the Bulletin

BROOKHAVEN NATIONAL LABORATORY

Vol. 63 - No. 31 September 4, 2009

Tiny, Powerful Beams Will Enable New Science: Workshop Makes Case for Micro-Beams

At next-generation synchrotron light sources, tiny, powerful x-ray beams — especially of sub-micron size — could substantially advance research in several areas of structural biology, particularly macromolecular crystallography (MX). Such was the consensus of the approximately 100 participants at the "MX Frontiers at the One Micron Scale" workshop held at BNL on July 23 and 24. Workshop talks also illuminated the benefits that micro-beams will offer for the mitigation of radiation damage; however, all agreed that more experimental verification and method development is needed.

Joseph Rubino D0700809

Speakers and organizers of the workshop were: (front, from left) Dieter Schneider,* BNL; Gebhard Schertler, MRC Laboratory for Molecular Biology, UK; David Eisenberg, University of California, Los Angeles; Christian Riekel, European Synchrotron Radiation Facility (ESRF), France; Irene Margiolaki, ESRF; Colin Nave, Diamond Light Source, UK; Robert Fischetti, Argonne National Laboratory; Masaki Yamamoto, RIKEN Harima Institute, SPring-8, Japan; Lonny Berman,* BNL; (back, from left) Marc Allaire,* BNL; Wayne Hendrickson, Columbia University; James Holton, Lawrence Berkeley National Laboratory; Elspeth Garman, University of Oxford, UK; John Spence, Arizona State University; Gwyndaf Evans, Diamond; Clemens Schulze-Briese, Swiss Light Source; and Sean McSweeney, ESRF. Not in the photo are speakers Kenneth Evans-Lutterodt, BNL; and Antonio Lanzirotti, BNL. (*workshop organizers)

The workshop was particularly relevant given the development of National Synchrotron Light Source II (NSLS-II), a brilliant new synchrotron facility under construction at BNL. The unusually substantial list of interested sponsors for the workshop included the NSLS-II Project, BNL's National Synchrotron Light Source (NSLS), the Office of Biological & Environmental Research and the Office of Basic Energy Sciences in the DOE Office of Science, Brookhaven Science Associates, BNL's Biology Department, the National Institutes of Health's National Center for Research Resources, and the National Institute of General Medical Sciences. Commercial support was provided by FMB-Oxford Ltd, Bruker ASC, and Area Detector Systems Corporation.

Lab Director Sam Aronson welcomed participants to the workshop, highlighting the essential role played by the crystallography community at the NSLS and expressing his hopes for their continued involvement in leveraging the expanded capabilities of NSLS-II. During the workshop, which was organized by BNL's Dieter Schneider, Marc Allaire, and Lonny Berman, speakers on the first day lectured about scientific opportunities, new crystallographic methods, radiation damage, and micro-focusing beamlines. The next day was devoted to beamline concepts and challenges in optics and instrumentation. Posters were displayed on both days for viewing and discussion during coffee and lunch breaks.

Aptly, the workshop allowed speakers and participants to weigh in on how recent developments in crystallography may be used to inform the design of beamlines at NSLS-II. Workshop speakers and participants underscored the importance of incorporating full-automation and beamlines with the flexibility to deliver a stable one micron beam as well as larger beams. Regarding the future at NSLS-II, Wayne Hendrickson, NSLS-II Associate Project Director for Life Sciences, predicted that "what we think of as difficult today will become routine by 2015." David Eisenberg, University of California, Los Angeles, illustrated just this development by discussing his adventures in micro-crystallography that led to the discovery of the mis-folded state of amyloid peptides that cause Alzheimer's and related diseases. He anticipates that increasingly brilliant x-ray beams and continued advances in micro-techniques will eventually allow him to investigate amyloid crystallites *in vivo*, inside intact cells. Christian Riekel, his longtime collaborator and the pioneer in microdiffraction, expanded these views and outlined the ideas that he and his colleagues apply in advancing from micro- to nano-diffraction methods.

> "What we think of as difficult today will become routine in 2015."
>
> **Wayne Hendrickson**
> **Brookhaven Lab**

In addition to considering new ideas for NSLS-II, some shared current developments and future plans for other synchrotron facilities, including the Advanced Photon Source at Argonne National Laboratory;...

See ***MX-Workshop*** *on pg. 2*

BSA Distinguished Lecture, 9/14

Microbiologist Arnold Levine

To Talk on Evolution of p53 Genes That Prevent Cancer, Preserve Life

Arnold Levine, a leading authority on the molecular basis of cancer and faculty member of the Institute for Advanced Study, discovered a protein known as p53 — now known as the single most common genetic marker for cancer — in 1979. On Monday, September 14, Levine will give a lecture at BNL on how the genes for p53 and related proteins have survived through a billion years of evolution.

This year marks the 150th anniversary of the publication of Charles Darwin's book, *The Origin of the Species*, which explains the diversity of nature through evolution. Levine's BSA Distinguished Lecture will focus on genetic evolution, or changes in gene frequency from one generation to the next. Titled "From Sea Anemone to *Homo sapiens*: The Evolution of the p53 Family of Genes," the talk will be held at 4 p.m. in Berkner Hall. BSA Distinguished Lectures are sponsored by Brookhaven Science Associates, the company that manages BNL, to bring topics of general interest before the Lab community and the public. The lecture is free and open to the public. Visitors to the Lab age 16 and over must bring a photo ID.

