU), Purdue University, and Argonne National Laboratory created 3D DNA structures by using single-stranded sticky ends that link double helices in DNA triangles that point in different directions. While scientists, including those involved in this study, have previously designed and built crystal structures, these compositions have been two-dimensional—that is, their axes are on a single plane—and are not the most complete representation of crystals.

To address this limitation, the research team, led by NYU's Nadrian Seeman with Chengde Mao of Purdue, designed and built three-dimensional DNA crystals—a process that requires significant spatial control of the 3D structure of matter.

As part of the research, x-ray diffraction data were collected from DNA crystals and their iodinated derivatives on beamlines X6A and X25 at the National Synchrotron Light Source (NSLS) at BNL and on beamline ID19 at the Structural Biology Center at Advanced Photon Source in Argonne, Illinois.

The research was supported by grants from the National Institute of General Medical Sciences, the National Institutes of Health, the National Science Foundation, the Army Research Office, the Office of Naval Research, and the W.M. Keck Foundation. BNL's NSLS is supported by the the DOE Office of Science.

For more information, see the NYU news release at [http://www.bnl.gov/bnlweb/pubaf/pr/PR\\_display.asp?prID=1004](http://www.bnl.gov/bnlweb/pubaf/pr/PR_display.asp?prID=1004) or the article at <http://www.nature.com/nature/journal/v461/n7260/full/nature08274.html>.

# THAT MAKES SEVEN



## Seminal Work Conducted at BNL For 2009 Nobel Prize in Chemistry

With both resident and visiting scientists in many fields, the outstanding mix of machine- and mind-power at Brookhaven Lab has now produced seven Nobel Prizes, the greatest honor in science.

Two of this year's three recipients of the Nobel Prize in Chemistry conducted a substantial part of their award-winning research at the National Synchrotron Light Source (NSLS) at BNL.

Venkatraman Ramakrishnan, a former employee in BNL's Biology Department and long-time user of the NSLS, now at the Medical Research Council Laboratory of Molecular Biology in Cambridge, UK, and Thomas A. Steitz of Yale University, also a long-time NSLS user, share the prize with Ada E. Yonath of the Weizmann Institute of Science "for studies of the structure and function of the ribosome."

Ribosomes make the thousands of proteins that are required for the structure and function of each living cell. Specifically, the ribosome translates the genetic instructions encoded by DNA into chains of amino acids that make up proteins. It is composed of two subunits: 30S, which reads the code, and 50S, which links up the amino acids.

Starting in the late 1990s, both Ramakrishnan and Steitz used a technique called x-ray crystallography at the NSLS to gather atomic-level structures of these two ribosome subunits, Ramakrishnan on 30S and Steitz on 50S. In this technique, scientists analyze how a beam of powerful x-rays is scattered by molecules arranged in a crystal to determine the positions of the molecule's individual atoms.

Ramakrishnan began his work on ribosomes while a member of Biology from 1983 to 1997, first at the High Flux Beam Reactor and later at the NSLS. Even after leaving the Lab to join the University of Utah, he used the



MRC Laboratory of Molecular Biology

Venkatraman Ramakrishnan



Michael Marsland/Yale University

Thomas A. Steitz

NSLS to collect crystallography data that contributed directly to his Nobel Prize. In 1999, his research at NSLS beamlines, especially X25, resulted in the first report of a low-resolution structure of the 30S subunit. In 2000, Ramakrishnan helped uncover the high-resolution version of the structure, which was based on data from the NSLS, the Advanced Photon Source (APS) at Argonne National Laboratory and the European Synchrotron Radiation Facility.

At about the same time, Steitz worked with BNL's Biology Department to collect NSLS data on the 50S subunit. The first low-resolution structures were solved in 1998 and 1999 using NSLS beamlines X12B and X12C. In 2000, Steitz's team presented the first high-resolution structure of the 50S subunit using data from NSLS beamlines X12B and X25 and from the APS.

These studies map ribosome functionality at the most basic, atomic level — providing information that is a springboard for researchers to more detailed investigations. The structures of 30S and 50S have been crucial to understanding everything from how the ribosome achieves its amazing precision to how different antibiotics bind to the ribosome, knowledge that could help researchers come to grips



Ramakrishnan's high-resolution structure of 30S ribosomal subunit, based on data collected at NSLS, APS, and ESRF, was published in *Nature* in 2000.

with the problem of drug-resistant bacteria.

The NSLS is supported by the DOE Office of Science. Support for operation of all three of the NSLS beamlines used in this seminal work came from the DOE Office of Science and the National Institutes of Health's National Center for Research Resources.

For extended coverage of this story, go to [http://www.bnl.gov/bnlweb/pubaf/pr/PR\\_display.asp?prID=1016](http://www.bnl.gov/bnlweb/pubaf/pr/PR_display.asp?prID=1016). For more information, see [http://nobelprize.org/nobel\\_prizes/chemistry/laureates/2009/press.html](http://nobelprize.org/nobel_prizes/chemistry/laureates/2009/press.html) and [http://www.bnl.gov/bnlweb/pubaf/pr/PR\\_display.asp?prID=1015](http://www.bnl.gov/bnlweb/pubaf/pr/PR_display.asp?prID=1015).

— Kendra Snyder

## Public Hearing by Advisory Board On Radiation and Worker Health

This notice, which was included in the Monday Memo of October 12, 2009, and the Bulletin of October 9, 2009, was also sent out by interoffice mail to BNL employees and by regular mail to retirees.

Current and former BNL employees, contractors, and subcontractors who have or had cancers that they believe to have been caused by workplace radiation exposure or any other toxic substances at DOE sites, including BNL, can apply for Federal benefits offered through the Energy Employees Occupational Illness Compensation Program Act (EEOICPA). For more information see: <http://www.dol.gov/esa/owcp/energy/>.

In 2000, a Presidential panel, the Advisory Board on Radia-

tion and Worker Health, was appointed to provide technical advice to EEOICPA on cancer causation and on how best to estimate radiation dose. The Board is especially interested in work, through the years, that might have involved radiation exposure, as well as information about radiation monitoring and reporting practices, including throughout BNL's history.

The Advisory Board is meeting at Danford's in Port Jefferson; and representatives from the National Institute for Occupational Safety and Health will be available to answer questions. On October 20, 4:30-6 p.m., and on October 21, 6-7:30 p.m., the public will have the opportunity

to provide comments regarding radiation exposures to the Board. The comments will be documented in the official record (individual's names will be kept confidential).

The Department of Labor will be on hand to answer any questions on filing a claim on either radiation exposures or exposures to all toxic substances.

An agenda for the meeting can be found online: <http://www.cdc.gov/niosh/ocas/pdfs/abrw/2009/da102009.pdf>.

If you need more information, please contact Joseph Falco, MD, MPH, BNL Point of Contact to the Energy Employees Occupational Illness Compensation Program, [falco@bnl.gov](mailto:falco@bnl.gov), Ext. 3666.



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 may be found at [www.bnl.gov/hospitality/calendar.asp](http://www.bnl.gov/hospitality/calendar.asp).

— 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 schedul. 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](mailto:alforque@bnl.gov)

Mondays & Thursdays: Kickboxing

\$5 per class. Noon-1 p.m. in the gym. Pay as you go. Ext. 2873.

Mon., Tues., Thurs., & Fri.: Tai Chi

Noon-1 p.m., B'haven Cntr N. Rm. Adam Rusek, Ext. 5830, [rusek@bnl.gov](mailto:rusek@bnl.gov)

Tuesdays: Zumba

Tuesdays, 12:15-1:15 p.m. Gym. Registration is required. Ext. 2873.

Tuesdays: Knitting Class

2-4 p.m. Rec. Hall. All levels of skill. Ext. 5090 for information.

Tuesdays: Toastmasters

3 monthly meetings: 2nd Tuesday: Noon, Berkner, Rm. D: 1st & 3rd Tuesdays, 5:30 p.m., Bldg. 463, Rm 160. Guests, visitors welcome. <http://www.bnl.gov/bera/activities/toastmstrs/>

Tue., Wed., & Thurs.: Rec Hall Activities

5:30-9:30 p.m. General activities, TV, ping pong, chess, games, socializing. Christine Carter, Ext. 5090

Tuesdays & Thursdays: Jiu Jitsu

6:30-7:30 p.m. Tuesdays: Brookhaven Center, Thursdays: Gym. All levels, 6 yrs. to adult. Tom Baldwin, Ext. 4556.

Tuesday & Thursday: Aqua Aerobics

5:30-6:30 p.m., Pool. Registration is required. Ext. 2873

Wednesdays: On-Site Play Group

10 a.m.-noon. Apartment area playground. Infant/toddler drop-in event. Parents meet while children play. Ext. 2873.

Wednesdays: Ballroom Dance Class

Classes at 5:15, 6:15, and 7:15 p.m., based on experience. North Ballroom, B'haven Center. Donna Grabowski, Ext. 2720.

Wednesdays: Yoga

Noon-1 p.m., B'haven Center. Free. Ila Campbell, Ext. 2206, [ila@bnl.gov](mailto: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

Noon-1 p.m., First Thurs. of month. Toni Hoffman, Ext. 5257

Thursdays: Reiki Healing Class

Noon-1 p.m., Call for location. Nicole Bernholz, Ext. 2027

Thursdays: Craft and Cooking Club

2 p.m. Rec Hall. Free. Ext. 2873.

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](mailto:alforque@bnl.gov)

Fridays: Family Swim Night

5-8 p.m. BNL Pool. \$5 per family. Ext. 2873.

Fridays: Family Gym Night

5-8 p.m. Family gym activities. Free. Ext. 2873.

In Memoriam

**Ralph Perry**, who joined the Instrumentation Division as a technician B on February 18, 1957, and retired as a technical associate I on July 22, 1994, died on May 2, 2009. He was 80 years old.

**Michael Stachnik, Jr.**, who joined the Plant Engineering Division as a custodian on April 24, 1979, was promoted to tool and crib attendant in 1986, and retired on September 6, 1993, died at age 80 on September 6, 2009.

Colleagues and family members who would like to contribute more information or interesting stories about BNL retirees who have died, to be posted on that retiree's page in the Bulletin Obituary section, [www.bnl.gov/bnlweb/pubaf/bulletin/obit/](http://www.bnl.gov/bnlweb/pubaf/bulletin/obit/), are asked to contact Liz Seubert, [lseubert@bnl.gov](mailto:lseubert@bnl.gov) or Ext. 2346.

