

**2010
OEP
EDITION**

**Office of
Educational
Programs**

www.bnl.gov/education

TRAINING THE NEXT GENERATION OF SCIENTISTS



Roger Stoutenburg D0850304

By Ken White, Manager of BNL's Office of Educational Programs
Our nation has a renewed appreciation for the contributions that science, technology, engineering and mathematics make to our economy and the importance of our ability to compete in these areas globally. Recent reports note that America is falling behind in these areas, but as you read through this Office of Educational Programs Bulletin, I hope that you can see the great talent and capabilities in our students. They are bright, energetic, and enthusiastic young people, who are finding that their patriotism can be expressed through science — answering our nation's calling for research that will lead to new solutions in energy, homeland security, information management, and other areas and maintaining the United States as a global leader. At BNL, they find a place where their innate curiosity, intellectual capacity, and desire to conduct research can be nurtured and appreciated.

BNL continues to demonstrate that young people and their teachers belong and are welcomed here. BNL and DOE leaders steadfastly support programs that encourage participation in research. The many mentors, scientific presenters, and others who help to coordinate the programs and volunteer their time should know that their efforts make a difference. While this is clear in many of the articles herein, it is also evident in a 2009 survey of former BNL college interns. Of the 138 respondents, 78 percent indicated that their experiences at BNL influenced them to pursue an advanced degree and 45 percent indicated they had already achieved degrees at the Master's or Ph.D. level. They also indicated that 6 percent are now working for DOE, 3 percent are working for other federal agencies, and 8 percent are users of national facilities.

Our collective efforts do make a difference and I hope that you feel good about what we do for science education and the nation at Brookhaven National Laboratory.



Joseph Rubino D0420610

Student Researchers Spend Summer at Brookhaven Lab

School was out for summer — but more than 200 students from universities across the country did extra science work through a number of summer research program at Brookhaven Lab.

"You will find your experience at Brookhaven to be one that continues to bring value throughout 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 at the opening ceremony in Berkner Hall on June 7.

The students were also welcomed by Lab Director Sam Aronson and DOE Brookhaven Site Office Manager Mike Holland at the opening ceremony. Both noted the

important contribution the next generation of scientists will make as we tackle national challenges like energy and homeland security.

Once again, this was OEP's largest group of summer interns. More than 1,500 applied for the 213 available internships. The interns who were selected participated in six different DOE programs: the Community College Institute (CCI), DOE-Academies for Creating Teacher Scientists (DOE-ACTS), Faculty 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 also participated in the Minority Teacher Develop-

OEP's Programs Draw Diverse Support

OEP Manager Ken White noted ongoing DOE support. He also noted the support of the National Science Foundation for making it possible for about half of the students to participate in this year's summer program. Other institutions and organizations providing support were the Computer and Mathematics Scholar Support Alliance (CAMSSA), the National Nuclear Security Administration (NNSA-DOE), the NYS Collegiate Science and Technology Entry Program (NYS-CSTEP), the Semiconductor Research Corporation, and the State of South Dakota.

ment and Training program.

Students participating in the 2010 summer program included members of several special groups such as Stony Brook University's Women in Science and Engineering and the Center for Accelerator Science and Engineering, the University of Maryland Baltimore County, and students sponsored by the Semiconductor Research Corpora-

tion. Under memorandums of understanding with the City University of New York and Syracuse University, the Lab partnered with the schools to bring a number of students for the summer as well.

During the summer, participants work with their BNL mentors in nearly every area of the Lab's scientific community, including...

See *Summer Research* on p.2

National Synchrotron Light Source, Center for Functional Nanomaterials & National User Facility Organization Host Education Workshops at BNL

At two annual major facility user meetings this year, a full day was committed to education workshops. One workshop was at the National User Facility Organization (NUFO) meeting held in June during the Relativistic Heavy Ion Collider (RHIC) and Alternating Gradient Synchrotron (AGS) Users' Meeting, and the other was at the National Synchrotron Light Source (NSLS)/Center for Functional Nanomaterials (CFN) Users' meeting in May (see photo below). The focus was on continuing to develop meaningful ways for teachers and students to engage with Lab scientists and facilities.

NUFO's June 9 Special Symposium on Educational and Public Outreach, organized by BNL's Office of Educational Programs, was jointly sponsored by NUFO and the RHIC and AGS Users Executive Committee. The agenda included invited talks from the National Science Foundation, DOE Office of Science Workforce Development, American Chemical Society, CERN, Adopt-a-Physicist Program, Physics Olympics, For Inspiration and Recognition of Science and Technology (FIRST) Robotics organization, the Mixed Apparatus for Radar Investigation of...

See *Edu. Symposiums* on p.4



Roger Stoutenburg D1880710

Participants in the joint INCREASE-InSynC workshop

Reading, Writing, and Synchrotrons Joint InSynC-INCREASE Meeting Brings Teachers, Professors to NSLS

In mid-July, more than 30 educators from two unique groups came to Brookhaven Lab to gain synchrotron skills for themselves and their students.

One participant, North Babylon High School teacher Thomas Van Bell, said, "The opportunities here are tremendous for getting in contact and maintaining communication with world-class scientists. This is such an essential part to the research process, especially for students at the high school level. They're limit-

ed in how much they can do and how far they can go with their projects when they're not linked up with a mentor at a university or a facility like we have here."

Participants in the two groups — the Interdisciplinary Consortium for Research and Educational Access in Science and Engineering (INCREASE) and Introducing Synchrotrons into the Classroom (InSynC) — spent three days at the National Synchrotron Light Source (NSLS)...

See *InSynC-INCREASE* on p.4

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

Exploration Laboratory Programs

Science Learning Center Programs

MagLev Contest

Open Space Stewardship Program, for K-12

Regional Science Bowl

High School Students

Exploration Laboratory Programs

MHSAP - Minority High School Apprentice Program

CSSP - Community Summer Science Program

HSRP - High School Research Program

Bridge Building Contest

Open Space Stewardship Program, K-12

Regional High School Science Bowl

Science & Society Essay Contest

College & University Students & Recent Graduates

College Mini-Semester

CSTEP - College Science & Technology Entry Program

CCI - Community College Institute

FaST - Faculty and Student Teams

GRIP - Graduate Research Internship Program

International Atomic Energy Agency Junior Professional Officer positions

National Nonproliferation Summer School

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

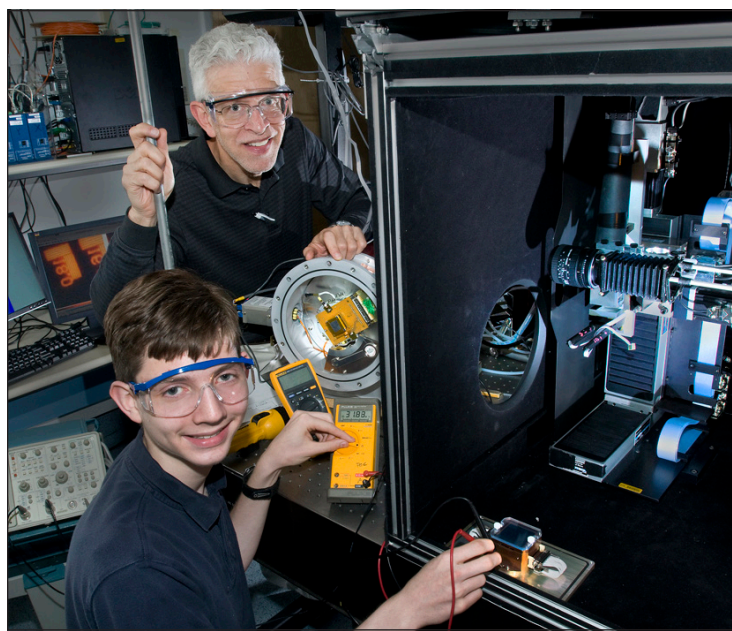
David Lawrence: A High School Senior Working on the LSST

Graduation and summer vacation were only days away for David Lawrence, a senior at Comsewogue High School, but he didn't only have barbecues and going off to MIT on his mind. He was also helping develop components for the Large Synoptic Survey Telescope (LSST) being built with the world's largest digital camera — a 3,200-megapixel sensor — that will scan the far reaches of deep space tracing billions of galaxies never seen before.