Scientists originally thought that p53 accelerated tumor growth, but Levine and his colleagues showed that it suppressed tumors. Levine and colleagues characterized and identified a version of p53 in the fruit fly, an important model organism for the study of a host of human diseases, including cancer. Subsequent research has shown that p53 and related genes have been preserved through many species for a billion years. Even creatures as ancient as the sea anemone have ancestors of these genes.

See ***BSA Lecture*** *on pg. 2*

Joseph Rubino D0700809 D0710809 D0710809

The longterm Family Friendly Committee members are: (front, from left) Eli Sutter, Doon Gibbs, Creighton Wirick, Angelika Drees; (back from left) Shirley Kendall, Barbara Roland, Jean Odin McCabe, Loralie Smart, Cathy Ennis, Ann Emrick, Mark Hybertsen, and John Tranquada. Not present at the time of this photo were: Robert Pisarski (top right) and John Shanklin (bottom right).

BNL: Friend of the 'Family-Friendly' Workplace Policies, Programs

BNL started a new policy in 2008: flexible work schedules. Based on supervisory approval, exempt employees have been able to arrange a FlexMonth which can permit them to establish a wide range of work schedules and/or core-hours schedule, or telecommute. Non-exempt employees may be eligible to utilize a core-hours schedule — potentially very convenient to an employee with heavy family commitments.

This policy was recommended by a committee established in 2007 by BNL upper management: the BNL Family Friendly Policy Committee.

To attract and retain talented workers in an ever more competitive job market, BNL wanted to set in place additional "family-friendly" policies and programs that could assist employees in managing the demands of work and family life. The Family Friendly Committee, which was made up of Lab directorate and department members representing a cross-section of employee interests, was given the charge of examining current BNL "family friendly" policies and comparing them to those of other national labs or universities. Based on these findings, the committee members, who reported to the Lab Director, developed recommendations on improving BNL's policies, one of which was flexible work schedules.

Said Chief Human Resources Officer Tony Bowman, who was named to lead the Human Resources & Occupational Medicine Division when past leader Bill Hempfling retired in November 2008, "The Committee is to be commended for the dedicated effort that the membership displayed during their many meetings of the entire committee and the various subcommittees."

As the committee found, BNL's benefits were already quite generous when compared with those offered by many other workplaces. For example: the Lab contributes 10 percent of employees' salaries into their retirement fund, provides several choices...

See ***Family Friendly*** *on pg. 3*

BSA Lecture from pg. 1

As Caucasians and Asians evolved from their African ancestors, genetic variations occurred in the p53 gene that produced differing characteristics in individuals of the same population. These variations have dramatic impacts on the age of onset of cancers, the frequency of cancers in the elderly, and the longevity and even the fertility of a population. Levine will explain how and why the family of p53 genes has been so important for tumor suppression and species survival in evolutionary changes occurring over a billion years.

A member of the National Academy of Sciences and the Academy's Institute of Medicine, Levine has won numerous awards, including the 2001 Albany Medical Center Prize in Medicine and Biomedical Research, the National Cancer Institute's 2001 Alfred Knudson Award in Cancer Genetics, the 2005 Bristol-Myers Squibb Freedom to Discover Award, the 2008 Kirk A. Landon American Association for Cancer Research Prize for Basic Cancer Research, and the 2009 American Cancer Society Medal of Honor.

For more information, see *http://www.bnl.gov/bnlweb/pubaf/pr/PR_display.asp?prID=1001*.

— Diane Greenberg

Arrivals & Departures

Arrivals

Christopher Dudley	C-AD
Charles Folz	C-AD
Zhong Bo Zhang	Physics
Neena Nambiar	NSLS
Edgar Perez	Qual. Mngmt.
Brian Sheehy	C-AD
Alexandre Sitnikov	NSLS-II
Oleksiy Tkachenko	CFN

Departures

Stephen Dewey	Medical
Eduard Pozdeyev	C-AD
Nereida Santiago	NNS
Wynne Schiffer	Medical
Dieter Zantopp	C-AD

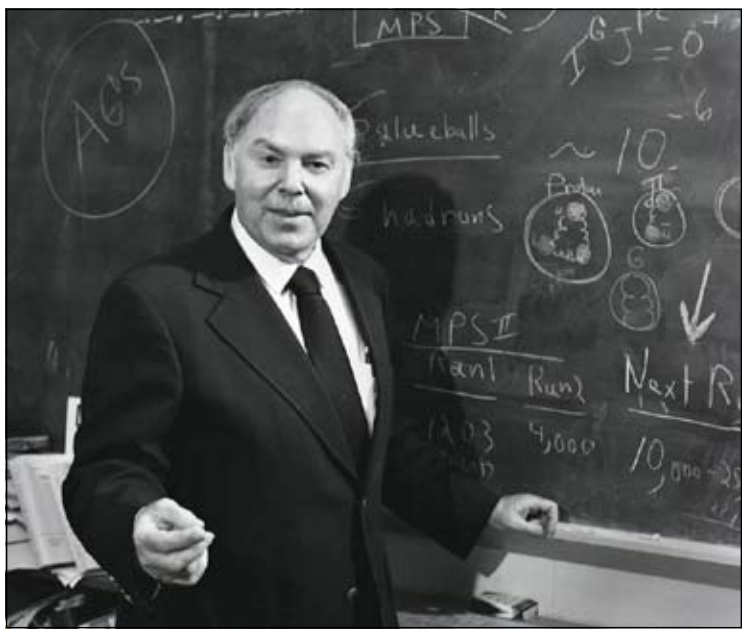
Correction: We regret that The Bulletin of August 28, 2009, reported the wrong department for new arrival Feng Gao: he joined the NSLS.