In Memoriam: Gerhart Friedlander

Senior Chemist Emeritus Gerhart Friedlander, who began his distinguished career at BNL when he joined the Chemistry Department on January 1, 1948, died on September 6, 2009. He was 93. While Friedlander had retired on April 30, 1981, he remained active in research for more than a decade afterwards, and for many years gave talks annually to undergraduate students in BNL's Summer School for Nuclear Chemistry. In addition, he was a member of a committee of nine BNL scientists — all National Academy of Sciences members — who recommended candidates for major scientific awards. In December 2007, in honor of his numerous noteworthy contributions to BNL's reputation as a world-class scientific institution, Friedlander was named Senior Chemist Emeritus.

Said Lab Director Sam Aronson, "Gert joined Chemistry in 1948 after working on the Manhattan Project, and he chaired the department for almost a decade. His extensive research contributions and exceptional administrative ability proved invaluable assets to Brookhaven. In addition, he was a talented musician, a fine wit, and a warm and hospitable friend."

Alex Harris, Chemistry Chair, commented on Friedlander, "Gerhart had a tremendous influence on shaping Brookhaven's scientific efforts in chemical sciences as a researcher and manager. He was also very influential in education."

In his early days at BNL, Friedlander led research in high-energy nuclear reactions at BNL's Cosmotron, the first accelerator in the world to send particles to energies in the billion-electron volt region. Later, he pursued

this research at the AGS. With colleagues from several institutions in the U.S. and abroad, Friedlander pioneered the development of computerized Monte Carlo calculations of nuclear reaction mechanisms, helping to formulate theoretical models that are still used today.

Both before and after his retirement, Friedlander played a leading role in advocating for and preparing the gallium solar-neutrino experiment, which eventually came to fruition as the international GALLEX experiment in the Gran Sasso Underground Laboratory in Italy. BNL chemist Raymond Davis Jr. won the 2002 Nobel Prize in Physics for being the first to detect solar neutrinos, but he consistently detected fewer neutrinos than predicted by theory. The GALLEX experiment, including a BNL team led by Richard Hahn of BNL's Chemistry, was aimed at determining why this was so and established that the cause of the discrepancy lies in the intrinsic properties of neutrinos.

Friedlander was senior author of the classic textbook *Nuclear and Radiochemistry* that he wrote with Joseph W. Kennedy. Written in 1948 with the title *Introduction to Radiochemistry*, it has gone through several revisions, has been printed in eight languages, and is still used today. Friedlander also trained numerous postdoctoral research associates during his career at BNL.

In the 1990s, Friedlander was editor-in-chief of a new magazine, *Science Spectra*. While intended for a general audience interested in science from astrophysics to psychology, the articles were written by experts in their fields, including several Nobel Laureates.



Roger Stoudenbough 01/22/10/7

Born in Munich, Germany, Friedlander came to the U.S. in 1936, and he received his Ph.D. in nuclear chemistry from the University of California, Berkeley, in 1942. In 1942-1943, he was an instructor at the University of Idaho, and, after serving on the Manhattan Project from 1943 to 1946 at Los Alamos National Laboratory, he worked at the General Electric Research Laboratory. After joining BNL as a chemist in 1948, he was named senior chemist in 1952, and served as chair of the Chemistry Department from 1968 to 1977.

In addition to being a member of the National Academy of Sciences, Friedlander was a member of the American Academy of Arts and Sciences, and a fellow of the American Physical Society and the American Association for the Advancement of Science. He was also an honorary member of the Hungarian Academy of Sciences. His honors included the American Chemical Society Award for Nuclear Applications in Chemistry, the Alexander von Humboldt Senior U.S. Scientist Award, and honorary doctorates from Clark University and the Johannes Gutenberg University in Mainz, Germany.

More intangible honors were heaped on Friedlander in 2006, at his 90th birthday celebration attended by colleagues from the U.S. and abroad. Highlights: "Gerhart's outstanding ethics influenced my whole life;" "a teacher, mentor, colleague, and friend, not just to me, but to so many in this room;" "you enriched my life;" "Gerhart and his group made significant contributions to the understanding of high energy nuclear reactions with emphasis on multifragmentation;" "from your work, a new field opened up, still studied today;" "an excellent writer and demanding editor;" "a superb scientist and a courageous administrator;" and "a man of major accomplishments in education, science, and public service, truly the embodiment of 'fiat lux.'"

A resident of South Setauket, Gerhart Friedlander is survived by his wife of 28 years, Barbara Strongin; two daughters, Ruth Huart and Joan Hurley, from his marriage to Gertrude Maas, who died in a car accident; four stepchildren, Rabbi William Strongin, Stacey Strongin Blaney, Ronni Mordechai-Strongin, and David Strongin; four grandchildren; six step-grandchildren; and two great-grandchildren.

Contributions in Friedlander's memory may be made to Union of Concerned Scientists, 2 Battle Square, Cambridge, MA 02238, and Planned Parenthood H/P, 70 Maple Avenue, Smithtown, NY 1178. A celebration in music dedicated to his memory will be held on Sunday, November 1, 2-4 p.m., at Jefferson's Ferry on Wireless Road and Rt. 347, South Setauket.

— Diane Greenberg and Liz Seubert

Benefits Open Enrollment Begins October 28

Open enrollment for medical and dental benefits, the health care and dependent day care reimbursement accounts, and the vacation buy plan will begin on October 28 and will continue through November 10. During this time, eligible participants may add or drop medical and/or dental coverage, change from one medical and/or dental plan option to another, add/drop family members covered, and/or sign up for the reimbursement account(s) and the vacation buy plan. All changes made during the open enrollment period are effective January 1, 2010.

The following changes/enhancements have been made for 2010:

- Employee contributions to the medical plans have been adjusted to reflect 2010 plan costs. For non-bargaining unit employees, contributions will rise 6.6 percent for Aetna, 9.1 percent for CIGNA, 10.2 percent for HIP and 3.5 percent for Vytra.
- Online enrollment will be available for the medical, dental and vacation-buy plans and the reimbursement accounts. Kiosks will be available in the lobby

of Human Resources, Bldg. 400B, for online open enrollment, and representatives from the Benefits Office will be available to assist you.

- Beginning 1/1/2010, PayFlex will administer the health care and dependent day care reimbursement accounts. New and improved features will include a debit card you can use to pay for certain claims at the physician's office or pharmacy, daily claims processing, ability to submit claims online, improved claim forms for those expenses where you don't use the card, and direct deposit of reimbursements. CIGNA will continue to administer claims incurred during 2009.
- A new transit commuter reimbursement account will allow employees to set money aside on a pre-tax basis for expenses associated with commuting to and from work, such as vanpooling, trains, subways and buses.
- The CIGNA dental PPO and the EBS-RMSCO dental plans now include coverage for dental implants.

- Same-sex domestic partners no longer need to have lived with their partner for a period of at least 12 months prior to enrolling them in the medical and or dental programs. In addition, proof of domestic partnership now includes marriage license and domestic partner registry.

Plan representatives will be available to discuss the changes and advise employees on their elections. A **lunchtime seminar** on the reimbursement accounts (health care, dependent day care and transit commuter) will be held in Berkner Hall on November 4, noon-1 p.m. The **medical and dental** companies will also have **representatives** available on November 5 in the lobby of the Bldg. 400, 11 a.m. – 2 p.m.

Employees should receive their 2010 open enrollment booklet by October 26. It will provide items to consider when you make your elections, comparisons of the medical and dental programs, and the cost of benefits for 2010. It also contains information on many other Lab benefits available to employees. Open enrollment information for retirees and par-

ticipants on long-term disability will be mailed and should arrive on or about October 26.

All are encouraged to review the information provided in the open enrollment material. Weigh the medical premium against the coverage the plan provides. You may find that electing a different plan from the one in which you are currently enrolled may meet your needs and lower your medical premiums.

Reimbursement account and vacation buy elections do not carry over from one calendar year to the next, so if you want to participate in 2010, you must enroll during the open enrollment period.

To access online enrollment, log into PeopleSoft HR and click on the following links: Employee Self Service, Benefits, Open Enrollment, and then select the coverage(s) you are changing. If you enroll online, you will receive a confirmation of your election from the Benefits Office at the end of the open enrollment period. Retiree elections are currently only available by completing a form.

For more information, call the Benefits Office, Ext. 5126/2877.





# Employee Support Program

Effective ongoing honest communication between employees and management is a fundamental principle of Laboratory personnel administration so that employees may receive a prompt and reasonable response to their work-related questions and complaints. The BNL Employee Support Program provides several different routes for seeking solutions to these problems.

Most of the time, complaints can be resolved by working within the supervisory structure of a Department/Division. If this is not possible, there are other options, listed below. This list, with more information on each part, is available on the homepage by clicking on the Employee Support Program (bottom of left-hand column), which links to [https://sbms.bnl.gov/sbmsearch/ProgDesc/ESP/ESP\\_PD.cfm?ProgdescID=100](https://sbms.bnl.gov/sbmsearch/ProgDesc/ESP/ESP_PD.cfm?ProgdescID=100)

The Laboratory's **Employee Relations Program** provides guidance to employees and managers to resolve work-related issues in a fair and equitable fashion. *Ext. 2888, Ext. 5735.*

The **Brookhaven Advocacy Council** (BAC) advises and makes recommendations to the Lab Director on resolving employee, guest, and user concerns brought to its attention. *Ext. 4200.*

The **Scientific Staff Ombudsperson** is a senior scientific staff member whose role is to provide guidance to scientists in resolving and managing issues that may come up during their employment or stay at the Lab. The Ombudsperson reports to the Lab Director. [bond@bnl.gov](mailto:bond@bnl.gov).

**Safety** is everyone's responsibility. BNL staff and non-BNL



staff who observe suspected hazards, or unsafe or unhealthy working conditions at BNL are encouraged to go to the Reporting Environmental, Safety & Health Issues and Suggestions web page, or call the BNL ES&H Hotline, *Ext. 8800*. If conditions present an imminent danger, employees must exercise their Stop Work authority.