In 2008, at the age of 15, Lawrence joined BNL's High School Research Program (HSRP) and the collaboration of U.S. national laboratories, universities, and other institutions around the world working to design and build the LSST. The HSRP is managed by the Lab's Office of Educational Programs (OEP) and pairs bright, science-minded high school students like Lawrence with top scientists at BNL to complete scientific research projects.

Lawrence worked with mentors Paul O'Connor and Peter Takacs, both of BNL's Instrumentation Division, on several different aspects of LSST-related projects during the past three years.

Using the open-source computer programming language Python,



David Lawrence with Paul O'Connor of the Instrumentation Division

Lawrence created new mathematical ways to test the flatness of LSST sensor prototypes, within ranges smaller than a millionth of a meter. He has also developed new mathematical techniques for comprehensive study of charge diffusion for the LSST sensors, which occurs when light hitting a sensor is converted to a digital signal. This can lead to blurry, unfocused images — exactly what the LSST collaboration does not want.

"It's really neat to write computer code, set up test equipment, and then see it all in action," said Lawrence.

Not only is it neat, but also Lawrence's work through BNL's HSRP has earned him several honors. Earlier in 2010, he was named a semifinalist in the Intel Science Talent Search contest, and he took first place in the Physics category at the 2010 Long Island Science and Engineering Fair. Lawrence

The High School Research Program

Many high school students, like David Lawrence, come to BNL through OEP's High School Research Program. This six-week program gives 11th and 12th grade students the opportunity to work with BNL scientists and participate in ongoing, important research and development programs.

Their mentors consistently note the valuable contributions made by these young researchers.

While being an Intel finalist or semifinalist is not the focus, it does happen frequently for these high-caliber students.

For more information on BNL's High School Research Program, contact Scott Bronson, (631) 344-4385, sbronson@bnl.gov.

was also asked to present his innovative math techniques at an all-hands meeting for the LSST camera group in Philadelphia last March.

Lawrence was not sure whether he will major in mathematics or computer science at MIT this fall, but either way, he's capable of reaching those unseen stars that the LSST will first "see" using the sensors he helped develop.

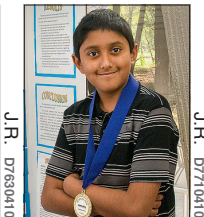
— Joe Gettler



Bridget Fabiani



Emily Horan



Zain Khan



Olivia O'Hara



Jenny Philbin



Brandon Safranek



Nicholas Tournour

From Sandcastle Crushers To Bookworms BNL's Science Learning Center Coordinates Almost 550 Projects From 118 Schools

Almost 550 science projects from 118 Suffolk County schools were entered to the 2010 Elementary School Science Fair sponsored by BNL. The Science Learning Center, which is part of the Lab's Office of Educational Programs (OEP), coordinated the fair held at BNL on May 1. BNL scientists and local elementary school teachers judged the projects.

The winners of this year's Science Learning Center Elementary School Science Fair were:

- **Kindergarten:** Emily Horan, Longwood School District, for her project, titled "The Sandcastle Crusher."
- **First Grade:** Olivia O'Hara, West Babylon School District, "Fluorescent Memory."
- **Second Grade:** Christopher Scoleri and Nicholas Tournour, Kings Park Central School District, "Chip Which?"
- **Third Grade:** Brandon Safranek, Shoreham-Wading River Central School District, "Air Pressure."
- **Fourth Grade:** Zain Khan, Longwood School District, "Does Multitasking Make Us Less Efficient?"
- **Fifth Grade:** Jenny Philbin, Sayville School District, "Police Line — Do Not Cross."
- **Sixth Grade:** Bridget Fabiani, Bayport-Blue Point School District, "How Smart Are Bookworms?" — Diane Greenberg

democratic and career choices. We are also fortunate to have staff members who realize the importance of working with young students to help prepare the scientific and technical workforce of the future."

Fellow Program Administrator Noel Blackburn agreed with Morris about the importance of mentors. "For some of the interns, this is their first experience at a national lab, and we provide a great environment to encourage students in the fields of science, technology, engineering, and math," he said. "Last year, we conducted a survey of our interns from 2004 to 2008, and it showed that our summer

programs had a significant impact on students' academic choices. This is, in part, due to our very dedicated mentors who make this experience a time to remember for these interns."

A second group of nearly 90 summer program participants, including middle and high school students and teachers, arrived at the Lab in late July. The Science Learning Center, also part of OEP, hosted elementary and middle school students involved in various camps and programs, including the Lab's summer camp for employees' children. — Sophie Bushwick & Joe Gettler



BNL's Science Learning Center

To meet the science education needs of young students while establishing a memorable and fun science experience, the Science Learning Center interacts 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 they are enthusiastic about returning another year. Teachers choose which of more than 20 activities their students will experience, getting hands-on explanations of topics such as electricity and the principles of light which are related to BNL research and needed for the required school curriculum.

In addition, Science Learning Center staff visit schools and

libraries in Suffolk County to teach classes either free or at fees to cover the program cost. A one-hour Library Outreach interactive program on the physical sciences is given to students in grades one through five, while the three-hours-for-three-days "Magnets to Go" interactive program on magnetic properties and electromagnetism is popular with children of grades four through six. Middle and high school students enjoy learning about such topics as cosmic rays, nanotechnology, or the citric acid process of soil remediation in the Exploration Labs, which are fee-based and 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.

Celebrating Fourth Anniversary Of Open Space Stewardship Program

About 300 students, parents, teachers, land stewards, and administrators celebrated the fourth anniversary of the Open Space Stewardship Program (OSSP) at BNL on June 3. The program is a school-community-government partnership in which students in kindergarten through grade 12 perform hands-on environmental research on property within their school district.

The program started with eight participating school districts in 2006 and grew to encompass about 2,500 students from 30 Long Island school districts. OSSP fosters respect for open spaces and helps students to learn about the scientific process through working with real-life data in the field. Also, the program fosters an interest in science and technology that may

inspire students to pursue careers in those fields.

At the ceremony, some students gave oral presentations on their projects, while others displayed posters on their research. Projects ranged from identifying invasive species in the Long Island Pine Barrens to testing the Wading River duck pond and other local sites for the growth of algae. Research results are posted on a website maintained by BNL. Land stewards, working with teachers and students, have access to the data to help them better preserve and protect their property. The Laboratory prepares teachers for the program by hosting workshops in the summer.

For more information, contact Mel Morris at mmorris@bnl.gov.

— Diane Greenberg

Summer Research from p. 1

...major facilities such as the National Synchrotron Light Source, the Relativistic Heavy Ion Collider, and the Center for Functional Nanomaterials, and in departments such as Instrumentation, Waste Management, Environmental Services, Physics, and Chemistry.

"While most of our summer students have excellent coursework preparation, they lack the experience of working in a laboratory setting such as BNL," said OEP Program Administrator Mel Morris. "This internship experience allows students to make more informed decisions as to their future aca-



Joseph Rubino D1420610

From left: Lab Director Samuel Aronson; Manager of BNL's Office of Educational Programs (OEP) Ken White; Alistair Rogers, Environmental Sciences Department; Aleksey Bolotnikov, Nonproliferation and National Security Department; Patricia Bender, Facilities & Operations; Stefan Tafrov, Biology Department; Congwu Du and Nelly Klein, Medical Department; DOE Brookhaven Site Office Manager Michael Holland; and OEP Administrator Mel Morris.