Correction

The Bulletin greatly regrets that the August 28, 2009, In Memoriam for **Gary Smith**, who retired from the Collider-Accelerator Department on June 26, 2003, and died on July 16, 2009, gave his age as 54. He was 70.

In Memoriam: Sam Lindenbaum

Sam Lindenbaum, whose distinguished career in BNL's Physics Department spanned 45 years, died on August 17, 2009. He made numerous and diverse contributions to physics, beginning with the development of the Cosmotron's first differential gas Cerenkov counters — particle selection devices still in use today — soon after he arrived at BNL and concluding with theoretical research related to measurements performed by the STAR collaboration just before his death.



Mort Rosen 7-242-83

> "Sam Lindenbaum was an inventive and colorful scientific leader during an important period of discovery at Brookhaven."
>
> **Tom Ludlam**
> **Physics Department Chair**

Born in New York City, Lindenbaum earned a bachelor's degree in physics from Princeton University in 1945 and a master's degree and Ph.D. in physics from Columbia University in 1949 and 1951, respectively. He was a research associate at Nevis Cyclotron Laboratories 1946-1951.

Lindenbaum joined BNL as an associate physicist on June 4, 1951. He soon began experimental research at the Cosmotron and proposed a theory known as the nucleon "isobar model" that explained the dominant features of high-energy pion production. He was promoted to physicist in 1954, received tenure in 1958, and became a senior physicist in 1963.

Lindenbaum designed the radiation protection shielding for the Cosmotron and proposed the basic parameters of the Alternating Gradient Synchrotron (AGS) shielding. He also was a consultant on many other high energy shielding projects.

In 1959, Lindenbaum formed and led a new group to develop a new approach to study basic high-energy interactions, which required handling a high data rate made possible with electronic detector arrays and the rapid automatic data processing of complex particle interactions. The team developed an on-line computing technique that fulfilled these requirements and, in 1962, he and his group performed the first on-line computer experiments at the AGS using sets of scintillation counter hodoscopes. As an outgrowth of the on-line computer experiments, the Physics Department established an "On-Line Data Facility," which was used by both universities and BNL groups. Lindenbaum was the founding group leader of the facility.

During the 1960s, Lindenbaum and his group exploited this technique, building particle spectrometer systems linked to on-line computers that enabled the real-time monitoring of detector performance and increased data accuracy by a hundredfold. Using this apparatus, they performed experiments on particle production and dynamics. He and his group measured elastic scattering of particles produced by the AGS and investigated pion-nucleon forward dispersion relations, proving the validity of a basic axiom of modern relativistic field theory. They also found that a subatomic particle named the A_2 meson was not split, settling the then controversial one peak vs. two peak mass distribution dispute, which helped to confirm the validity of the quark model of elementary particles.

In 1970, Lindenbaum became co-group leader of the Particle Spectrometer Group with his long-term collaborator, Satoshi Ozaki, who is currently Special Assistant to the Laboratory Director on Accelerator Projects. The Lindenbaum-Ozaki group, with help from university user groups, designed and constructed the Multiparticle Spectrometer (MPS) in the AGS, a 700-ton large acceptance particle detector, similar to a bubble chamber but outfitted with high-speed electronic detector systems that enabled scientists to observe interactions of 100,000 particles a second delivered to a target, allowing them to detect rarely occurring events.

"With Sam's passing, BNL and the physics community have lost a great scientific thinker and a fountain of exciting ideas that have led to a number of experimental techniques, which are now taken for granted," Ozaki said. "I was fortunate to have the opportunity to receive his tutelage and to work with him in developing techniques for particle physics experiments."

In 1970, Lindenbaum also became a faculty member at the City College of New York (CCNY), endowed by the Mark W. Zemansky Chair in Physics, while retaining a joint appointment at Brookhaven. He retired from CCNY in 1995, but held the title of Professor Emeritus at the college since 1998.

From 1976 to 1977, Lindenbaum took a leave of absence from BNL, to work for the Energy Research & Development Administration as Deputy for Scientific Affairs, High Energy Physics Program, Division of Physical Research.

Soon after his return to BNL, Lindenbaum and his team developed and tested an upgraded Multiparticle Spectrometer at the AGS, known as MPS II, which was ten times more powerful than its predecessor. Using the MPS II, the team discovered direct evidence for glueballs, hypothetical particles that are a predicted but as yet unobserved essential feature of quantum chromodynamics, a theory of nuclear reactions among quarks, the fundamental constituents of matter.

"Sam and I spent many hours trying to think of ways to find glueballs and ways to isolate strongly interacting gluons in heavy ion collisions," recalled Ron Longacre, a physicist in the Physics Department.

Lindenbaum also worked on a time projection chamber, a device used for three-dimensional particle measurements, for a new relativistic heavy ion program at the AGS following the cancellation in 1983 of a proposed BNL accelerator called ISABELLE. During this period, Lindenbaum began to focus his attention on magnet design and detector technology for the Relativistic Heavy Ion Collider Project.

As a member of the STAR collaboration, Lindenbaum, along with Longacre, was interested in a theoretical interpretation of particle interactions at RHIC. They studied the fluctuations and correlations in relativistic heavy ion collisions to search for indications of "bubbles" of quark-gluon plasma that might be created prior to the formation of hadrons. They had published a paper on their theory, and another paper was pending at the time of Lindenbaum's death.