The **Employee Concerns Program** is a formal mechanism that addresses unresolved issues related to mismanagement, gross waste of funds, abuse of authority, and environment, safety, and health. *Ext. 2888.*

The **Diversity Office** assists managers with attracting, retaining, and developing a diverse workforce with the skills and leadership to support the Lab's vision of becoming a world-class science institution. Fair treatment and equal opportunity for all employees in an environment free from harassment should be regarded

as the Laboratory's way of doing business. *Ext. 3318.*

The **Employee Assistance Program** (EAP) is designed to help with mental health problems that occur on the job or impair job performance. The EAP Manager also provides individual employees and Lab management with information and training on mental health issues. *Ext. 4567.*

It is the Laboratory's policy to seek to uncover wrongdoing, including fraud, waste, abuse, misuse, corruption, criminal acts, or other intentional mismanagement; report such abuses to proper authorities; and ensure corrective actions are taken (see the **Fraud, Waste, Abuse, Corruption, and Other Criminal Offenses Program** description). *Ext. 7759.*

The **Conflict Resolution Committee** serves as a resource for the Laboratory in situations concerning violent behavior or threatening behavior that lead a person to believe that another individual poses a threat to their physical well being. *Ext. 4429.*

Should a concern not be addressed to the employee's satisfaction, he or she can contact the **Department of Energy** (DOE) by writing to the DOE Site Office, Building 464, Upton, NY 11973, or by calling the DOE Employee Concerns Program, (631) 344-4089.

DOE has a process for resolving differing professional opinions, *Differing Professional Opinions Manual for Technical Issues Involving Environment, Safety, & Health*, (DOE M 442.1-1). For information, call (631) 344-4089. DOE will maintain confidentiality, if requested.



The new court flooring is raised off the surface to facilitate drainage and prevent water damage.

## North Tennis Courts Resurfaced

The Brookhaven Employees' Recreation Association (BERA) has collaborated with the Maintenance & Fabrication Division on the refurbishment of the north tennis courts. The resurfacing of the courts began on Monday, September 14, but wet weather delayed the completion of the project until last week.

BERA/Recreation chose to install PowerGame, a surface offered by court flooring company Sport Court. It was chosen because it offers fast and easy installation and is significantly less expensive than traditional resurfacing. PowerGame has been approved by the International Tennis Federation and has been rated a "fast" surface.

The new surface is quite durable, weather resistant, and promises to reduce joint stress on lateral knee movement. A similar material was successfully installed in the gymnasium two years ago. It is appropriate for athletes of all ages and levels of play. BERA has plans to announce a celebratory autumn tennis day in the coming weeks. Questions? Call Ext. 2873.

— Steven Deitz

## Walk to Help Fight Breast Cancer, 10/18

The annual "Making Strides Against Breast Cancer Walk" is this Sunday, 10/18, at Jones Beach State Park. Register at parking field 5 between 8 a.m. and 11 a.m. Pick up a registration form at the BERA Sales Office or start your own on-line fundraising team: [makingstrides.acsevents.org/longisland](http://makingstrides.acsevents.org/longisland).

## Learn French. Other Languages

Hold off on purchasing that expensive computer software to learn French — an on-site French class for beginners is waiting for you. Taught by volunteer Tatiana Tchoubar, the class is held on Tuesdays, 1 – 2 p.m. in the Recreation Building (Bldg. 317). The class is offered through the Lab's English for Speakers of Other Languages (ESOL) Program. All who would like to learn basic French are welcome.

The Lab's ESOL program can help better your English, French, or Russian skills, no matter your skill level and whether your interest is personal or professional. There is even a weekly "French for Children" class for ages three to eight.

Most ESOL classes are held at the Recreation Building (Bldg. 317) in the apartment area. For more information, including class days/times, and to register for the upcoming French class for beginners, visit the ESOL website, [www.bnl.gov/esol/default.asp](http://www.bnl.gov/esol/default.asp), or e-mail Jennifer Lynch, [jlynch@bnl.gov](mailto:jlynch@bnl.gov).

## Defensive Driving Course: Two Parts, 10/19 & 20

The next six-hour Defensive Driving (Point & Insurance Reduction) course will be held in two parts on Monday and Tuesday: October 19 and 20, in the Brookhaven Center South Room, 6 p.m.–9:15 p.m. The course is open to BNL, BSA, and DOE employees, facility-users, and their families. The cost is \$38 per person. Pre-registration is required. To register, call Ed Sierra, 821-1013, and leave a message. Or take a New York DMV approved course online: <http://www.lidriveSAFE.com/>.

## CALENDAR

### — WEEK OF 10/19 —

#### Monday, 10/19

##### Relax with Hypnosis

Noon-1 p.m. Berkner Hall. Maria Kerr, Licensed Social Worker and Hypnotherapist, will talk on "Using Hypnosis to Relax Your Body and Mind." Body & Soul event. Pre-registration is required. See <http://intranet.bnl.gov/body/soul/>

##### \*Defensive Driving, Part I of Two

6-9:15 p.m. Brookhaven Center South Room. \$38. Call 821-1013, leave tel. no. See notice below, left.

#### Tuesday, 10/20

##### Mountain Bike Ride

Gazebo by the ball fields. Body & Soul activity. Two routes, either 5 or 8 miles. Helmets are required. To register, see <http://intranet.bnl.gov/body/soul/> or call Ext. 8612.

##### \*Defensive Driving, Part II of Two

6-9:15 p.m. Brookhaven Center South Room. Part II. See notice below, left.

#### Wednesday, 10/21

##### Body & Soul Yoga

Noon-1 p.m. Brookhaven Center. Experience yoga with Ila Campbell. Register at <http://intranet.bnl.gov/body/soul/>

##### Advanced Table Tennis Tournament

5 p.m. Bldg. 317. Body & Soul activity. Come to play or watch. Preregister at [pping-pong-L@lists.bnl.gov](mailto:pping-pong-L@lists.bnl.gov).

#### Thursday, 10/22

##### Body & Soul Screening Day

11 a.m.-1:30 p.m. Bldg. 400 lobby. Health screenings, Q&A with experts in nutrition, exercise, more. All welcome.

#### Saturday, 10/24

##### \*Beatles Tribute Band Concert

8 p.m. Berkner Hall. Rock band "Mostly Moptop" will perform. For ticket information, see left.

### — WEEK OF 10/26 —

#### Monday, 10/26

##### 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.

#### Wednesday, 10/28

##### 453rd Brookhaven Lecture

4 p.m. Berkner Hall. Richard Ferreri, Medical Department, will talk on "Striving Toward Energy Sustainability: How Plants Will Play a Role in Our Future." All are welcome to this free talk. Visitors to the Lab of 16 or more must carry a photo ID.

## Arrivals & Departures

### — Arrivals —

Michael Lucas.....NSLS-II  
Louis Papa..... Maint. & Fab.  
Lee Suarez.....NSLS-II  
Tami Toto..... Envir. Scis.  
John Sullivan ..... Maint. & Fab.  
Steven Wohl..... Envir. Scis.

### — Departures —

Hongli Zhai..... Medical

## Celebrate Body & Soul

Body & Soul health activities are ongoing during October, sponsored by Brookhaven Science Associates and chaired by Michael Thorn and Jorge Romero through the Human Resources & Occupational Medicine Division. All the Lab community is invited to participate. For more information and to register for events, go to <http://intranet.bnl.gov/body/soul/>.

## Beatles Tribute Band 'Mostly Moptop,' 10/24

The classic rock band Mostly Moptop will perform on Saturday, October 24, at 8 p.m. in Berkner Hall. Sponsored by the BNL Music Club, the event is open to the public. All visitors to the Lab of 16 and older must bring a photo ID. Formed in 1995, Mostly Moptop performs music from the Beatles repertoire as well as other classic rock songs from the 1960s to the early 1980s. They have performed with musicians including Micky Dolenz of the Monkees, Petula Clark and Doc Severinsen. Tickets are \$15 in advance, \$20 on the day of the show. Buy tickets at the BERA Store or through [www.ticketweb.com](http://www.ticketweb.com). See also [www.myspace.com/mostlymoptop](http://www.myspace.com/mostlymoptop).



## Ballroom Dance Lessons Start 10/21

Three new six-week sessions of weekly ballroom dance lessons, sponsored by the BNL Ballroom Dance Club and given by instructor Giny Rae at a cost of \$33 per person for each session, will start on Wednesday, October 21. The new schedule is as follows:

**Beginner salsa lessons:** 5:15–6:15 p.m.

**Beginner/intermediate mambo lessons:** 6:15–7:15 p.m.

**Intermediate Viennese waltz:** 7:15–8:15 p.m.

Classes are held in the North Ballroom of the Brookhaven Center. Lessons are open to all BERA members: BNL employees, retirees, official BNL visitors and their immediate families (spouse and children). Each BERA member may bring a guest, but a guest is not necessary to participate. For more information contact: Donna Grabowski, Ext. 2720; John Millener, Ext. 3853 or Kathleen Tuohy, Ext. 3845.

## Celebrate Diwali, Festival of Lights, 11/7

Celebrate Diwali — the Festival of Lights — with the BERA Indo-American Association (IAA), on Saturday, November 7, starting at 3 p.m. in Berkner Hall. This event showcases the rich culture and traditions of the Indian subcontinent through music, dance and arts. Indian snacks and a semi-formal Indian dinner after the cultural program will be served. A Rangoli Display is also planned. Anyone interested may contact Kumi Pandya at [pandya@bnl.gov](mailto:pandya@bnl.gov). Tickets are: adults, \$15; and children under 12, \$9. After 10/31, adults/\$17 and children/\$10. You may pay through PayPal using credit cards. Visit the following website for a request to perform and for reservations: <http://www.bnl.gov/bera/activities/iaa/diwali2009>. Tickets are fully refundable if cancelled by November 4. Visitors to the Lab of 16 and over must bring a current photo ID.



## Classified Advertisements

To apply for a position, go to [www.bnl.gov](http://www.bnl.gov). Select "Job Opportunities," then "Search Job List."

**LABORATORY RECRUITMENT** - Opportunities for Laboratory employees only.

**STAFF ENGINEER/FACILITY SUPPORT REPRESENTATIVE (P-5)** - Requires a BS degree in health physics or closely related technical field. Must have successfully completed the Department of Energy (DOE) radiological control standardized core requirements and be currently or have previously qualified as a Radiological Control Technician (RCT). A minimum three years of experience in DOE radiation protection work activities, substantial knowledge of radiological work coverage, contamination and materials control, radiation detection theory, and as low as reasonably achievable (ALARA) principles. Knowledge of DOE radiological protection standards and federal regulations on occupational radiation protection (i.e., 10CFR835) is required as are strong problem-solving abilities and excellent oral and written communication skills. Responsibilities include performance of RCT roles and responsibilities, evaluation of radiological work activities, preparation of radiological work permits, with an emphasis on assisting senior Facility Support Representatives in the full implementation of BNL ES&H Program requirements. Radiological Control Division. Apply for Job ID #15066.