As Ken White, Manager of BNL's Office of Educational Programs (OEP), expresses each year with gratitude, "The key to our work at the Office of Educational Programs lies in the dedication of the many tireless mentors among BNL scientists and professionals who nurture our students and set them on pathways to scientific careers. This year, our 200 college-age summer students were welcomed and overseen by mentors who are irreplaceable in ensuring the intellectual growth of their interns, and during the year, we call on and are helped by many other volunteer mentors who help teachers, younger students, and students in

specialized programs develop their potential in the scientific field."

During the June 7 opening ceremony of this year's summer program, Lab Director Sam Aronson, DOE Brookhaven Site Office Manager Michael Holland, and OEP's White and Mel Morris awarded plaques recognizing outstanding mentorship.

During the summer program's closing ceremony on August 12, OEP staff members Noel Blackburn and Mel Morris were also recognized for outstanding mentorship.

Mentors are nominated by their former interns and the OEP program managers. The



Roger Stoutenburgh D14370810

From left: DOE Brookhaven Site Office Deputy Manager Maria Dikeakos; Mel Morris and Noel Blackburn, OEP; and BNL Deputy Director for Science & Technology Doon Gibbs

programs, largely funded by the DOE Office of Workforce Development for Teachers and Scientists and the National Science

Foundation, rely heavily on the time contributed by the many mentors hosting the students.

— Liz Seubert



Joseph Rubino D10510610

Performing a study involving native Long Island bees are: (from left) BNL's Natural Resources Manager Tim Green and three students, Lauren McIntyre, Carlos Delao, and Lauren Hemmerly, who participated in the Pre-Service Teacher (McIntyre, Hemmerly) and Community College Institute (Delao) programs administered by the Lab's Office of Educational Programs.

CCI and PST Interns Join Native Bee Study

For a few days this summer, BNLeers noticed a series of colored plastic bowls (fluorescent yellow, fluorescent blue, and white) arranged in a large X on the lawn north of Berkner Hall, just west of the parking lot, and at the Brookhaven Center, just east of the parking lot. These bowls contained soapy water and some weights to keep them from blowing over. Their purpose was to capture a representative sampling of native bees for a student research project. This work helped the Lab establish a baseline and determine if the apparent bee die-off affecting some areas of the U.S. is having an impact on Long Island bee populations. Additional sampling sites were set up in the woods on site.

BNL manages its lawns and landscapes in a sustainable man-

ner, using little or no fertilizer and no herbicides. This practice results in the lawns' having an abundance of flowering plants that are attractive to wildlife, including native and non-native bees. Working under their mentor, Tim Green, the Lab's Natural Resources Manager, were three students who were participating in programs administered by the Office of Educational Programs. Lauren McIntyre and Lauren Hemmerly were in the Pre-Service Teacher program; and Carlos Delao was part of the Community College Institute program. To summarize their research, they prepared a poster that was displayed at the Annual Symposium and Poster Presentations on August 12 and 13 at Berkner Hall.

— Sophie Bushwick

Meet Some SULI and FaST 2010 Participants



Roger Stoutenburgh D1439810

From left: SULI interns Nick Vita, Tim Kress, Rich Jaworski, and Sophie Bushwick

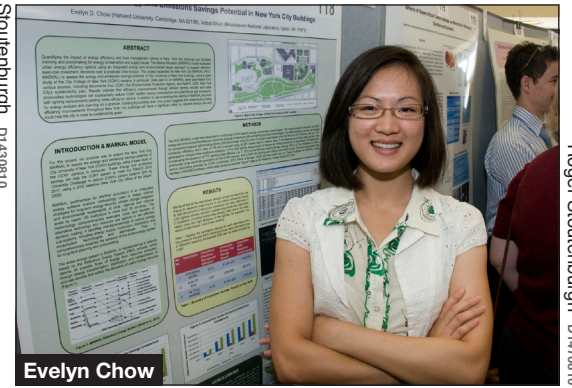
At BNL, the National Weather Service (NWS) has a station on site, where, under the mentorship of NWS Science and Operations Officer Jeffrey Tongue, Student Undergraduate Laboratory Internship (SULI) supplemental students Nick Vita, Rich Jaworski, and Tim Kress conducted research to help the NWS improve wind predictions for Newark Liberty International Airport. Sophie Bushwick, a writing intern in BNL's Media & Communications Office, spent several months at the Lab writing science stories, press releases, and feature articles.



Roger Stoutenburgh D1500810

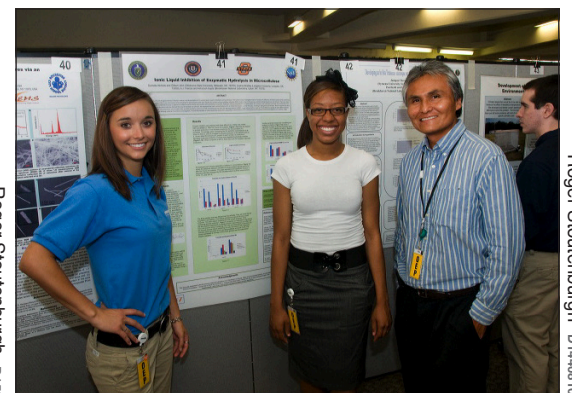
When SULI supplemental student Alisha Gryniwicz visited New York City this summer, she asked some members of the New York Police Department (NYPD) if they carried personal radiation detectors (PRDs). Why the inquiries? Gryniwicz likes to see her handiwork in action.

With BNL mentors Carl Czajkowi and Paul Zahra, Gryniwicz checked and calibrated PRDs through part of the "Securing the Cities" contract between BNL's Department of Nonproliferation and National Security and the NYPD.



Roger Stoutenburgh D1470810

SULI intern Evelyn Chow worked with mentor Vatsal Bhatt in the Science & Technology Department on the MARKAL study of "Assessing Energy and Emissions Savings in New York City Buildings." She was also one of several students selected to give an oral presentation of her work at the end of the summer program.



Roger Stoutenburgh D1440810

From left, interns Danielle Nichols and Justina Bradley, and FaST Program Professor Dr. Gilbert John

"We're trying to find an effective and efficient way to go green," said Justina Bradley, who, with Danielle Nichols, interned in BNL's Environmental Sciences Department through the Faculty and Student Teams (FaST) program. Under the mentoring of BNL's Arokiasamy J. (AJ) Francis and Ashutosh Gupta, and FaST program professor Gilbert John from Oklahoma State University, Nichols and Bradley studied the production of ethanol for biofuel.

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BNLers, professors, and students networking and showing off their work during a poster session at the two-day closing symposium for BNL's 2010 summer programs

So Long, to BNL's Summer Interns

Brookhaven Lab's largest ever group of summer interns gathered for a two-day symposium on Wednesday and Thursday, August 11 and 12, as the Lab's annual summer science programs drew to a close.

Since June, more than 300 students and faculty from local middle and high schools and universities across the country worked with BNL mentors in nearly every area of the Lab's community, including its major facilities such as the National Synchrotron Light Source, the Relativistic Heavy Ion Collider, and the Center

for Functional Nanomaterials, and in areas such as Chemistry, Environmental Services, Instrumentation, Physics, and Waste Management.

"Our interns work on everything from energy research to understanding the origins of the universe. We hear over and over that their experiences at Brookhaven continue to bring value throughout their careers," said Ken White, manager of the Lab's Office of Educational Programs (OEP).

During the two-day symposium, interns presented the results of their work and attended

a graduate school fair, a panel discussion about the graduate school admissions process, and a closing ceremony, which featured keynote speaker Margaret Ashida, project director of the Empire State Science, Technology, Engineering, and Math Learning Network.

OEP manages a number of internship programs throughout the year, most which are primarily funded by DOE.