"Sam was a fierce defender of scientific freedom and an intense scientific researcher who enjoyed spirited and sometimes animated scientific and philosophical debates," said Tim Hallman, Physics Department and STAR group leader. "He was doggedly persistent in pursuing his scientific interests and the tools needed to achieve them. And he would never give up fighting for something he believed in. Ever."

Lindenbaum retired from BNL on June 16, 1996, but he returned in 1998 as a guest senior physicist to continue his research as part of the STAR collaboration. His brother, Stanley Lindenbaum; a niece, Karen Koevary; and a nephew, Michael Kimmel, survive him.

— Diane Greenberg

Joseph Rubino D5180709

Participants at the 2009 MX Frontiers Workshop

MX-Workshop from pg. 1

...the European Synchrotron Radiation Facility (ESRF) in Grenoble, France; the Swiss Light Source in Switzerland; the Diamond Light Source in England; and SPring-8 facility in Japan. By bringing together scientists from such widespread facilities, the workshop also provided a unique opportunity in scientific community building.

"To address issues that will come up in the next five to 10 years, we need to find better ways to integrate and share access to beamlines," said Sean McSweeney of ESRF, emphasizing the value of cooperative development. Likewise, Gebhard Schertler, MRC Laboratory of Molecular Biology, Cambridge, UK, indicated, "It is important how beamline scientists work with other scientists — they have to work on equal terms."

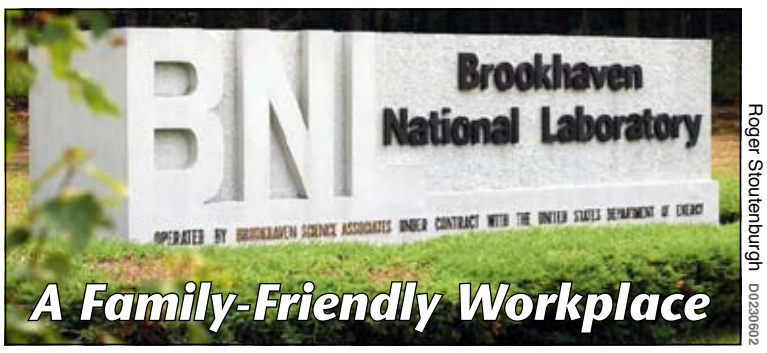
The workshop concluded with a final discussion to consider the key question of whether or not a solid case had been made in favor of micro-beams. Participants debated the matter with enthusiasm throughout, deliberating the appropriateness of the one-micron scale, the role of submicron beams, and the usefulness of beamlines with flexible capabilities.

Although as Colin Nave of Diamond pointed out, "We're not yet in the position where all the possibilities have been explored."

Ultimately, the sum of lectures and discussions clearly illustrated that tiny beams will enable new science, particularly so if the beam is of sub-micron size. At this scale, structural work will be characterized by experimentation rather than routine measurements and involve many pursuits in life sciences such as MX, small-angle x-ray scattering, and fiber diffraction, and potentially borrowing from electron microscopy. Finally, the workshop illuminated the benefits that micro-beams offer for the mitigation of radiation damage, but also that more experiments must be done and methodologies developed to ensure that micro-beams are used to their best advantage.

For more information on the workshop, see *http://www.nsls.bnl.gov/newsroom/news/2009/08-MX_Workshop.htm*.

— Nicole Puglin



Roger Stoutenburgh D0230602

Family Friendly *from pg. 1*

…of medical benefits; on-site child care facility and summer camp; the Occupational Medicine Clinic, which includes physical therapy; the Employee Assistance Program; the Health Promotion Program; and generous sick leave. The Lab also supports the Brookhaven Employees Recreation Association, English for Speakers of Other Languages, and the Brookhaven Retired Employees Association.

The Committee also identified existing "family-friendly" policies. They included: adoption assistance, domestic partner benefits, BSA scholarships, flexible spending accounts for medical and dependent care, sick family member leave, the on-site Child Development Center for babies and pre-schoolers, summer camp for employees' children up to 14, an annual summer camp exposition, housing assistance — and more.

However, the Committee found several other benefits or extensions of benefits to recommend to the Laboratory Director that are now under consideration. Some ideas have already been approved: for example, summer camp hours have been extended from 5 p.m. to 5:30 p.m. The idea of expanding camp hours to include all summer weeks and short school recesses is being investigated — the issue is that current teachers' availability is limited by their school schedules. Another recommendation was to enlarge the Child Development Center, which always has a waiting list. This proposal has been made for several years, but is not yet funded.

Some other proposals made by the committee are still under consideration. Examples include formulating a "Children at Work Policy," and providing additional paid leave after childbirth or adoption of a child.

The Committee also examined sick family member leave. At present, an employee may use sick time to help a sick family member on five occasions utilizing up to 8 hours per occasion for the calendar year. The Committee advocated a 40-hour limit a year instead. In response, subject to supervisory approval, employees will be able to help sick family members using 40 hours of their own sick leave with a minimum of two hours per occasion. In addition, the sick family member and bereavement pay benefits will be extended to individuals in domestic partnerships and the twelve month waiting period for medical and dental benefits will be eliminated for domestic partners as well.

The Committee also recommended increasing financial assistance related to adopting a child: this was granted. Reimbursable expenses will be increased from $3,000 to $5,000 and $10,000 for two employees. Another recommendation has also been followed: a "Family Programs" link is available directly from the Human Resources homepage giving information on all available benefits.