**OPEN RECRUITMENT** - Opportunities for Lab employees and outside candidates.

**POSTDOCTORAL RESEARCH ASSOCIATE (Molecular Biology, Bioinformatics)** - Requires a Ph.D. in molecular biology and bioinformatics, and knowledge of the plant model system. Experience with Arabidopsis is a plus. Laboratory experience in growing Arabidopsis plant in the morphological level, radiolabeling stem cells, and preclinical testing of stem cell distribution in rodents is desired. The group will evaluate the epigenetic response of plants that is likely to occur in response to the elevated atmospheric temperature and CO<sub>2</sub> level. Genome is an organelle that responds to changes in the environment in a dynamic fashion, and DNA methylation is one of these epigenetic changes that results in alterations of gene expression but without involving the DNA mutation. We will use a plant model organism, Arabidopsis thaliana to understand the gene expression changes that are epigenetically controlled by DNA methylation in response to global warming. We will grow Arabidopsis thaliana plants under the normal or elevated temperatures or carbon dioxide levels. These plants will be grown for three generations under these conditions before analysis to allow the "memorization" of the long-term impact of elevated temperature on the epigenetic changes of the plant to be assessed. Under the direction of Q. Liu, Medical Department. BNL policy states that Research Associate appointments may be made to those who have received their doctoral degrees within the past five years. Apply for Job ID #15072.

**POSTDOCTORAL RESEARCH ASSOCIATE (nanoparticles synthesis, electrochemical techniques, scanning tunneling microscopy, and electrochemical reactor design)** - Requires a Ph.D. in electrochemistry, chemical engineering, mechanical engineering or chemistry. Experience in nanoparticles synthesis, electrochemical techniques, scanning tunneling microscopy, and electrochemical reactor design is desired. The research program will comprise the tasks from the projects "Contiguous platinum monolayer oxygen reduction electrocatalysts on high-stability-low-cost supports." The focus will be on synthesis and characterization of new catalytic materials with very low platinum content supported on low-cost, high-stability substrate materials. This will involve studies of single crystal and nanoparticle surfaces of metal and alloys characterized using electrochemical, scanning probes and synchrotron radiation based techniques. Collaboration with group members on characterization and theoretical treatment of the systems studied will be a part of the work, as well as a scale-up of synthesis of selected catalysts. Under the direction of R. Adzic, Chemistry Department. BNL policy states that Research Associate appointments may be made to those who have received their doctoral degrees within the past five years. Apply for Job ID #15073.

**MECHANICAL PROJECT ENGINEER I (P-9)** - Main responsibilities include specification, design, analysis, fabrication/procurement, installation, and commissioning of X-ray beam line mechanical subsystems for the NSLS-II Project. Will report to the Beam Lines Manager within the Experimental Facilities Division at NSLS-II. Will provide technical guidance and supervision to project designers and technicians. Will be capable of producing written reports and should be competent in the use of MS Word and Excel. Qualifications Required: Requires a bachelor's degree in mechanical engineering or closely related field of study; Master's Degree in mechanical engineering preferred, and ten-plus years of relevant experience. Substantial knowledge of mechanical design, analysis, materials and advanced manufacturing processes is required. Must have considerable experi-

ence in using 3-D CAD (Inventor or Pro-E), drawing standards and engineering codes. Knowledge of precision mechanical systems, instrumentation and control systems, and vacuum systems is required. Strong communication and interpersonal skills are required for interaction with a diverse group of scientists and technical staff, and candidates will be required to show evidence of successfully working within a project team. Qualifications Preferred: Experience of X-ray detectors or beam line hardware is desirable. Previous work experience in an accelerator or light source facility will be given preference. ERAP eligible \$1,000. Apply for Job ID #15068.

**ELECTRICAL (Digital Design) RESEARCH ENGINEER I/II (P-7/P-9)** - Requires a bachelor's degree in electrical/electronic engineering with a minimum of seven years of engineering design skills and experience with high speed serial data links such as Xilinx Aurora. Also requires demonstrated expertise designing FPGA firmware using VHDL and experience with Xilinx EDK. Experience with embedded Power PC processors, PCIe, analog circuit design and layout, and digital signal processing is desirable. Experience with particle accelerator systems, beam instrumentation, and RF systems is a definite plus. Will apply professional engineering knowledge to the design, component selection, specification, construction, testing, and commissioning of components and systems for RF systems in the Relativistic Heavy Ion Collider. Will also assist in the direction of technicians during all phases of system development, commissioning, and operation. Excellent written and verbal communication and good interpersonal skills are required to interact with a diverse group of engineers, scientists, and technical staff. Will report to the RF Systems Group Leader. Will be placed at the P-7 or P-9 level dependent upon depth and breadth of relevant knowledge and skills. Collider-Accelerator Department. ERAP eligible \$1000. Apply for Job ID#15071.

**SR. TECHNICAL SUPERVISOR - ELECTRO-MECHANICAL (T-7)** - Requires an AAS degree or equivalent in mechanical or electro-mechanical technology, a minimum of 15 years of relevant experience and at least five years as a supervisor directing the work of a technical workforce involving the assembly and installation of magnets and their respective subsystems. Responsibilities will include planning, directing and reviewing the work of a large group of highly skilled technicians in the testing, assembly and installation of the magnets, supports, frontends and utility subsystems during the construction and commissioning phase of the NSLS-II Project, as well as estimating and scheduling manpower needs, determining technical specifications, evaluating progress and results, recommending changes in procedures or objectives and instituting specific training and development needs for staff. In-depth knowledge and experience are required in the following areas: magnets, magnetic measurement, precision assembly and alignment, interpreting assembly drawings, test procedures and work and material flow. Excellent communication skills and ability to work with a diverse group of scientists and engineers are required. Familiarity with advanced survey and alignment techniques, machine tools, precision drive and encoders, water and cryogenic systems, and instrumentation is highly desirable. Work experience in an accelerator or a light source facility will be given preference. Reports to the Mechanical Engineering Group Leader, NSLS-II. National Synchrotron Light Source II. ERAP eligible \$1,000. Apply for Job ID# 15069.

**BUYER (A-4)** - Requires a bachelor's degree in business or equivalent experience plus a minimum of two years' purchasing goods and services in a government purchasing environment. Must be aware of various aspects of the procurement process from inception to close out. Some knowledge of the Federal Acquisition Regulations (FAR) and Department of Energy Acquisition Regulations (DEAR) is required. Must be computer literate and knowledgeable of Microsoft Word and Excel. Knowledge of procurement PeopleSoft is a plus. Should have excellent verbal and written communication skills and must be a multi-tasker. The buyer will be responsible for purchasing a variety of commercial "goods" and "services" through economical and efficient sole-sourcing or competitive inquiries, in a highly transactional government environment. Routine activities will include source selection, verbal and written solicitation, bid evaluations, negotiations, order entry and placement, and contract administration in accordance with government and company terms and conditions, policies and procedures, and flow down requirements. Procurement & Property Management Division. Apply for Job ID #15067.

**FACILITIES SUPPORT RADIOLOGICAL CONTROL TECHNICIAN (T-3)** - Must have successfully completed the Department of Energy (DOE) radiological control standardized core requirements and be currently or have previously qualified as a RCT. A minimum of six years of experience as a senior RCT in DOE radiation protection work activities needed. Must also possess current 40-hour HAZWOPER training or be capable of passing HAZWOPER training; be respirator qualified or capable of obtaining respirator qualifications. National Registry of Radiation Protection Technologist (NRRPT) is consid-

ered a preferred qualification. The primary function of the RCT is to provide field support to the Department/Organization where they are assigned with primary emphasis in Health Physics and radiological protection. The BNL RCT, under the direction of the FS Representative or designee, performs the following tasks: performing, documenting and posting radiological surveys; analyzing smears and air samples; providing job coverage; ensuring site-wide radiological control procedures are followed; surveying materials for free release from areas controlled for radiological purposes; performing and documenting industrial hygiene surveys for noise and chemical exposure. Radiological Control Division. Apply for Job ID# 15065.

**INSTRUMENTATION & CONTROLS (I&C) TECHNICAL SPECIALIST (T-2)** - Requires an AAS degree in electrical technology or equivalent experience, plus at least four years of relevant work experience including calibration, maintenance, and repair of complex electronic and mechanical control systems. Experience in the field of pressure, temperature, level and flow instrumentation, and programmable logic controller (PLC) based control systems. Knowledge of analog/digital electronics, electric motor control and basic computer skills is desirable. Familiarity with the use of standard test and measurement equipment, such as function generators, oscilloscopes, multi-meters, and pressure standards is essential. Basic machine shop skills are a plus. Must be able to repair, modify, and build electrical/electronic systems from schematic drawings and assemble chassis using basic mechanical fabrication techniques. Must be self-motivated, able to work with minimum supervision, and have good communication skills. Must be available to work off hours as required. Collider-Accelerator Department. ERAP eligible \$500. Apply for Job ID #15070.

### Motor Vehicles

08 MAZDA MIATA MX-5 - 9.9K mi. silver, 6 spd, leather seats, satellite radio, immaculate. \$20,000 neg. Dejan, Ext. 3078.  
03 HYUNDAI SONATA GLS - 95.75K mi. 4dr sd, V6 a/t, cc, s/roof, new timing belt, more. \$5,400 neg. Ext. 5423 or mlenz@bnl.gov.  
03 DODGE NEON - 79K mi. 4cyl., 2L, 4spd., a/t, a/c, am/fm, p/b, p/s, excel., non-smkr, avail end Oct. \$5,000 neg. Seb, Ext. 4824.  
03 DODGE GRAND CARAVAN - 85K mi. EX model, loaded, Dealer maintained, great cond. \$6,000 neg. Scott, 678-6544.  
03 FORD ESCORT X22 - 46K mi. p/s, a/c, cd, 4 cyl, low mi, orig owner, excel cond. \$4,900 neg. Al, Ext. 7859, farland@bnl.gov.  
99 LINCOLN CONTINENTAL - 59K mi. looks/runs like new, loaded, well maint. \$4,800 neg. Bob, 724-4481.  
94 JEEP GRAND CHEROKEE LIMITED - 121K mi. 4WD, tow pkg, loaded, svc records. \$2,900. Karl, Ext. 3116.  
83 KAWASAKI 750 SPECTRE - 12K mi. Blk&Gold, decent shape, needs minor work. \$550. Pete, Ext. 7526, 486-8199.  
82 MERCEDES-BENZ 300 TD - turbo diesel, good cond. \$2,750 neg. 576-5102.