For more information about the many opportunities offered by BNL's OEP, visit <http://www.bnl.gov/education>.

— Joe Gettler

Reading, Writing, and Synchrotrons: Joint InSynC-INCREASE Meeting Brings Teachers, Professors to NSLS

InSynC-INCREASE from p. 1

...to understand the basics of synchrotron mechanics, participate in hands-on demonstrations, and learn how to write a proposal for beam time. The joint workshop was organized by staff at the NSLS and Brookhaven's Office of Educational Programs.

The Office of Workforce Development for Teachers and Students within the DOE Office of Science is providing support for InSynC. INCREASE is being supported, in part, by a National Science Foundation grant to Southern University.

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

InSynC, launched this summer, enables high school teachers and students to gain remote access to experiments with synchrotron beam time through a competitive, peer-reviewed proposal process. The program trains both teachers and students to formulate a hypothesis-driven scientific problem and learn the skills of writing a competitive beam time proposal.

After receiving an overview of the NSLS, NSLS-II, and the



Roger Stoutenburgh D1560710

University of Chicago scientist Tony Lanzirotti gives a hands-on demonstration in x-ray fluorescence microscopy to InSynC teachers.

goals for the workshop, participants were divided into two groups: NSLS "newbies" (InSynC teachers and new INCREASE members) and returning INCREASE members. The newbies learned the basics of the NSLS through talks led by scientific staff and seasoned users, a tour of the experimental floor, and hands-on activities focused on x-ray fluorescence microscopy, Fourier transform infrared microspectroscopy, macromolecular crystallography, and x-ray absorption spectroscopy. They also discussed research ideas with NSLS scientists and took a crash course in writing successful beam time proposals.

Meanwhile, returning INCREASE members discussed goals for the consortium. In the four years since its creation,

INCREASE has made much progress, said Hampton University School of Engineering Dean and founding INCREASE member Eric Sheppard, but it still has a long way to go. In addition to increasing the number of synchrotron users in the group, becoming more active in NSLS conferences and meetings, and expanding to other MSIs, the ultimate goal for INCREASE is to host a National Science Foundation Science and Technology Center with help from Brookhaven and possibly other national laboratories. As a step toward this goal, INCREASE members spent much of the meeting trying to find a common theme among participants, discussing strategic partnerships and structure, and building action teams.

On the last day of the

Two Long Island Educators Introduce Distinguished Speaker at BNL

On September 14 and 15, Bruce Alberts — a prominent biochemist, the Editor-in-Chief of the international weekly journal *Science*, and a U.S. Science Envoy to the Muslim world for President Obama — gave two talks at BNL. Before his first talk, which was titled "Science Education: From Kindergarten Through College," Alberts was introduced by two Long Island teachers/educators: Principal of the Longwood Central School District Middle School Lisa Mato, and Maria Brown, a research teacher from Sayville High School.

Mato explained how the Longwood Middle School partnered with BNL's Science Learning Center so that sixth-grade students are able to participate in three hands-on activities. The students extract DNA from cells, insert green fluorescent proteins into cells, look at protein structures in 3D, and then use the same DNA databases BNL researchers use. Each year, two of these activities are done at BNL and one session is done at the school.

The program provides an opportunity for Mato's students to see the science, understand how their coursework relates to a career, and visit BNL. Mato said that the programs were a big success and her future students are

eager to participate. The school also participates in the Lab's Open Space Stewardship Program (see p.2), which gets students to conduct environmental research out in the field.

Brown brings students to BNL to do work in molecular ecology and bivalves using tools like the National Synchrotron Light Source. Under her guidance, Brown's students have been conducting extensive studies of a nearby creek, and they have now joined the Open Space Stewardship Program. Their work is presented at the program's annual celebration.

Brown has also played a key role in conducting teacher workshops at BNL and noted that her students have had opportunities to do work with equipment and facilities they would never have access to without BNL. Brown is also currently participating in the DOE-Academies Creating Teacher Scientists (DOE-ACTS) program.

Both Mato and Brown are engaging their students in cutting-edge, hands-on research activities that stimulate interest in science and enable students to see a pathway to a scientific career, an approach for teaching consistent with BNL's distinguished speaker Bruce Alberts' message. — Joe Gettler

Edu. Symposia from p. 1

...Atmospheric Cosmic-rays of High Ionization (MARIACHI) Project and other outreach efforts.

Among many speakers, the University of Chicago's Tony Lanzarotti, Vice Chair of the NUFO steering committee, gave examples of the many types of education programs going on at BNL's National Synchrotron Light Source (NSLS) for students from middle and high schools to beyond the graduate level, but concentrating on students at the high school level.

The earlier NSLS/CFN Users Meeting workshop titled "Bringing Big Science Into The Classroom" attracted approximately 50 teachers, who learned about how the NSLS and CFN, two of BNL's premier facilities, are used as research tools and how science teachers can use these resources to conduct real scientific measurements with their students. These resources can allow high school educators and their students to virtually go beyond the classroom walls to use the same multi-million dollar instruments Nobel Prize-winning researchers use for scientific discovery.

Teachers learned about internet-enabled tools that allow students to use instruments remotely from the classroom. The workshop also introduced some real-world scientific problems locally that can be investigated by students using these shopping-mall-size facilities. A highlight was the presentation by Mark Boland and Jonathan de Booy of the Australian Light Source. They connected with the Australian Synchrotron's Educational Virtual BeamLine (eVBL) in a real-time "down-under" demonstration using synchrotron light to perform Young's famous double slit experiment showing the wave nature of light. — Kendra Snyder

workshop, all the participants presented their proposal ideas and received feedback from NSLS scientists. Part of the group also visited Stony Brook University to learn about the Consortium for Materials Properties Research in Earth Sciences (COMPRES) — an organization that facilitates the operation of high-pressure beamlines at the NSLS and other user facilities — and the university's Master of Science in Instrumentation program.

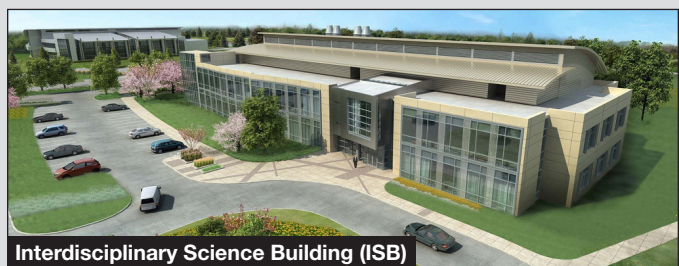
The trained InSynC teachers will work with their students to develop a synchrotron experiment. Their proposals will be reviewed by a panel of scientists and teachers, and the groups with the highest scores will be awarded beam time at the NSLS. From their classrooms, students will discuss projects with NSLS scientists, share data, and conduct their experiments via Internet-enabled tools.

"What I find most exciting about InSynC is the partnership that it makes between Lab scientists and the classroom," said Islip Middle School science teacher Ashley Bloch, who also is a participant in DOE's Academies Creating Teacher Scientists program. "It makes a more real-world connection. It gives more of a depth to science that students are lacking so often in their education."

— Kendra Snyder



National Synchrotron Light Source II (NSLS-II)



Interdisciplinary Science Building (ISB)

* NEWSFLASH *

BNL Celebrates Two Construction Milestones: NSLS-II and ISB

DOE and BNL representatives, elected officials, and construction workers gathered on October 13 to sign a steel “I” beam at the National Synchrotron Light Source II (NSLS-II), marking the completion of the structural steel framework — more than a half-mile in circumference — for this next-generation facility. That day, officials and guests also laid a cornerstone at the Interdisciplinary Science Building (ISB) site to mark the start of construction. Together, these two projects at BNL are creating 2,000 jobs. Look for more information in a future issue of the Bulletin.