Perhaps the most important recommendation made by the 2007 committee was to establish a permanent Family Friendly Committee which will be led by Human Resources so that the progress of previous recommendations that are still being considered may be followed closely, and attention will be given to new ideas. As more decisions are made by the new committee, the news of BNL's friendliness to families will be quickly announced. Please keep in mind that program improvements must be balanced with cost factors and may require DOE approval and that Bargaining Unit employees are governed by their collective bargaining contract.

To learn more about BNL's Family Friendly programs, go to the Human Resources homepage, *http://www.bnl.gov/HR/*, and click on Family Friendly Programs.

— Liz Seubert

BSA Noon Recital, 9/16

McNally to play classics and rags

The BSA Noon Recital to be held in Berkner Hall on Wednesday, September 16, will feature pianist William McNally — a multifaceted musician who will perform works by Beethoven, Bach, Medtner, and Hamelin as well as a selection of ragtime pieces. This year, for the second time, McNally won the New Rag Contest at the Old-Time Music Contest in Peoria, Illinois. His recently released ragtime CD includes classic rags as well as his own compositions.

McNally performed for the first time in Carnegie Hall's Weill Recital Hall shortly after his ninth birthday, as a winner of the AMSA World Piano Competition; he has since played there twice more. While still a high school student, he wrote a new rag that won a first prize in Pennsylvania and finalist placement in the PTSA national arts competition, where there were nearly 30,000 contestants in the musical composition field. Currently, McNally serves as Adjunct Professor of Piano and Staff Accompanist at Temple University, as well as associate staff member at the Settlement Music School.

Sponsored by Brookhaven Science Associates, the managers of BNL, noon recitals are free and open to the public. Visitors to the Lab age 16 and over must show photo ID.

Update on 'Age 29' Health Coverage Legislation

Recent legislation approved by the N.Y. State Legislature and signed by Governor David Paterson permits young adults up to age 29 to continue or obtain coverage through a parent's group health insurance policy by paying up to 100 percent of the single premium rate. In researching how this new law will impact coverage for BNL employees, the Benefits Office learned that it does not apply to self-insured plans, such as the Lab's CIGNA and Vytra medical plans and its EBS-RMSCO and CIGNA Dental PPO plans. Beginning 1/1/2010, it may apply to the Aetna and HIP medical plans and the CIGNA DMO dental plan. Benefits Manager Denise DiMeglio said additional guidance will be provided to employees as details become available.

LIANS Dinner Meeting, 9/16

At the dinner meeting of the Long Island Chapter of the American Nuclear Society (LIANS), on Wednesday, September 16, the invited speaker will be Adam Hutter, Director of the Environmental Measurements Laboratory (EML), who will talk on "The History of EML and Its Changing Role as a Department of Homeland Security Facility." The meeting will be held at South Shore Restaurant, 388 Medford Ave., Patchogue. Appetizers/cash bar will start at 6 p.m., dinner at 7 p.m., and Hutter's talk at 8 p.m. The cost is $25/person. Reserve with a message on Ext. 2606 by Monday, September 14.

Spanish Classical and Flamenco Concert, 9/26

The Sol y Sombra Dance Company will perform a concert of classical Spanish and Flamenco music and dance on Saturday, September 26, at 7 p.m. in Berkner Hall. Sponsored by the Lab's Hispanic Heritage Club (BHHC), the event is open to the public. All visitors to the Lab age 16 and over must bring a photo ID.

Entitled "La Guitarra," the concert will celebrate 500 years of Spanish guitar and the music, song and dance that it has inspired. In addition to live guitarists, singers, and dancers, visual works will be featured from Latina artist Pura Cruz's "Broken Guitar" series.

This concert is made possible in part by grants from the New York State Arts Council's Decentralization Program, the Suffolk County Office of Cultural Affairs, and a community grant from Suffolk County Legislator Vivian Viloria-Fisher.

Tickets are $12 in advance and $15 at the door on the day of the performance. Buy tickets at the BERA Store in Berkner Hall or through *www.ticketweb.com*. Proceeds will benefit the BHHC's scholarship fund for high school students.

BERA Camera Club Meeting, 9/21

The BERA Camera Club will meet on Monday, 9/21, at noon in Bldg. 400's Conference Room 2. The two photo themes for this month are "summer" and "free selection." Attendees should submit their selections to Joe Gettler (*jgettler@bnl.gov*) by Wednesday, 9/16.

Ballroom Dance Lessons Start 9/9

Three six-week sessions of weekly evening dance lessons start on 9/9: beginner hustle, intermediate foxtrot, and intermediate tango, at $30 per person per session. For more information, see the Bulletin of 8/28/09, or call Ext. 2720.

The BERA Store Has Trips in Store!

Buy tickets weekdays, 9 a.m.–3 p.m. at the BERA Store in Berkner Hall.

Central Park NY Bike Tour: Sat., 9/13. Two-hour bicycle tour through Central Park. $40 per person, for coach; bike and helmet rental; and tour. Depart BNL 8 a.m., Depart NYC 4 p.m. *This trip was rescheduled from August 22. If you paid for the original date but are now unable to attend, contact the BERA Store for a refund.*

US Open Tennis: Tues., 9/8. $55 per person, includes upper promenade tickets. Leave BNL 8:30 a.m., leave stadium 7:30 p.m.