### Furnishings & Appliances

DEHUMIDIFIER - Sears-Kenmore Model 54501 50-pint. little used/\$85. Ext. 4872.  
FIREPLACE - dble-sided/\$100; dishwasher SS int/\$50; range hood/\$15. Ext. 3116.  
GE PROFILE DRYER - gas, white, gd cond, 2/ysr old. Model #DPSE810GG0WT, \$100. 456-3897.  
GLIDER ROCKER & OTTOMAN SET - oak wood w/hunter green cushions, like new, pd/\$200, \$100/obo, pic avail. 236-2315.  
MIRROR - Oval, cherry wood, Victorian Style Qu. Anne stand up, \$20. Ext. 4532.  
RECLINER - Leather recliner - sand color, 1 yr old. Pd. \$800, asking \$250. 281-4459.

### Audio, Video & Computers

DESK TOP COMPUTER - cust, 2x320gb hd, 2gb ram, 2ghz amd. vista home prem. 20.1" lcd. logitech spkrs, \$550. 902-8188.  
LCD MONITOR - Dell E173FP 17" LCD monitor, \$35. Steve, Ext. 2897.  
PLAY STATION 2 - 2 w/1 game shark attack, ask/75/neg, 602-614-6729.  
PRINTER - HP DeskJet Printer 842C. Excellent Condition ask \$20. 281-4459.  
SAMSUNG D415 CELL PHONE - For T-mobile, incl/camera/music player, more excel, \$50. Ext. 5049 or fu@bnl.gov.  
SAMSUNG HDTV - 40" 1080p/60hz, incl 1080p Sony upconverter DVD player & HDMI cable, all cables incl, \$750. Ext. 2122.  
SONY BLU-RAY DISC PLAYER - BDP-S350 1080p, remote control/cables, orig box, incl 3' HDMI cable, \$200. 744-4061.  
SONY CD CHANGER - CDP-CX355 300 Disc mega storage, excel, \$130. Ext. 3381.  
SONY PLATINUM HOME THEATER SYS - Dvd Dream DAV-LF1, 5 spkrs, dvd media player, more. 578-6248.  
SONY VAIO LAPTOP - 4G Ram 320G HD Blu ray player; HDMI hook up for HDTVs, \$1200. Michael, 719-492-8229.

VIRTUAL ANALOG SYNTHESIZER - Yamaha AN-1x keybrd, real-time controls, incl manual/pwr sup, more, \$400. Ext. 3621.

### Sports, Hobbies & Pets

BMX BIKE - Mongoose Motivator 20" =. Gd working cond, \$30. Steve, Ext. 2897.  
BOWLING BALL & BAG - Brunswick 10 lb. Eclipse Reactive Urethane/\$25. Ext. 2272.  
ELLIPTICAL TRAINER - Vision Fitness Model 6200, purchased new/Oct 07, excel cond, \$675. Ext. 4872.

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

# Wanted: Art, Photos, Crafts For Annual Fall Show at BNL

Artists, photographers, sculptors, and crafters of the Lab community — your most beautiful creations are needed for the BNL Art Society's upcoming Art & Crafts Show to be held at Berkner Hall, Monday-Wednesday, 11/23-25, 11:45 a.m.-1:30 p.m. An evening reception with refreshments will be held on Monday, 11/23, 5-7 p.m. BNL employees, retirees, facility users, guests of BNL, and family members 15 years and older, may all contribute. More than one piece may be entered, to be shown as space permits. Pictures and photos will only be accepted if they are fully ready to hang.

Bring exhibits for the show to Room C, Berkner Hall, on Friday, 11/20, 2-4:30 p.m. To be included in the show's program, send your name, home phone, Lab Ext. (or BNL family member's Lab. Ext.), and, for each work you want to enter, state the type of art/craft, title if there is one, brief description of size, medium, material, etc., and return the information by Monday, 11/9, to Bob Chrien, Bldg. 510A, [chrien@bnl.gov](mailto:chrien@bnl.gov). Your name can only be on the program if the information is on time. We are looking forward to seeing your work.

PUPPIES - 3/yorkies, 4 morkie, 893-1270.

### Farewell Gathering

RALPH GARAPPOLO - Ralph's leaving BNL Post Office after 25 yrs! Party Fri. 10/30, Rec Hall, 5-9p, \$30 incl dinner/drinks/gift. See Jeanine/Pat, P.O. y 10/26. 344-2539.

### Tools, House & Garden

AIR COMPRESSOR - gas pwr for rent to winterize your sprinkler system. Michael, Ext. 5262, 284-2277.  
TOOLS - 1950s: 10" radial arm saw w/ table \$100; 10" tble saw w/36" tble on stand \$75; 12" band saw, flr mdl \$50; 18" jig saw \$50; 12" disk sander on stand \$25. Dunlop drill press, 6", 5'h, \$50; hd router, \$50; Kathleen, Ext. 7114.  
TROY-BLT SNOW THROWER - dual stage, twin auger, 4 cyl, 8.5 H.P.Eng, elect & manl strtr, used once, \$800. 379-0742.

### Miscellaneous

CINDERELLA BALL GOWN - satin, ice pink, floral lace embroidered bodice, off shldr sleeves, sz 16, \$200. Ext. 3908.  
GAS POWERED SCOOTER - Extreme 49cc, runs well, gd shape. \$100. 486-8199.  
MOTORCYCLE LEATHER JACKET - Wilson, blk, x-lg w/liner side & rear laces, excel cond, \$100/neg, 602-614-6729.  
SPIDERMAN COSTUME (VENOM) - toddler size 4/5, \$10. ddaniels@bnl.gov.  
T-MOBILE DASH - new in box w/all equip/\$50. Nicole, Ext. 2238.

### Yard & Garage Sales

MILLER PLACE AND ROCKY POINT - 2 day yrd and bake sale Oct 17th, Miller Pl, C/P Lomano's Restaurant on 25A; Oct 18th Heritage Paint in Rocky Point across from Sea Basin, 8am-4pm. 849-2382.  
PATCHOGUE - MOVING SALE - 73 Buckley Road, Sat & Sun, 10/17-18, 9-5, Houseware, hol. items, garden, tools, athletic, furniture, more! Ext. 7517, 741-2190.

### Community Involvement

HALLOWEEN DOG PARADE - & Costume Contest w/prizes, spons. by Patchogue Rotary Animal Assisted Therapy, Sun. 10/25, 1-3 pm @ Suffolk Cty Farm, Yaphank, dogs on leash, vaccinn proof req. 207-9325.  
HELP ANIMALS - donations needed at save a pet rescue dog/cat food, blankets and \$\$\$. save-a-pet, 608 rte 112, pt jeff.ny,11776, 473-6333, thanks. Hugh, Ext. 2031.

### Happenings

BUS TRIP TO MIRACLE OF CHRISTMAS SHOW - 11/27. Sight & Sound Theatre, PA. Adult 19 & up, \$110, depos. \$50; teen, 13-18, \$90, depos. \$40; child, 4-12, \$65, depos. \$30. Deposits due 10/18. Includes trip, show, restaurant. Wm. McPherson, 369-0627.  
KHOOMEI TAIKO ENSEMBLE - Mongolian Music, Song, Japanese drumming, Sat, 10/17, 8p, Wang Cntr Theater. \$20, adult; \$15, Srs; reserve at 632-4400, or [www.stonybrook.edu/sb/wang/events.shtml](http://www.stonybrook.edu/sb/wang/events.shtml).  
SPAGHETTI DINNER - Fundraiser for Sean Vaz (son of Ex. Chief Jim Vaz) spons. by Ladies Auxil. of Brookhaven Fire Dept Sat Oct. 17, 2009 @ the Fire House, 2486 Montauk Hwy. Brkhaven, 1-8 pm, Adults \$10, Under-12 & Srs \$5, more info 286-2228. Ext. 7912.

### Wanted

BOX SPRING - for full size mattress. anieaug@optonline.net.  
FAMILY VOLUNTEER OPP. - wd. appreciate info on local vol. prog. that allows a 13 yr old & family to participate. 708-4778.  
VOLUNTEERS - For BVA / BNL Adopt a Platoon. Help at fundraisers or package items for our troops in Afghanistan & Iraq, please call Denise or Janet, Ext. 3670.

## Supplement: Office of Educational Programs Special Edition

A four-page supplement to the Bulletin, spotlighting the Office of Educational Programs, will be distributed with the Bulletin to on-site mail stops this week. It is available on the web with this week's edition at <http://www.bnl.gov/bnlweb/pubaf/bulletin/default.asp>. Retirees and others who would like a paper copy may obtain one: Send your address to [bulletin@bnl.gov](mailto:bulletin@bnl.gov), or to The Bulletin, BNL, Bldg. 400C, Upton, NY 11973-5000, and we will mail one to you.

On the Web, the Bulletin is located at [www.bnl.gov/bnlweb/pubaf/bulletin.asp](http://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](http://www.bnl.gov/bnlweb/pubaf/calendar.asp).

### Lost & Found

SANDISK 2GB CRUZER TITANIUM - lost on Fri, prob. in. gym or nr. Courtney, Ext. 3018.