462nd Brookhaven Lecture, 10/21

Tailoring Biomass to Biofuels, Bioproducts

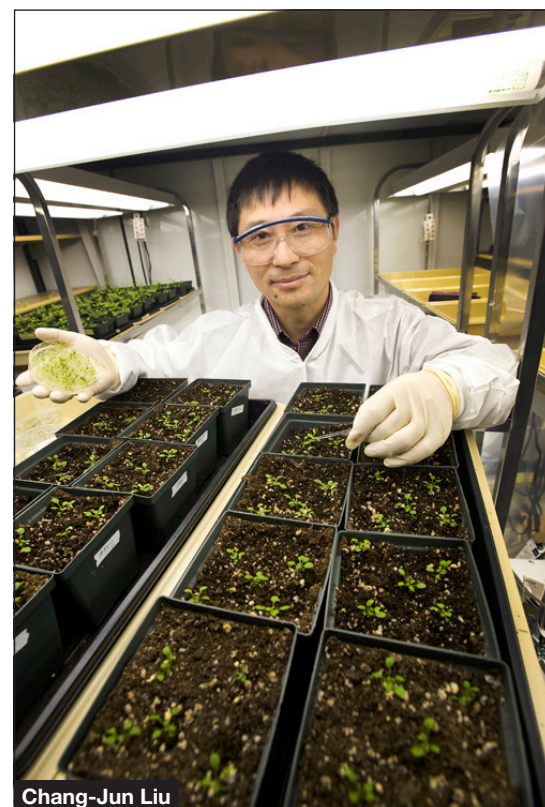
Today, the world relies on fossil fuels as a primary energy resource. This resource, however, is limited and associated with rising levels of carbon dioxide in the atmosphere. In consequence, the search for renewable biofuels has become increasingly vital. Solutions thus far have focused on first-generation biofuels, such as corn ethanol and biodiesel. But this is not enough.

In the 462nd Brookhaven Lecture, “Biomass to Biofuels and Bioproducts: Tailoring Lignocellulosic Feedstocks for a Sustainable Energy Future,” Chang-Jun Liu of the Biology Department will discuss how he and his colleagues are studying a more abundant and environmentally friendly renewable energy source — lignocellulosic biomass — found in plant cell walls.

The lecture will be held at 4 p.m. on Thursday, October 21, in Berkner Hall (note, unusual day). All are welcome to this free event, open to the public, with refreshments offered before and afterward. To join the lecturer for supper at an off-site restaurant after the talk, contact Ann Emrick, emrick@bnl.gov, Ext. 5756 or Kathy Folkers, folkers@bnl.gov, Ext. 3415.

As Liu will explain, plant cell walls provide unlimited quantities of renewable biomass. However, the intertwined lignin and cellulose that make up the cell walls resist decomposition, so obtaining energy from cellulosic biomass is a challenge. Liu and his colleagues are exploring the biosynthesis and molecular regulation of plant cell walls, particularly that of the most formidable polymer — lignin. With this knowledge, they will develop novel strategies to tailor plant cell wall’s structure and composition for efficient biofuel and biomaterial production.

After earning his Ph.D. in plant biochemistry and molecular biology from the Shanghai Insti-



Chang-Jun Liu

Roger Stoutenburgh 02031010

tute of Plant Physiology and pursuing his post-doctoral studies in the Samuel Roberts Noble Foundation and the Salk Institute, Liu joined BNL in May 2005 as an assistant biochemist. He was promoted to associate biochemist in 2007, and then to biochemist in 2010. His research interests focus on the biochemistry and structural biology of plant phenylpropanoid biosynthesis. — Daisy Yuhas

BSA Scholarship Forms Available

Application forms for the 2011 BSA Scholarships are now available from the Human Resources Division. Completed application forms must be sent to the Scholarship and Recognition Programs (SRP) division of the Educational Testing Service (ETS) (see address below) no later than December 1, 2010.

All scholarships are awarded competitively and are renewable for up to a total of four years of study toward an academic degree. Selection is made by an independent committee appointed by SRP. Fifteen scholarships will be awarded to children of eligible employees of BNL. In selecting students for the scholarship program, consideration will be given to ensure qualified applicants from historically disadvantaged backgrounds or underrepresented populations are included in the selection pool.

Each scholarship will be in the amount of \$2,500 per year and is paid directly to the college to defray expenses normally charged against the student’s account, such as tuition, lodging and board. In the case of commuting students, if the charges by the college to the student’s account are less than \$2,500 the remainder may be paid to the student to assist in defraying commuting expenses.

The criteria for selection include: secondary school academic record, school recommendation, scores of the SAT I, school and community activities, evidence of leadership, and creativity expressed through a variety of avenues. The scholarships will be granted independent of financial

need and without regard to other forms of aid to the student.

Application for a BSA Scholarship does not constitute application for college admission. It is the applicant’s responsibility to apply for and gain admission to the college of choice. A scholarship award assures a winner of financial aid only after admission to college has been granted. Scholarships will normally continue for up to four consecutive years, if prescribed scholastic standards are maintained. Recipients must be enrolled in an accredited institution of higher education in the U.S., or in the case of a foreign institution, deemed by the Human Resources Division to have the equivalent of a U.S. accreditation.

Stony Brook University Matching Scholarships

In addition, Stony Brook University President Samuel L. Stanley, Jr., who is committed to bringing the BNL and SBU communities closer together, has announced that the University will provide matching \$2,500 scholarships for all winners of 2011 BSA scholarships who are admitted to SBU and enrolled as full-time undergraduates subject to the terms and conditions of Stony Brook University Scholarships. For more information regarding the matching SBU scholarship, contact Jacqueline Pascariello, Director of Student Financial Aid and Scholarship Services at Stony Brook at Jacqueline.Pascariello@stonybrook.edu.

Qualifications

The applicant must be:

- The son or daughter of an employee of BNL who began regular full time or regular,

eligible part time employment no later than December 1, 2010, and who is employed by BNL at the time the award is announced. The sons and daughters of retired employees or of employees who died when in regular service at the Laboratory are also eligible.

- For stepchildren, and in the case of unrelated dependent children, including the children of domestic partners, eligibility will be established if the employee regularly claims the child as a dependent for income tax purposes; or if the child normally resides in the employee’s household, which must include the two-year period immediately prior to applying for a scholarship.
- A secondary school senior who will be graduated during the current academic year and who will enter college by the fall of 2011.

The Application Process: Apply by December 1

Scholarship application forms are available at the Reception Desk in Human Resources (Bldg 400B). The original completed application form must be sent, by December 1, to: BSA Scholarships, Scholarship and Recognition Programs, P.O. Box 6730, Princeton, New Jersey 08541-6730. Before submitting the original application, please detach the yellow copy of the form and send to Leesa Allen, BNL, Bldg. 400B. Subsequent application materials will be sent directly to applicants by the SRP.

Important Scholastic Assessment Test (SAT I) dates

Applicants are required to take the SAT I of the College Entrance Examination Board. Test dates for this year include the test of October 9, 2010 and the following two test dates only:

- November 6, 2010. Registration deadline: October 8, late registration Oct. 22
- December 4, 2010. Registration deadline: November 5, late registration Nov. 19

Candidates must confirm the test dates with their high school counselors. SAT scores taken during the junior or senior years will also be acceptable. In this case, it is imperative that the College Entrance Examination Board be notified, before December 1, 2010, by submitting an Additional Report Request Form (go to www.collegeboard.com or call 1 866-756-7346).

For more information on the scholarships and the application process, please contact Leesa Allen (631) 344-2700 or Leesa@bnl.gov.