NYC Dinner Cruise: Fri., 9/11. $95 per person includes open bar, dinner buffet, dancing. Depart BNL 6 p.m.; leave NYC midnight.

BIG E State Fair in Springfield, MA: Sat., 9/19. $15 per person (adult or child). Depart BNL 7:30 a.m., depart fair 5:30 p.m.

Bronx Zoo: Sat., 9/26. $23 per person includes coach and "Total Experience" ticket. Leave BNL 9 a.m., leave zoo 5 p.m. Children two and under who sit on your lap are free.

NASCAR, Dover Internat'l Speedway: Sun., 9/27. $120 per person includes coach, race, picnic.

Cape Cod: October 2 – 4. Singles: $406, doubles: $350 each, triples: $330 each, quadruples: $315 each — includes transportation, lodging, and some meals. Contact Ext. 7459, *giambalvo@bnl.gov*.

Atlantic City: Sat., 10/3. Leave BNL at 9 a.m. and leave casino at 8 p.m. Casino TBD.

Calendar

— WEEK OF 9/7 —

Monday, 9/7

Lab Closed for Labor Day Holiday
No Bulletin on 9/11.

Friday, 9/11

***Rock/Blues Concert, Dance**
8 p.m. Brookhaven Center. Memphis Soul Review will perform Texas rock and blues, rhythm and blues. Tickets are $16. Visitors to the Lab 16 and older must bring a photo ID. See pg. 4.

— WEEK OF 9/14 —

Mon.-Fri. 9/14-18

Sleep Screening Week
Employee Assistance Program offers 30 min screening. See *www.bnl.gov/hr/occmed/EAP*. Call Ext. 4567 for appointment.

Monday, 9/14

***BSA Distinguished Lecture**
4 p.m. Berkner Hall. Arnold Levine, Institute for Advanced Study, will talk on "From Sea Anemone to *Homo sapiens*: The Evolution of the p53 Family of Genes." The lecture, sponsored by Brookhaven Science Associates, is free and open to the public. Visitors to the Lab age 16 and over must bring a photo ID. See pg. 1.

Wednesday, 9/16

***BSA Noon Recital**
Noon. Berkner Hall. Bill McNally of Pianofest will play ragtime and classical works. Free and open to the public. See below, left.

— WEEK OF 9/21 —

Saturday, 9/26

***Spanish & Flamenco Concert**
7 p.m. Berkner Hall. The Sol y Sombra Dance Company will perform. See notice at left.

Service Anniversaries

The following employees celebrated a service anniversary in May:

— 30 Years —

Steven Bennett ..... NSLS
Peter Boyle ..... Mod. Proj. Office
Nicholas Franco..... C-AD
Stephanie Lamontagne..... C-AD
Jean Petterson .....Chemistry
Slobodan Pjerov ..... NSLS
Steven Schroder..... Proc./Prop.
Charles Spataro.....NSLS-II

— 25 Years —

Kevin Hester ..... CEGPA

— 20 Years —

Eugene Barrow ..... Maint/Fab.
Herman Graham .....Bus. Systs.
Diane Greenberg ..... CEGPA
Thomas McEvaddy..... Mod. Proj.
Jamie Sims ..... Lab. Prot.
Helio Takai..... Physics

— 10 Years —

Raymond Costa.....Facils/Ops.
Joshua Federmann.....ITD
Norman McIntosh....Site Services
Louis Pena ..... Medical
Peter Realmuto..... Proc./Prop.

New BERA Fitness Classes

Make checks payable to BERA and mail to: Rec. Office, Bldg. 400.

Zumba: Eight sessions in the Rec Hall (Bldg. 317). Tuesdays, 12:15 – 1:15 p.m. 9/15-11/3. $80.

Pilates: Eight-week session in the Rec Hall (Bldg. 317). Mondays, 12:15 – 1:15 p.m., 9/21 -11/9. Mondays and Wednesdays, 5:15 – 6:15 p.m., 9/14 -11/9. $75/once per week, $90/ twice per week.

Aqua Aerobics: Eight-week session in the Pool (Bldg. 478). Tuesdays and Thursdays, 5:30 – 6:30 p.m., 9/15-11/5. $20/once per week, $40/twice per week.

Classified Advertisements

Placement Notices

The Lab's placement policy is to select the best-qualified candidate for an available position. Candidates are considered in the following order: (1) present benefits-eligible employees within the department/division and/or appropriate bargaining unit, with preference for those within the immediate work group; (2) present benefits-eligible employees within the Laboratory; and (3) outside applicants. In keeping with the Affirmative Action Plan, selections are made without regard to age, race, color, religion, national origin, sex, disability or veteran status. Each week, the Human Resources Division lists new placement notices, first, so employees may request consideration for themselves, and, second, for open recruitment. Because of the priority policy stated above, each listing does not necessarily represent an opportunity for all people. Except when operational needs require otherwise, positions will be open for one week after publication. For more information, contact the Employment Manager, Ext. 2882. Access current job openings on the World Wide Web at *www.bnl.gov/HR/jobs/*.

To apply for a position, go to *www.bnl.gov*. Select "Job Opportunities," then "Search Job List."

OPEN RECRUITMENT – Opportunities for Lab employees and outside candidates.