### For Rent

NAPLES, FL - 2br/2ba completely furn condo in gated golf comm, seasonal rate for Jan/Feb or Mar. \$2,600/mo. 523-7870.  
CENTEREACH - bright 1 bdrm grd level, pvt ent, 1/2 kit combo, new carpet/appl, no smkg/pets, util incl except cable, 20 min to lab. \$895/mo. Lorraine, 696-2427.  
MASTIC BEACH - lg eik, 1/2, loft bdrm, off st prkg, 1 mo sec, no pets, 7 mi to Lab. \$1,000/mo. Jim, 300-7361.  
MT. SINAI - 1 bdrm apt, all new, walk in closet, lg sep 1/2, avail Nov. 1st, all incl. heat/elect/cable/int. \$1,250/mo. 220-6877.  
PORT JEFF STATION - Col, 3bdrm, 1.5ba, 1/2, d/r, eik, fin bsmt w/poss 4th bdrm, w/d, d/w, fen yd, gas heat, no smkg, Cosmewogue SD, sec req. \$1,800/mo. 413-5012.  
ROCKY POINT - 2 bdrm house, near wtr, new kit, hardwd flrs, deck/pool, 1yr lease plus sec. \$1,500/mo. 516-860-8041.  
ROCKY PT. - 2Bdrm, 1Bath, 1kt w/dw, w/d, lge fam rm, prvt yrd, pvt prkg, near beach, OWH, avail. 11/1, utilities not incl, pets OK. \$1,450/mo. Ext. 7526, 486-8199.  
SETAUKET - 1BR/1BA waterfrnt cottage, avail 11/1, heat incl, W/D & dishwshr, wood stove, cats ok, no smkg, mnth-2-mnth or 1 yr lease. pics. \$1,600/mo. Ext. 4716.  
SHIRLEY - rm for rent/furn/sep ent/full bath/kitnette/heat/elect/cable/wireless int/ all incl.5min to /stores/beach/maj.hways. no smkg/pets. \$650/mo. 804-8609.  
SMITHTOWN - 1 bdrm apt. EIK, LR, new bath & applis, 3 closets, No smkg/pets. Inc. Suit. for one pers. \$1200/mo. incl. Int/cable, utils. \$1,200/mo. 979-8442.  
YAPHANK - 1 bdrm, fully furn, comfortable/quiet, computer, magic motion bed,tv,a/c,w/w carpet, new mwave/fridge, immac,6 min to Lab. \$950/mo. 924-3929.

### For Sale

EAST YAPHANK - 3 bdrm, 2 bath, over-size garage. 1/2 acre. Newly redone, CAC, Fpl, income producing potential. \$329,990 neg. Carol, 516-383-7006.  
MILLER PLACE - Must Sell, 3 Bdrm Ranch, 1 full bath, 1/2 w/fp, eik, lg fen priv yd w/1.5 car detached gar w/elect. \$275,000 neg. Mike, 241-4166.  
RIVERHEAD - 2-3 bdrm, 2 bth condo, Saddle Lakes 55+ gated comm, clubhse, in/out dr pool, tennis, more, fin bsmt, cac/gas, storage, wtrview. \$360,000 neg. 905-9617.  
ROCKY POINT - 10 rms, 4 bdrms, 3 bath, eik w/granite cntrtops, 1/2 w/fp & wet bar, d/r, fin bsmt, a/c, 2-car gar, 42x12' deck, igp, igs, 0.92 acres. \$489,000 neg. 744-7052.  
SHIRLEY - 5 bdrm ranch, 1 bath, fen .5 acre, 1/2, eik, den, fam rm, new paint/carpet, move-n-cond, 10 min to lab, beach, nr LIRR/buses. \$260,000. 793-8684.  
SHOREHAM - 4 bdrm., 2.5 bath Col., fml 1/2, d/r, den w/fp, fin bsmt, 12x20 deck, igs, new granite counters, SVRSD, much more, 7 mi to Lab. \$469,000. 821-3320.

### In Appreciation

Perhaps you sent a lovely card or sent us beautiful flowers. Perhaps you spoke the kindest words that any friend could say. Perhaps you were not there at all, just thought of us that day. Whatever you did to console our hearts, We thank you so much, whatever your part. My family and I deeply appreciate and gratefully acknowledge your kind expression of sympathy during the loss of my father.

— Eugene Barrow & Family.

We regret having had to omit several ads for lack of space. Please resubmit them.



## 2009 OEP EDITION

### Office of Educational Programs



D2460809



D0400809



D0380809

For coverage of the 2009 closing ceremony featuring speakers James H. Wyche of NSF, Evelyn Landini of DOE, BNL's Doon Gibbs, and others, see pg. 4.

# Developing Scientists Of the *Future*



Roger Stoutenburg D0380809

## 2009 Summer Students Arrive at Brookhaven Lab

More than 200 excited students from universities across the country gathered in Brookhaven Lab's Berkner Hall on Monday, June 1, eager to begin their summer program at the Lab.

"You are about to embark on one of the most remarkable summers of your career," said Ken White, Manager of the Lab's Office of Educational Programs (OEP), as he welcomed the incoming undergraduate, graduate, and faculty participants.

Lab Director Sam Aronson then addressed the group, welcoming them and emphasizing

the importance of working safely. Department of Energy (DOE)/Brookhaven Area Office Manager Mike Holland also welcomed the group as he spoke of exciting new facilities and improvements at the Lab.

To be part of one of OEP's largest groups of summer guests in recent history, more than 1,300 people applied for approximately 210 available internships. Those selected participated in six different DOE programs: the Community College Institute (CCI), DOE-Academies Creating Teacher Scientists (DOE-ACTS), Fac-

ulty and Student Teams (FaST), Graduate Research Internship Program (GRIP), Pre-Service Teacher Program (PST), and Science Undergraduate Laboratory Internship (SULI). In addition, several Dowling College students participated in the Minority Teacher Development and Training Program.

According to Noel Blackburn, an OEP program administrator, "The summer participants work directly with mentoring researchers and support staff. They are involved in nearly every aspect of the scientific

community at BNL from the Center for Functional Nanomaterials to Instrumentation, Waste Management, Environmental Services, Physics, and Chemistry Departments."

Fellow OEP program administrator Mel Morris added, "For many students, this internship becomes a defining moment as they make academic and career choices. At this world-class science facility, we have staff members who realize the need to develop the work force of the future to maintain our..."

See *Summer Students* on pg. 3

## OEP Helps Scientists with Grants

Securing research funding by applying for scientific research grants is quite a challenge. When funding agencies request or require that a scientific grant proposal also contain an education plan, the Office of Educational Programs (OEP) is ready to help BNL researchers.

"OEP can save researchers a lot of time and energy by taking on much of the non-research education components of a grant," said OEP Educational Programs Administrator Scott Bronson.

The OEP staff maintains relationships with various funders including the Department of Energy, the National Science Foundation (NSF), and the National Institutes of Health, as well as university partners that serve minority populations. These relationships allow OEP to create effective education plans for grant proposals quickly.

Some of OEP's most successful programs to develop a future scientific workforce include Faculty and Student Teams (FaST teams), which are made up of a university faculty member and several accompanying students who work alongside Lab scientists on a specific project.

The Lab's Instrumentation Division has hosted a FaST team from Florida A&M each summer for several years now.

OEP can save researchers a lot of time and energy by taking on much of the non-research education components of a grant.

— **Scott Bronson**  
Educational Programs  
Administrator  
(631) 344-4385

This past summer, the Floridian FaST team worked to measure optical elements that will be used in the Large Synoptic Survey Telescope's (LSST) 3.2-gigapixel camera sensor.

"This year, we had a total of six students," said Instrumentation's Paul O'Connor. "Our work for the LSST has been augmented by having both faculty members and student interns cooperate and participate. We would not have been able to host so many interns without the faculty members, but now we've made a lot of progress and are going in a very good direction."

O'Connor also noted that in addition to developing research capabilities with the FaST team

participants, he had new access to other resources, including the "fantastic" computer cluster at Florida A&M.

As Bronson commented, OEP not only provides education plans to secure grants and bolster the next generation of scientists across different disciplines at Brookhaven Lab — it enables collaborations between the Lab and other institutions as well.

"OEP is a good unifier for alliances," Bronson explained. "We can create or modify education plans that enable BNL scientists to align expertise and resources with others at Stony Brook University, Cold Spring Harbor Laboratory, and New York University [NYU] to name a few."

OEP helped connect researchers and educators from Brookhaven Lab, CERN, and NYU through the US ATLAS project to create a "Modern Physics" curriculum for high school students — a plan meant to assist students with science-based career plans.

James Wishart of the Lab's Chemistry Department has developed a very successful FaST team collaboration with Prof. Sharon Lall-Ramnarine of Queensborough Community College (QCC). Their partnership was an important component of a successful NSF proposal that allotted \$2 million...

See *Grant Support* on pg. 2



Joseph Rubino D2780106

## BNL's Science Learning Center: Inspiring More Than 35,000 Students and Teachers Annually

The Science Learning Center in the Office of Educational Programs is a hive of activity, interacting typically with about 35,000 students and teachers annually. Through the free Discovery program, children of grades 1 through 5 come in groups of 15 to 30 to explore mathematical and scientific concepts — and have loads of fun in learning. Teachers choose which of more than 20 activities their students will experience, getting hands-on explanations of topics ranging from electricity to different types of energy to the principles of light — all concepts relating to BNL research.

In addition, Learning Center staff visit Suffolk County elementary schools and libraries to teach classes that are offered either free or at fees that cover the cost of the program. The three-hours-per-

day, three-day "Magnets to Go" interactive program for grades four through six focuses on the discovery of magnetic properties and electromagnetism. A Library Outreach interactive program on the physical sciences is given for one hour to students in grades one through five.

Middle school and high school students enjoy the popular fee-based Exploration Labs, which address New York State math, science and technology standards 1, 3, 4, and 5 and are compatible with National Science Education Content Standards A, B, C, D, and G. A middle school student class might learn about cosmic rays, or genetics, or DNA extraction, or nanotechnology; a high schooler might learn the citric acid process of soil remediation or metal removal by zeolites.