Arrivals & Departures

— Arrivals —

Joo Seok Baek ES&T
Wei-Fu Chen Chemistry
David Germack CMP/MS
Imran Latif Facil Ops
Avishai Ofan ES&T
Frederick Thompson Facil Ops

— Departures —

None

Sleep Screening Week

From October 21 through 28, the Employee Assistance Program (EAP) is offering help for BNLees who have trouble falling or staying asleep; are drowsy in the daytime or while driving; feel unrefreshed in the morning; have complaints about disturbing their sleep partner’s sleep; or have problems with high blood pressure, chronic heartburn, diabetes, or weight gain. Sleep problems that go untreated can cause accidents on or off the job, poor stress management, depression and problems in getting along with others, or use of alcohol or other substances to sleep.

If you are interested, call Ext. 4567 or email nlosinno@bnl.gov for a 30-minute sleep-screening appointment.

Wanted: BNL Art, Photos, Crafts for Fall Show

BNL artists, photographers, sculptors, and crafters — your most beautiful creations are needed for the BNL Art Society’s upcoming Art & Crafts Show to be held at Berkner Hall, Monday-Wednesday, 11/22-24, 11:45 a.m.-1:30 p.m. An evening reception with refreshments will be held on Monday, November 22, 5-7 p.m. BNL employees, retirees, facility users, guests of BNL, and family members 15 years and older, may all contribute. Up to three pieces may be entered by an exhibitor, to be shown as space permits. Pictures

Benefits: One Month For Open Enrollment

Open enrollment for medical and dental benefits, the health care and dependent daycare reimbursement accounts, and the vacation buy plan will begin on October 22 and continue through November 22.

During this time, eligible participants may add or drop medical and/or dental coverage, change from one medical plan 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, 2011.

Each BSA and LLC (BSA) employee will receive a BSA Benefits Program 2011 guide via interoffice mail after October 18. The guide is also available online for employees, see <http://www.bnl.gov/hr/Benefits/OpenEnrollment.asp>. Information will also be mailed to retirees and participants on long-term disability and information on retiree benefits will be available shortly.

and photos can only be accepted if they are fully ready to hang. Bring exhibits for the show to Room C, Berkner Hall, on Friday, 11/19, 2-4:30 p.m. Your name can only be on the program if you register. To register, send your name, home phone, Lab ext., BNL contact name if you are a family member, the type (painting, clay pot, crochet, etc.) and size of your art/craft; and give its title if you have one, to Bob Chrien, chrien@bnl.gov or Bldg. 510A, or to Liz Seubert, lseubert@bnl.gov or Bldg. 400C, by Monday, November 8.

Classified Advertisements

Placement Notices

Access many more current job openings at www.bnl.gov/HR/jobs and see also <http://www.bnl.gov/HR/careers/>. To apply for a position, go to www.bnl.gov. Select "Job Opportunities," then Search Job List."

LABORATORY RECRUITMENT - Opportunities for Laboratory employees only.

MANAGER, PAYROLL AND LABOR COST (A-9) - Requires a bachelor's degree in accounting or a finance related curriculum, plus ten years' relevant experience in a Payroll or financial function, including supervisory experience. A Master's degree or Certified Public Accountant certification is a plus. Is responsible for managing staff and the Laboratory's Payroll and Labor Cost Distribution functions for accurate and timely Payroll processing, labor cost distribution, regulatory reporting, and adherence to IRS Payroll tax withholding and fringe benefit accounting regulations. Develops, recommends, and implements Payroll policies, procedures and practices in accordance with constantly changing regulatory and laboratory requirements. Makes decisions regarding issues of allowability and compliance with Cost Accounting Standards. Responsible for maintaining relevant complex computing systems governing BNL Payroll and other labor/timekeeping processes. Able to analyze problems and resolve without assistance. Acts as primary liaison with all internal and external auditors on all aspects of audits of Payroll processes and Retirement Plans. Responsible for reconciliation of all Payroll related general ledger accounts. Can assess risk and internal control structure relating to Payroll processes. Develops and maintains Payroll process procedures in SBMS. Ensures that all tax deposits and Payroll tax returns are filed timely. Must be able to work successfully and efficiently under extensive time deadlines to close Payroll during monthly, fiscal year-end, and calendar year-end time frames. Perform all tasks related to the annual issuance of W-2 forms and all government agency required documentation and tax forms. Possesses strong accounting skills to analyze proper interface of Payroll transactions to the financial records. Has solid experience developing PeopleSoft queries. Can identify and develop necessary systemic changes and modifications. Highly proficient using Microsoft Office Suite software for extensive use in error analysis, detection and resolution, documentation, and presentations. Financial Services Division. Please apply to Job ID # 15536.

MATERIAL HANDLER POSITIONS (LG-3) - Performs a variety of laboring and manual tasks in stores operations such as moving, loading, unloading, sorting and storing of materials. May operate motorized equipment pertinent to stores operations. Keeps stores facilities in neat condition. Procurement & Property Management Division. Please submit Employee Transfer form to Diana Hubert, Human Resources Division, Bldg. 400B referring to Job ID # 15530.

OPEN RECRUITMENT - Opportunities for Lab employees and outside candidates.

RIGGER /MASTER RIGGER POSITIONS (LG-7/LG-8) - Requires a CDL "A" license with Hazmat and Tank endorsements. Must successfully pass a physical exam which includes at-hire and random drug and alcohol screening. Must be able to relocate heavy machinery/equipment by attaching rigging to move, lift and/or hoist with cranes and/or forklifts. Control movement of heavy equipment through narrow openings or confined spaces, using chain falls, pallet jacks, vaul jacks, air mats or other equipment. Dismantle, inspect and store rigging equipment after use. Manipulate rigging lines, hoists, and pulling gear to move or support materials. Select gear such as slings, pulleys, and winches, according to load weights and sizes. Signal or verbally direct workers engaged in hoisting and moving loads, in order to ensure safety of workers and materials. Tilt and turn suspended loads to maneuver over, under or around obstacles, using multi-point suspension techniques. Use hand signals and other means to direct crane operators and help guide the objects into place. Must be comfortable working in all weather conditions, at heights, and available to work overtime. Must be available for snow removal duties when and as required. Must have knowledge of rigging tools, their capacities and their limitations, in every lifting operation from routine to complex, i.e., slings, come-alongs, shackles, eyebolts, chain falls, cranes, rope, jacks etc. The ability to assess and implement proper rigging techniques used while moving or transporting an object of substantial weight or fragile composition is mandatory. Education: High School Diploma required with courses in advanced mathematics and blue print reading highly desired. Must have a minimum of ten years' documented rigging experience; General Rigger Certification from a nationally recognized accredited organization a plus. Will be placed at the LG-7 or LG-8 level dependent upon depth and breadth of relevant knowledge, skills and certification. Site Services Division. Please apply to Job ID #15487.

Motor Vehicles

07 JAY FLIGHT TRAVEL TRAILER 31' BHS - new LCD tv, welded hitch on rear bumper, v/clean, \$16,000. Stephen, Ext. 2575.

06 KAWASAKI VULCAN 500CC - 62K mi. red/black, v/g cond, incl sm blk AMF helmet, pix avail. \$2,300 neg. 363-8050.

05 FORD FOCUS - 38K mi. Infra red, well maint, great cond, remote start, 4dr. \$7,500. Jim, Ext. 2765, 981-7369.

04 NISSAN SENTRA - 120K mi. manual 5 spd tranny, a/c, silver, cd/am/fm, gd cond, \$4,000 neg. Laura, 875-0771.

03 SUZUKI AERIO - 63K mi. ps, pw, am/fm/cd, excel cond, grt mpg. \$4,150 neg. Robert, 457-3171 or hoogsteden@bnl.gov.

03 JAGUAR X-TYPE - 97K mi. equip w/awd, ABS brakes, a/t, a/c w/clim contr, 6 CD, dual pwr seats, mch more. \$5,750 neg. 390-3910.