ELECTRICAL PROJECT ENGINEER – 2 year term (P-7) - The Electrical Engineering Group seeks an engineer possessing the ability to utilize new or improved engineering techniques and procedures to design and troubleshoot industrial control equipment used in electrical systems for NSLS-II project. These projects will include the design, specifications, and procurement documents for industrial control systems. Requires a BS Degree in Electrical Engineering or equivalent, a minimum of seven years' experience in design and testing of industrial control systems, experience in designing small to medium scale motion and or process controls systems using PLC (Programmable Logic Controllers), VFD (Variable Frequency Drives), and servo and or stepper-motor controllers, interfacing sensors for temperature, pressure, and position to control systems, the selection of the hardware required for these types of systems, and using circuit analysis software for modeling electrical systems. Strong interpersonal skills with the ability to interact with a diverse group of scientists and technical staff are also required. Programming experience for PLC and motion controller hardware, knowledge in reliability criteria as it pertains to industrial controls, knowledge of electrical system used in a particle accelerator, familiarity in using LabView software for testing and control of electrical systems, and strong technical writing skills are highly desirable. Will report to the Electrical Engineering Group Leader. National Synchrotron Lights Source II. ERAP eligible: $1,000. Apply for Job ID #15028.

MECHANICAL STAFF/PROJECT ENGINEER (P-5/P-7, 2 positions) – Requires a BS degree in mechanical engineering, or closely related field, and a minimum of three years' experience in mechanical design, analysis, materials, machine shop and manufacturing processes. Experience in the use of 3-D Pro/Engineer CAD and ANSYS engineering software, drawing standards, and engineering codes. Requires excellent communication skills and the ability to work effectively with scientific and technical staff. Knowledge of accelerator magnets, cryogenics, and vacuum systems is a plus. Responsibilities include working as a team member on the design, specification, fabrication and assembly of superconducting magnets and associated tooling and equipment. Working under the direction of senior engineers, with duties that include generating complex 3D models and 2D drawings of magnets, tooling and all associated components, performing engineering analyses related to mechanical stresses and heat loads as required. Will also prepare engineering specifications, prepare for and participate in design reviews and present reports. Will be placed at the P-5 or P-7 level dependent upon depth and breadth of relevant knowledge and skills. Will report to the SMD Design Engineering Group Leader. Superconducting Magnet Division. Apply for Job ID #15031.

STAFF ENGINEER/MECHANICAL ENGINEER (P5/P7, term) - Duties include working on an engineering team in preparation for the preliminary design, specification, fabrication, procurement, installation and commissioning of various mechanical subsystems of NSLS-II. Will also build and evaluate prototypes of these systems and propose upgrades and improvements as needed. Requirements include a BS degree, or equivalent in mechanical engineering or closely related field, a minimum three years of progressively responsible related work experience, substantial knowledge of mechanical designs, analysis, materials and manufacturing processes, experience in the use of 3-D CAD (Inventor or Pro-E) tools, drawing standards and engineering codes. Must possess excellent communication skills and must be able to work effectively with the scientific, technical and procurement staff of the project. Preferred requirements include knowledge of accelerator magnets, vacuum system, instrumentation, detectors and beamline hardware. Will report to the NSLS-II mechanical engineering group leader. Apply for Job ID #15026.

SR. TECHNOLOGY ENGINEER (I-8) - In this position, will join a cross-trained team of scientists, engineers, technicians, and IT specialists who operate five beamlines for macromolecular crystallography at the NSLS. This worker will hold a bachelor's degree or equivalent experience with a master's degree being preferred, preferably in computer science or physics, and at least eight years of relevant experience. The IT component predominates in this position. A strong background in RedHat Fedora Linux System Administration, cybersecurity, and network and storage systems is essential. Experience with Python, perl, and shell scripting is required. Ideally, will have experience with Relational Database design, embedded SQL programming, and web-based technologies for interfacing to databases. Postgres experience is preferred. Experience with Synchrotron Protein Crystallography beamline operations is highly desirable, both to provide perspective in executing software development and maintenance, and for the cross-training aspects of the position. Responsibilities will include working with a partner to maintain operating systems and applications software on 70 linux computers, development of automated system-update software, installation and upgrade to crystallography data-analysis software, regular interaction with outside visitors. Biology Department. Apply forJob ID #15025.

MECHANICAL SR. TECHNICAL SPECIALIST (T-3) - Requires an AAS in Mechanical Technology or equivalent, and a minimum of six years' experience in the fabrication and assembly of extremely precise mechanical components and assemblies. Must possess the ability to work from mechanical prints, verbal instructions, and rough engineering sketches. Must be able to operate forklifts and overhead cranes after the facility specific training is given. In addition, must be proficient with hand tools and have experience in the operation of lathes, milling machines, saws, and other machine tools. The ability to use mechanical inspection tools and a basic knowledge of electrical wiring techniques is also necessary. Experience with the assembly and testing of superconducting magnets and their components is highly desirable. Technical training must be taken and maintained as specified by Job Training Assessment. Will perform assigned work safely and responsibly. Fabricate, install/assemble, inspect and test components using written procedures or verbal instructions. Keep legible log books when necessary. Sign off on work that is performed in magnet /coil travelers daily. Operate, repair, and maintain equipment. Report to supervisor any unsafe acts, equipment or situations in work area immediately. Perform housekeeping to keep work area clean and safe. Superconducting Magnet Division. Apply to Job ID #15029.