See *Learning Center* on pg. 2



## OFFICE OF EDUCATIONAL PROGRAMS OPPORTUNITIES

### Elementary School Students

Science Learning Center Programs

Elementary School Science Fair

Open Space Stewardship Program, for K–12

### Middle School Students

Middle School Hands-On Laboratory Programs

Science Learning Center Programs

MagLev Contest

Open Space Stewardship Program, for K–12

Regional Science Bowl

### High School Students

Hands-On Laboratory Programs for Middle and High School Students

MHSAP - Minority High School Apprentice Program

CSSP - Community Summer Science Program

HSRP - High School Research Program

Bridge Building Contest

Inner City Outreach Program

Open Space Stewardship Program, K–12

Regional High School Science Bowl

### College & University Students & Recent Graduates

College Mini-Semester

CSTEP - College Science & Technology Entry Program

CCI - Community College Institute

DHS - Homeland Security Scholars and Fellows

FaST - Faculty and Student Teams

GRIP - Graduate Research Internship Program

International Atomic Energy Agency Junior Professional Officer positions

Nuclear Chemistry Summer School in Nuclear and Radiochemistry

PST - Pre-Service Teachers

SULI - Science Undergraduate Laboratory Internship

### Teacher Programs

DOE ACTS - Department of Energy Academies Creating Teacher Scientists Program

Teacher Development Workshops

For more information, go to [www.bnl.gov/education](http://www.bnl.gov/education)

# Bugs, Big Ideas Buzz at 2009 Celebration Of Open Space Stewardship Program

*Open Space Stewardship Program celebrates student science projects with family and friends*

BNL's Berkner Hall was abuzz as over 600 students, parents, friends and teachers besieged the Lab for the 3rd annual Open Space Stewardship Program Celebration, held in June 2009. The hot topic of the evening was science literacy, and if the impressive level of the student posters and presentations was any indication, this year's program was a success.

The evening began with an informal poster session in the lobby, where polished, well-dressed students ranging from the third to 12th grade displayed their science projects from the past year. Proud family members and other attendees milled about the tri-fold poster boards, enjoying light refreshments and the lovely playing of the Bellport High School String Quartet.

A hand-rung school bell signaled the start of the formal presentations, and for the next hour and a half, students from a select group of schools gave talks on subjects ranging from dragonfly mitochondrial DNA to the possibility of converting an elementary school building to solar power.

Many of the high school talks resembled those given by professional scientists at BNL conferences, complete with slides, plots and plans for future work, while the younger groups talked more about the experience of working on a real experiment, many for the first time. In all cases, the students seemed to enjoy presenting their work.

As one high school student overheard preparing for his talk put it, "the worst that can happen is that we explain too much."

Due to the mission of the program — to inspire the next generation of scientists, engineers, and scientifically literate citizens



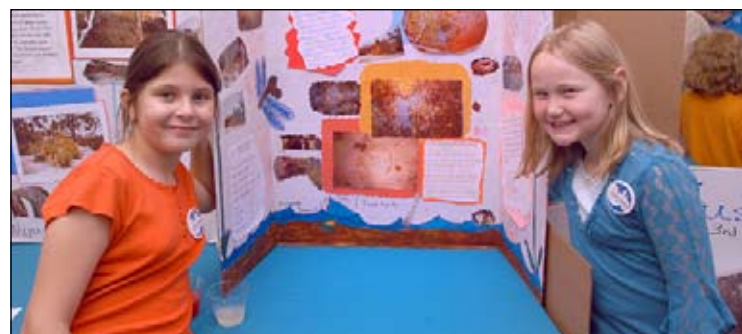
Joseph Rubino

through hands-on research in an authentic environment — all of the experiments somehow focused on better understanding or providing stewardship of the environment, with regard to the valuable "open spaces" that exist on Long Island.

Another favorite aspect of the program for students was the use of Brookhaven equipment and expertise in the process of completing their experiments. In one session, a student from Sayville High School described the "BLASTN Analysis" test, which helps identify species relationships from genetic analysis, as being "kind of like a Google search for other organisms with similar DNA."

Following the presentations, the crowd moved into the auditorium for a recognition and awards ceremony. Mel Morris, of the Office of Educational Programs (OEP), congratulated the over 2,000 students in Suffolk County who participated in the Open Space Program this year, and OEP Manager Ken White called for "a round of applause for these student scientists."

Laboratory Director Sam Aronson took the stage next, observing that the celebration had convened "the biggest group of scientists this room has ever seen." He praised the aims of the program, pointing out that the Open Space experience is "not only perfect training for



Joseph Rubino

those thinking of careers in the sciences, but also important for basic science literacy."

John Carter, Department of Energy Director of Community Affairs for BNL, echoed Aronson's words, speaking of the importance of a scientifically educated public and wishing that "all government programs should be so fruitful as this one."

Finally, New York State Department of Environmental Conservation Regional Director Peter Scully lauded the program for its commitment to fostering environmental stewardship and for insuring that the \$1.8 billion investment Long Island has made in open spaces will be protected far into the future.

"We own that commitment forever," he said.

The event concluded with a

certificate of recognition and a few Frisbees for each school and special awards for outstanding work with the program.

As teachers made their way to the stage, groups of students cheered loudly, creating an atmosphere more akin to a sporting event than a ceremony. But, as Aronson had said earlier, science wouldn't be worthwhile without a certain amount of childlike excitement.

"By all means have fun," he said. "You have to have fun to want to come to work as a scientist every day."

For more information on the Open Space Stewardship Program, including a list of the schools and organizations involved, see <http://www.greenoss.org/> or contact Mel Morris at 631-344-5963. — J. Bryan Lowder



Roger Stoutenburgh D1050109



Roger Stoutenburgh D1230506

### Learning Center from pg. 1

Says Gail Donoghue, who heads the Science Learning Center, "From the comments teachers provide, we know that our programs meet their needs, connect to the current education

standards, and provide a memorable and fun science experience for the students. We are proud that our young visitors leave our programs with a more positive and confident attitude toward science." — Liz Seubert



Joseph Rubino D0390704

## College Mini-Semester Students Spend Their Winter Break at Brookhaven Lab

Twenty-two students from 15 colleges — from locations as far-ranging as New York and Alabama — spent five days of their winter break at Brookhaven National Laboratory discovering cutting-edge science. The students were enrolled in Brookhaven Lab's College Mini-Semester Program, in which they learn about the world-class science performed at the Laboratory through lectures, tours, and team research experience.

Mini-Semester Program students working on a chemistry experiment at Brookhaven Lab are: (seated) Khaing Thinzar Win from St. Joseph's College, Brooklyn campus; (from left) William Willis, Stony Brook University; Adeyemi Adebayo, Holyoke Community College; and Jockuin Jones, Howard University, who was assisting the students as a mini-semester group leader.

The students toured Brookhaven's world-class facilities, such as the Relativistic Heavy Ion Collider, where physicists discovered a "perfect" liquid that they believe existed in the early universe; the National Synchrotron Light Source, where researchers probe materials as diverse as comets and computer chips; and the Center for Functional Nanomaterials, where studies of

the ultra-small may lead to ultrabig discoveries.

The focus of study for the students was Brookhaven's Laser-Electron Accelerator Facility (LEAF), where Brookhaven Lab chemist James Wishart and other scientists investigate chemical reactions by bombarding samples with tiny clusters of high-energy electrons. This technique allows scientists to "see" chemical processes that occur on extremely short time scales.

"At the end of the mini-semester, each student made an oral presentation on the week's work and was required to present a research report on how LEAF would be an important tool for his or her area of study," said Noel Blackburn, an educational programs administrator in Brookhaven's Office of Educational Programs, which manages the Mini-Semester Program. "All of the students are science, technology, engineering or mathematics majors, and the Mini-Semester Program often whets their intellectual appetite for more scientific exploration. Students in the program often go on to attend our summer internship programs."

For more information on Brookhaven Lab's educational programs, see [www.bnl.gov/education](http://www.bnl.gov/education).

— Diane Greenberg

### Grant Support from pg. 1

...over three years to send and support QCC and Queens College student research interns at BNL. Wishart's newest research group member is a former QCC FaST team participant, who recently graduated from Queens.

So, when Lab scientists are ready to apply for grants from funding agencies requiring a proposal that contains an education plan, they may want to contact OEP's Scott Bronson, [sbronson@bnl.gov](mailto:sbronson@bnl.gov), Ext. 4385. Even if an educational component is not required, but still encouraged, OEP's experience just might help make all the difference, including a difference for some future scientists.

— Joe Gettler

**Special thanks** to J. Bryan Lowder, Media & Communications intern, for his help with this OEP issue of the Bulletin.



# Third Annual Meeting of INCREASE Consortium Focuses on Heightening Involvement

The third annual meeting of the Interdisciplinary Consortium for Research and Educational Access in Science and Engineering (INCREASE) stressed the importance of amplifying the participation of faculty and students from minority-serving institutions. Held July 15-17 at the National Synchrotron Light Source (NSLS), the workshop attracted 11 faculty members from 10 institutions to learn how to transform themselves and their students into successful synchrotron users.

Formed at Brookhaven in 2007, INCREASE aims to promote research in Historically Black Colleges and Universities (HBCUs) and other minority-serving institutions (MSIs) at national user facilities — in particular, the NSLS — as well as to facilitate education and



Roger Stoutenburgh D010709

research training, especially for African Americans, Hispanics, and women.

Participants in the workshop, which was organized by the NSLS and Brookhaven's Office of Educational Programs (OEP), were welcomed by Laboratory

Director Sam Aronson and NSLS Chair Chi-Chang Kao, who stressed the importance of reaching out to minority scientists early in their careers.

"The best way to attract future employees is to start them off here as students," Kao told

the workshop participants. "The key is the faculty. Your research will guide the students at your institutions and get them interested in what we do here."

For more information, go to: <http://increase.nsls.bnl.gov/>.

— Kendra Snyder

## 'Brain Week' Web Conference Links High Schoolers, NSLS Researchers

Flexing their brains during a web conference in March 2009, a group of high school students learned — and watched — how synchrotron light is being used to study ailments such as Alzheimer's, Parkinson's, and Lou Gehrig's diseases. Without stepping foot outside of their classroom at Sachem East High School, the students talked to and questioned scientists at Brookhaven National Laboratory's National Synchrotron Light Source (NSLS) on March 17 and "toured" a specialized beamline used for biological imaging.

The conference, which used the Enabling Virtual Organizations (EVO) system, was held to recognize Brain Awareness Week — an international event meant to increase public awareness of brain and nervous system research. First, at NSLS beamline U2B, Brookhaven biophysicist Lisa Miller gave the students an overview of Alzheimer's disease, the most prevalent brain-related disease in the United States.



Lisa Miller (left) talks from the NSLS to Sachem East students (right) in their classroom.

Scientists have long known that Alzheimer's disease is associated with plaques in the affected brain. Because of their small size (on the micron, or millionth of a meter, scale), the plaques are very hard to measure

and study. But through the use of a specialized, infrared-light-based microscope at the NSLS, researchers are able to look at the structure of these plaques, revealing clues as to what might cause Alzheimer's disease.