02 KAWASAKI VULCAN1500 CLASSIC FI - 11K mi. fuel inj, pwr commander, much more. \$6,500 neg. Maurice, Ext. 2159.

00 NISSAN QUEST - 138K mi. ps, pb, new timing belt/shocks/brakes. \$4,000 neg. Steve, Ext. 5531.

99 VWAGEN CABRIO CONVERTIBLE - 76K mi. mech sound, low mi, new timing belt/brakes, well maint. \$4,500 neg. 775-0828.

99 HONDA ODYSSEY - 134K mi. 7 pass van, gold, well maintd, gd overall cond, needs a/c/compressor, \$3,650. 793-1223.

99 FORD CONTOUR LX - 143K mi. 4dr sage gm, a/t p/s p/b p/ a/c, 4cyl, c/c, 28mpg, all records, \$1,700 neg. 751-5579.

97 AUDI CABRIOLET - 54K mi. like new. All pwr/windscrn, multi-disc CD. Always gar, ask Blue Book val. Ext. 3822, 929-6527.

95 HONDA ACCORD - 101K mi. running well, dents in body. \$1,000. 575-650-8794.

Marine Supplies

SUZUKI OUTBOARD MOTOR - DF2.5, Model '09, short shaft, 15", 2.5 HP, like new, ask/\$550. Eli, Ext. 7179.

Furnishings & Appliances

AIR CONDITIONER COMPRESSOR - for home cac unit, hardly used, \$150/obo. 878-9020 or sivertz@bnl.gov.

ARMOIRE MEDIA CENTER - 2-light wood, like new cond, 3 drawers, adj.shelf, pic avail. Theresa, Ext. 2051, 935-3777.

BABY CHANGING TABLE - \$10, white w/2/shelves. Nina, 475-1297.

CHINA CABINET - E. Allen, Country, French dark oak, pics avail, \$1,000/neg. 878-5764.

DINING TABLE & 4 CHAIRS - Ikea, fair cond, clean, pics avail., \$35. Oshri, Ext. 4073 or pelleg@bnl.gov.

DISHWASHER - Whirlpool, bisque, many features, excel cond, \$60, over stove hood range, \$20. Ext. 5132.

DRESSER - Antique, \$75, pic upon request. Regina, mash@bnl.gov.

DRYER - Asko, elect, sm, gd for sm space, \$250. Ext. 4211, musolino@bnl.gov.

FIREPLACE - oak, elec, excel cond, ask/\$225/obo, pics upon request. Wendy, Ext. 3924 or wwilliams@bnl.gov.

SOFA - 6 ft, ivory damask fabric \$100; recliner, red fabric \$50; oval cherry coffee table/\$25; green rug 8'x8'/\$10. 689-7725.

TV - Phillips 27", 6 yrs old, works fine! \$65/obo. Claudia, Ext. 3467 or cah@bnl.gov.

TV 26 - Sharp/\$25, works well. Carmit, cpelleg@bnl.gov.

Audio, Video & Computers

35 - Toshiba, excel cond, surround sound, pip w/Bello glass TV stand, \$350/neg. 516-695-9625, rental4u@optonline.net.

DELL VAIO LAPTOP CR SERIES - VGN-CR290EAP, lightning fast, WiFi, w/charger, 2 keys missing, \$200. 532-9621.

INTEL P4 COMPUTER SYST - complete incl P4/1.7Ghz, 256MBram, 250GB, CR-RW, DVDrom, more \$75, u-pic-up. Ext. 2159.

YAMAHA KEYBOARD/KARAOKE STA - PSR-K1 61 Key entertainment station ask/\$250, 379-0742 or rrje4019@msn.com.

Sports, Hobbies & Pets

KEYBOARD - Yamaha PSR75, 49 full size keys Polyphonic, w/stand, gd cond, \$40. Ext. 2492.

ROLLERBLADES - spark model, men's 11/12, 80mm/82A wheels, used twice, crashed once, ask \$40. George, Ext. 5298.

Tools, House & Garden

SNOW BLOWER - Sears 22", 2 stage, old and finicky but works, \$50. Rich, Ext. 7239 or richc@bnl.gov.

Free

3 DOLL CASES - clear plastic, 2/16" h, 10.5" squared, 12" h, 10.5" squared, black base, clear lid, Ext. 7224, 286-7670.

LEAF BLOWER - Homelite HB-180V, runs OK but could use carb work. Rich, Ext. 7239 or richc@bnl.gov.

Miscellaneous

BABY BOUNCER SEAT - Baby Einstein Around the World Bouncer, pic, more info avail, ask/ \$15. Rachel, irachel@bnl.gov.

KIDS' CLOTHES & TOYS - girl clothes up to size 6; Boys sizes up to size 18 mo, \$1/ea; baby and kid toys. mb@bl.gov.

SHOWER/TRANSFER BENCH - for handicapped individuals, like new, will bring to BNL, \$10. Kathleen, Ext. 7114.

SOFT LEATHER FALL JACKET MEN - Jones of New York, 36R, like new, can wear w/shirt & tie, b/o. Yvette, Ext. 5591.

TOYS - Black & Decker Jr. Workbench \$25, like new cond, pics avail. Theresa, Ext. 2051, 935-3777 or tcutrone@bnl.gov.

TWIN COMFORTER SET - horse pattern: comf/dust ruffle/pillow sham/2 decor pillows, 1 set curtns, Pd/\$125, ask/\$60. Ext. 5132.

Happenings

SHEN YUN PERFORMING ARTS SHOW - Lincoln Center, Jan 6-16, 10 nights only shenyunperformingarts.org. Ext. 4033.

Farewell Gathering

BILL BAMBINA - Please join us in wishing Bill a happy retirement.JR's Steakhouse, Rocky Point, 10/21 @ 12noon. Bob, Ext. 5493 or scheuerer@bnl.gov.

Wanted

AGP VIDEO CARD - for desktop machine w/HDMI output, cheap or free! lan, blackler@bnl.gov.

COMMODE WITH LEGS - free if possible, for my elderly mother. Joann, Ext. 5209 or totans@bnl.gov.

DONATIONS OF DOG/CAT FOOD - collection bins are in Bldgs 134, 400, 510 (x5864), 725, 901, 902, to be given to local pantries and also Kent Animal Shelter. Kathleen, Ext. 3161 or kratto@bnl.gov.

MASTER B/R & DEN FURNITURE - b/r pref wood, reasonably priced, pic appreciated. Susan, slattuca@bnl.gov.

NEW/GENTLY USED CLOTHES - all sizes, children's books, toys to be donated to 76 families living in an LI shelter. Laura X4027, lbuscemi@bnl.gov, Kathleen, Ext. 3161 or kratto@bnl.gov.

SUNDAY PAPER COUPON INSERTS - Please send to Tiffany B, 400C. Food will be donated to support the Penny Experiment: <http://tinyurl.com/2d92e86>. tabowman@bnl.gov.

For Rent

CENTER MORICHES - 2 rms (Studio plus); 2nd fl; full bath; pvt ent/pkg; 1/2 gar. New carpet. Heat incl; Avail 11/15. Lease/refs/1 mo sec req'd. \$800/mo. 375-7264.

FARMINGVILLE - furn 14'x16' upstairs rm, share bath w/1, kit, l/r, d/r, incl elec/cable/int/phone. \$645/mo. Ben, 513-8275.

FLANDERS - Waterfront, deepwater dock, beach, newly renov, cath ceiling, 3bdrm, 2bath, Jacuzzi, a/c, nat.gas, lg deck, sail boat incl, also for sale \$499,000/neg, \$2,000/mo. Dejan, Ext. 3078.

RIDGE - spacious 1 bdrm, bath, 7 min to Lab, pvt ent/drwy, all util incl, l/r, eik, w/d, pet ok, tile/new carpet, fresh paint. \$1,100/mo. 236-9114 or mcjrbj@gmail.com.

SHIRLEY - 1 bdrm apt, l/r, full bath, eik, dble closet, priv ent, sep therm, off st prkg, all new appli, util incl, no smkg/pets, 1/mo rent/sec. \$1,000/mo. 772-8529.

SHOREHAM - share a house, spacious and furn, bdrm, cable TV, int, no smkg/pets, 7 min to lab, avail now. \$700/mo. 516-380-2650 or ggt19582003@gmail.com.

SHOREHAM - 1 bdrm, new, furn garden apt, grnd flr, indep, ent/drwy, full bath, kit, l/r area, cac, no smkg/pets, 1 mo sec, all util incl, single ONLY. \$1,150/mo. 566-8261.

SHOREHAM - spacious, clean 1 bdrm furn studio apt, sep ent & thermo, full bath, kit, patio, big yd, cable TV, no smkg/pets, 7 min to Lab, avail now. \$750/mo. 747-3495.

SOUND BEACH - 3-bdrm, single-fam hse, Miller PI SD, 1.5 new bath, eik, l/r w/wood flr, new w/d, lg deck, no smkg/pets, plus util & sec deposit. \$1,750/mo. 744-8673.

WADING RIVER - clean rm in nice brand new development w/priv b/r, utils/int/tv incl. \$800/mo neg. Susan, 772-9462.

For Sale

BAYPORT - Grt. S. Bay area, 2,300 sq. ft. ranch, approx. 1 acre, priv., wooded, 3 bdrm, 2+half ba, den, lr/dr, kit, util rm, scmd porch, carport, excel schls. \$585,000. 617-332-6264.

FLANDERS - Waterfrt, deepwtr dock, bulk heading, deedd beach rts, newly-renov, cath/ceilg, 3 bdrm, 2 ba, Jacuzzi, 2/wy heat/ac, nat gas, deck, sail boat incl. \$499,000. Ext. 3078.

RIDGE - 3bdrm ranch 2bath, eik, lr, den, full bsmt, 1-car gar, deck, 5 min from BNL. \$265,000 neg. Ext. 4309, 924-0818.

ROCKY POINT - 3bdrm/1bath updated Ranch w/lg eik, Pergo flrs thruout, full fin bsmt w/playrm, office, laundry rm, extra rm, \$259,996 neg. Wendy, Ext. 3924.

ROCKY POINT - 10 rms, 4 bdrms, 3 bath, eik w/granite cntrtops, l/r w/wf & wet bar, d/r, fin bsmt, a/c, 2-car gar, 42x12' deck, igp, igs, 0.92 acres. \$455,000 neg. 742-7053.

On-Site Service Station

The on-site service station, under new management since early this year, provides gas, oil changes, all sorts of vehicle maintenance and repairs, and New York State inspections, all conveniently while you are at work. Specialty services such as windshields and collector car service are also available. Call to schedule an appointment, Ext. 4034.

Buddy Merriam & Back Roads Band 30th Anniversary Extravaganza, 10/16

Buddy Merriam and Back Roads will perform in Berkner Hall on Saturday, October 16, at 8 p.m. Sponsored by the BNL Music Club, the concert is open to the public. Visitors to the Lab 16 and older must bring a photo I.D.

This year, Buddy Merriam and Back Roads celebrate 30 years of playing traditional bluegrass music. With Back Roads, Merriam has entertained a wide spectrum of audiences at bluegrass festivals throughout the United States. In 2004, the band toured Ireland. They have also been featured on CMT online radio's "Bluegrass Sound," WKET TV, and Merriam regularly hosts the weekly *Bluegrass Time* show on WUSB radio.

In 2009, the band released the CD "Buddy Merriam-Back Roads



Mandolin," featuring Ernie Sykes on vocals and bass; Jerry Oland on banjo; Kathy DeVine on guitar, lead and harmony vocals; and Bob Harris on flatpicking guitar.

Tickets for the concert are \$20 in advance and \$25 the day of the show. Tickets may be purchased at the BERA Store, through www.ticketweb.com, or at the door. Advance ticket purchase is recommended. For more information on Buddy Merriam and Back Roads go to: <http://www.buddymerriam.com/>.

— Jane Koropsak

BERA-IAA To Hold Cultural Event, 12/18

The BERA Indo-American Association (BERA-IAA) will hold its annual cultural function on Saturday, December 18, starting at 3 p.m. in Berkner Hall. This event showcases the rich culture and traditions of the Indian subcontinent through music, dance and the arts, by both professional and amateur artists. Authentic Indian snacks and a semi-formal Indian dinner will be served during the break and after the cultural program respectively.

All are invited to participate in this celebration, either as the audience, or by sharing their talent through a stage performance or other display. Each performance, except for the invited professional artists, should be limited to four minutes or less. The last date for performance applications is October 22.

To apply as a performer or to reserve a ticket, go to <http://www.bnl.gov/bera/activities/iaa/bera-iaa-2010>. All reservations (including modifications and cancellations) must be made at this site. Tickets are: adults, \$15; children 4-12, \$9, until November 30. From December 1, adults are \$17, children, \$10. You can pay through PayPal using credit cards. Tickets are refundable if cancelled by December 12. The event is open to the public. Visitors to the Lab of 16 and older must carry a valid photo ID.

Rangoli Display

The club hopes to hold a Rangoli Display. Anyone interested, contact Kumi Pandya at pan-dya@bnl.gov. Make requests for this or other activities related to the art and culture of Indian subcontinent at the "Request to Perform Webpage," <http://www.bnl.gov/bera/activities/iaa/bera-iaa-2010>.

Free Lesson at Start Of New Dance Lessons, 10/20

The BNL Ballroom Dance Club invites you to take a free dance class on October 20 at 5:15 p.m. at the Brookhaven Center, when their three new seven-week sessions of weekly ballroom dance lessons will begin, given by instructor Giny Rae. The cost is \$50 per person for each session. The new schedule is: Beginner Hustle: 5:15 - 6:15 p.m.; Advanced-Beginner East Coast Swing: 6:15 - 7:15 p.m.; Intermediate Quickstep: 7:15 - 8:15 p.m. 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 partner, but a partner is not necessary to participate. For more information, contact: Vinita Ghosh, Ext. 6226; or go to <http://www.bnl.gov/bera/activities/dance/default.asp>.

CALENDAR Friday, 10/15

Six-page Bulletin Today
Pages 1-4 highlight BNL's Office of Educational Programs.

Saturday, 10/16

*Buddy Merriam, Back Roads Band 8 p.m. Berkner Hall. Bluegrass extravaganza. Tickets, \$20 in advance at the BERA Store in Berkner, \$25 at the door. See above.

— WEEK OF 10/18 —

Wednesday, 10/20

Heart & Soul Month Fitness Fair 11 a.m.-1:30 p.m. Berkner lobby. Health screening, raffles, more.

Thursday, 10/21

462nd Brookhaven Lecture 4 p.m. Berkner Hall. Chang-Jun Liu, Biology Department, will talk on "Biomass to Biofuels and Bioproducts: Tailoring Lignocellulosic Feedstocks for a Sustainable Energy Future." All are welcome to this free talk. Visitors of 16 and older must carry a photo I.D. See also story, p.5, and note unusual day, Thursday.

Advanced Ping Pong Tournament 5 p.m. Bldg. 317. E-mail wyin@bnl.gov to register. A Heart & Soul Month event.

Friday, 10/22

Heart & Soul Mountain Bike Ride Noon-1 p.m. Gazebo by the ball fields. 5 or 8 mile routes, this ride is for experienced or novice riders. Helmets and mountain bike are required!

— WEEK OF 10/25 —

Monday, 10/25

IBEW Meeting 6 p.m. Centreach Knights of Columbus Hall, 41 Horseblock Rd., Centreach. 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.