"It was very exciting for my students to learn outside the walls of a typical classroom," said Stephen Wefer, a Sachem East High School science teacher. Wefer is a recent graduate of DOE's Academies Creating Teacher Scientists (ACTS) program, a six-week special training and research summer experience for in-service science and mathematics teachers. "The students had a wonderful experience and they speak of the web conference as one of the highlights of their year."

The web conference is the most recent of many such distributed experiments conducted at the NSLS with the support of Brookhaven's Office of Educational Programs. In the past, students ranging from middle school to college level have worked with Brookhaven scientists to analyze samples such as bivalves from local waterways and soil samples surrounding decks made with chemically treated wood. — Kendra Snyder

*Summer Students from pg. 1*  
...leadership in science and technology in the 21st century."

The Lab's summer programs are not strictly work without play, however. "We hope to give everyone a well-rounded experience," said Blackburn. "Of course, the students are here for

research but we also encourage them to participate in a graduate school fair, introducing them to different grad schools' opportunities, and social and cultural activities including a softball game, dance party, talent show, and movie nights."

A second group of nearly 70

summer-program participants, including middle- and high-school students and teachers, arrived at the Lab later that month. Throughout the summer, the Science Learning Center also hosted elementary- and middle-school students involved in various camps and programs, including

a summer science camp for employees' children.

The 2009 summer programs ran August 3. Participants then submitted research papers explaining their projects and presented their work at poster sessions prior to the closing ceremony on August 6. — Joe Gettler



At the 2009 presentation of DOE plaques to outstanding mentors are: (from left) Ken White, OEP; Michael Holland, DOE; Melvyn Morris, OEP; BNL mentors Louis Peña, Rita Goldstein, Nikolaos Simos, Avraham Dilmanian, Vincent Castillo, Subramanyam Swaminathan, Craig Woody, John Skaritka, and Helio Takai; with Noel Blackburn, OEP; and Sam Aronson, BNL.

## Thanks to BNL's Mentors

"Key to the Office of Educational Programs' work at Brookhaven are the BNL scientists and researchers who mentor our students each year," said Ken White, Manager of Brookhaven Lab's Education Programs. "We depend on the dedication of many BNL

scientists and professionals to nurture our students along their scientific career pathway. Research shows that students who participate in research internships have greater persistence in pursuing advanced degrees in science, technology, engineering, and math fields."

Every year, DOE recognizes Lab mentors who are nominated by their students as outstanding. At the opening ceremony for the 2009 summer student program, students were welcomed by Lab Director Sam Aronson as well as White and other OEP staff members.

Michael Holland, Manager of the DOE Brookhaven Site Office, awarded plaques recognizing outstanding mentorship to the following BNLers: Vincent Castillo, Avraham Dilmanian, Rita Goldstein, Nikolaos Simos, John Skaritka, Subramanyam Swaminathan,

Helio Takai, and Craig Woody. Concluded White, "Many thanks to all these and our other mentors. Their commitment to science education is one of the most important contributions to inspiring the scientists of the future."

— Liz Seubert

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Roger Stoutenburgh D040604

BNL mentors facilitate hands-on learning for students at the Lab.



Joseph Rubino D010408



# For 200+ Students, Faculty, and Teachers, OEP Poster Session Signals End of Summer Research

Despite the uncharacteristically cool and rainy summer of 2009, the more than 200 students, faculty, and teachers in BNL's Office of Educational Programs (OEP) summer programs managed to make the most of their time at the Lab, completing impressive research, making friends, and, not least, giving the OEP mentor softball team a run for its money in the annual game.

The culmination of the programs was a two-day long series of talks, presentations, and poster sessions on August 5 and 6. The festivities began on the morning of August 5 with an expert panel regarding graduate school admissions. Representatives from Stony Brook University and others answered students' questions about the importance of education beyond the bachelor's degree, with particular focus on making career choices during an economic recession.

Following the talk, students dispersed throughout the lobby of Berkner Hall for a poster session. Work with titles such as "The Effect of P53 Dependent Epigenetic Transcriptional Regulation on Cell Cycle Regulating Genes," and "Measuring and Modeling Idle Energy Loss in Water Boilers," demonstrated the scientific complexity and



Keynote speaker James H. Wyche of the National Science Foundation



DOE Brookhaven Site Office's Evelyn Landini at the closing ceremony



Deputy Director for Science and Technology Doon Gibbs addressing the departing students

applicability of student experiments, while projects focused on grant writing, safety analysis, and science journalism showed the breadth of opportunities available to students beyond traditional research.

The day's activities ended with a graduate school fair at which representatives from Cornell University, the Rochester Institute of Technology, Stony Brook University, and Syracuse University were available to give advice on the admissions process.

The next morning, selected students were invited to give

oral presentations on their research in their respective departments, and another poster session allowed members of the Lab community to peruse the summer's achievements. The day, and the various programs, ended with a closing ceremony in Berkner Auditorium.

After warmly thanking the many mentors who helped guide students through the summer, OEP's Manager Ken White introduced a brief film compiled by Alex Reben, Lab videographer, that recapped the summer research experience and contained clips from the

events of the summer (softball game, talent show). Showing the importance of the student-mentor relationship, one interviewee said, "I want to be a research scientist when I grow up...like my mentor."

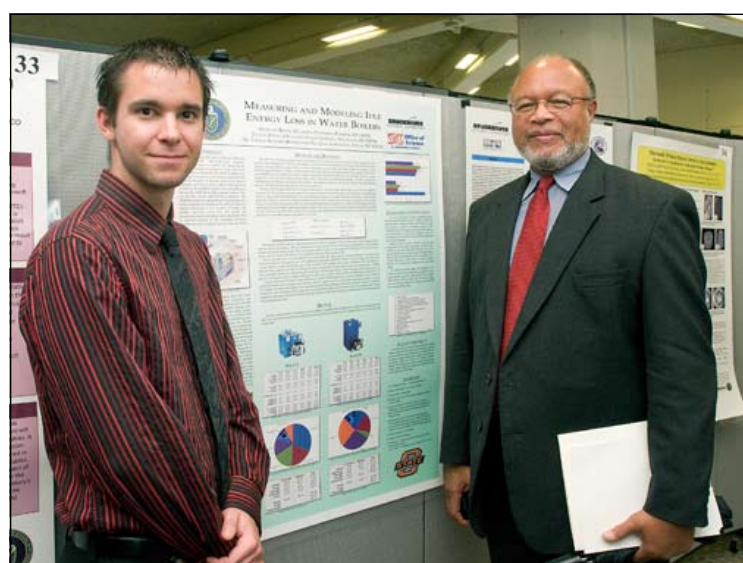
The remainder of the ceremony included addresses from Deputy Lab Director for Science & Technology Doon Gibbs, DOE Brookhaven Site Office's Evelyn Landini, and a keynote address from James H. Wyche of the National Science Foundation. All the speakers noted the "great energy" that students bring to the Lab, advis-

ing the audience to carry that excitement into their future endeavors.

"Scientists would rather be doing what they're doing than anything else," said Gibbs, adding, "What a great reason to get up in the morning!"

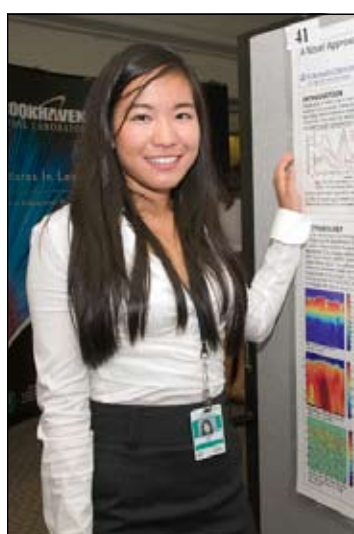
As students filed out of the auditorium and into the welcome sunshine, hugging and saying goodbye, it was clear that the summer had not only encouraged new friendships, but also inspired an entire crop of future scientists to pursue their dreams.

— J. Bryan Lowder



Joseph Rubino D030809

James H. Wyche (right), the Division Director of Human Resource Development at the National Science Foundation who gave the keynote address in the closing ceremony of the 2009 summer students' programs, viewed the poster on measuring and modeling idle energy loss in water boilers that displayed the work of Dalton Kelley (left). A Science Undergraduate Laboratory Internship (SULI) student, Kelley was mentored by BNL's Thomas Butcher, Energy Sciences & Technology Department.



Joseph Rubino D0210809

Hefei Li from Columbia University worked on "A novel approach to retrieve cloud liquid water content using two collocated radars," with her mentor, Dong Huang of the Environmental Sciences Department.



Joseph Rubino D0240809

Dmitri Kotov, a DOE SULI student from Ohio State University, studied this summer "The effect of P53-dependent epigenetic transcriptional regulation on cell cycle regulating genes," mentored by Krassi Alexieva Botcheva of the Biology Department.



Joseph Rubino D0310809

This summer, BNL's Cultural and Natural Resources Manager Tim Green mentored several students and teachers, including (from left) Vicky Giese of California Polytechnic State University, who participated in the DOE Science Undergraduate Laboratory Internship (SULI) program; Ashley Bloch, a teacher in Islip Middle School who was in the DOE Academies Creating Teacher Scientists, or DOE-ACTS program; Glen Bornhoft of the State University of New York at Oneonta, a SULI participant; and Melissa Winslow of Clarkson University, also a SULI participant. The three SULI students all worked on water quality effects on distribution of aquatic invertebrates in the Carmans River; Bloch studied the effects of lunar cycles on night-active birds.



Joseph Rubino D022809

Nicole Puglin (second from left) of Emerson College focused on developing cross-departmental collaboration through science writing and editing. Mentored by Joe Canestro of the Quality Management Office (QM), she wrote a report on an international workshop organized at the National Synchrotron Light Source (NSLS) by Dieter Schneider (back) and others of the Biology Department. Also present to see Puglin's poster are Gretchen Cisco (left), NSLS User Office, and Sabine Kessler of QM.



Joseph Rubino D020809

The Medgar Evers College Faculty and Student Team of (from left) Mohammad Baig, student; Ann Brown, professor; and Christopher Harte, student, who worked on crystal structure analysis with BNL's Subramanyam "Swami" Swaminathan (not pictured) in the Biology Department, are seen with Medgar Evers Dean of Science Moshin Patwary, who visited the Lab to attend the poster session closing ceremony.