MECHANICAL TECHNICAL SPECIALIST (T-2) - Requires an AAS in Mechanical Technology or equivalent, and a minimum of four years' experience in the fabrication and assembly of extremely precise mechanical components and assemblies. Must possess the ability to work from mechanical prints, verbal instructions, and rough engineering sketches. Must be able to operate forklifts and overhead cranes after the facility specific training is given. In addition the candidate must be proficient with hand tools and have experience in the operation of lathes, milling machines, saws, and other machine tools. The ability to use mechanical inspection tools and a basic knowledge of electrical wiring techniques is also necessary. Experience with the assembly and testing of superconducting magnets and their components is highly desirable. Technical training must be taken and maintained as specified by Job Training Assessment. Perform assigned work safely and responsibly. Fabricate, install/assemble, inspect and test components using written procedures or verbal instructions. Keep legible log books when necessary. Sign off on work that is performed in magnet /coil travelers daily. Operate, repair and maintain equipment. Report to supervisor any unsafe acts, equipment or situations in work area immediately. Perform housekeeping to keep work area clean and safe. Superconducting Magnet Division. Apply for Job ID #15030.

ADMINISTRATIVE SERVICES ASSISTANT/ NSLS-II BUSINESS OPERATIONS (A-2, reposting) – Reporting to the NSLS-II Business Operations Manager, will work independently to perform a range of administrative duties related to the NSLS-II project with varying degrees of complexity; which include, but are not limited to, assisting the department administrator with Electronic Time Reporting, processing web requisitions, maintaining and updating existing web and/or SharePoint site(s) and reporting generation and maintenance in support of the Budget Operations Group. Requires an AAS degree in accounting, business or related field or equivalent, two years relevant experience, proficiency with MS Word and Excel, excellent organizational skills, strong analytical and communications skills, and the ability to work well in a team environment. Proficiency in PeopleSoft, MS Access and the development and use of macros, and the ability to work independently under pressure is highly desirable. Reports to the Business Operations Manager, NSLS-II. National Synchrotron Light Source II. ERAP Eligible: $500. Apply for Job ID #14990.

Motor Vehicles

05 CHRYSLER TOURING 300 – 82K mi. black pearl, mint cond, 6 cyl w/many, many extras. $8,900 neg. Jared, Ext. 4705, 929-4978 or mjulian@bnl.gov.

01 VOLKSWAGEN PASSAT WAGON – 103K mi. silver, 6 cyl., lthr int, a/c, a/t, well kept. $4,000. 929-8725.

00 CHEVROLET CAMARO Z-28 – 100K mi. 5.7 ltr. V-8, T-Tops, a/t, a/c, Monsoon 500 watt stereo w/8 spkrs, blk w/blk lthr interior, dealer serviced w/Mobil 1, orig. owner. $7,000 neg. 965-4792.

93 PONTIAC GRAND AM – 78K mi. Blue, V6 3.3 LT, PW, PB, PS, AC. Kept in the garage, v clean. $2,250 neg. 775-6022.

Boats

38' CHRIS/CRAFT COMMANDER – '67 fiberglass, twin 260hp merc/cruisers, fresh water cooled engines and generator, radar, 2 refrig, microwave, loran, auto windless etc. $14,900 neg. Dennis, Ext. 4028, 386-492-3953.

Furnishings & Appliances

BABY FURNITURE, CLOTHES, ETC. – Italia Crib, bassinet & changing table, toddler bed, toys & clothes, pix avail upon request. Rachel, irachel@bnl.gov.

BED RAIL – assist w/board that goes under mattress, can be used on either side, great for that extra help getting out of bed, ask/$75/neg. Debbie, Ext. 3120.

CRIB – Convertible Light Oak Sleigh Crib. Excel Cond. Pd $600/Asking $150. Wendy, Ext. 3924 or wwilliams@bnl.gov.

DINING ROOM SET – lg Colonial, seats 8, incl hutch, dark pine, great cond, pic/dimensions avail upon request, $250/neg. Linda, Ext. 3750, 672-4141.

DINING ROOM TABLE & HUTCH – Bernhardt Table 6 chairs w/leafs in fair cond, hutch in v/gd cond, $350/all/neg. Richard, Ext. 7129, 516-779-3116.

ELECTRIC RANGE – Frigidaire, Glass Front/$250; Bisque color, self-cleaning oven, elect clock w/baking/cooking timers/$250. Joseph, 873-7547 or jsullivan@bnl.gov.

JUICER – used twice, excellent condition, includes recipe booklet $15. R. Barreto, 591-4267.

KITCHENAID REFRIGERATOR – White, bottom freezer with ice maker. Large capacity. $500. Angela, Ext. 7397 or awefer@bnl.gov.

MATTRESS – Sterns & Foster Queen Size Double Pillowtop. Guest Room Mattress/Hardly Used. Excellent Condition. $375.00. Charlie, 872-2788.

MICROWAVE – Sharp brand, Stainless Stain, excel. cond. Ask/$50. Wendy, Ext. 3924 or wwilliams@bnl.gov.

MICROWAVE – lg, works well/$20/obo; VCR works great, VHS movies incl, Blues Brothers, Out of Africa, Braveheart, Men in Black and more/$20/ obo. Amber, Ext. 3807.

MICROWAVE 1100W – v/gd cond, excel w/stylish stainless steel design, ask/$50. Mario, 646-267-9069 or mariom@bnl.gov.

MICROWAVE CABINET – w/storage, solid wood w/wheels, 52.5h x 17.5d x 24"w; towel rack, drawer, shelf opening for microwave 20.5wx18h, photo avail, $35. Ext. 2198, 591-1183 or lysik@bnl.gov.

SHELF FOR SALE – 2 meters high, white shelf, 6 adjustable levels, easy to assemble, quite new, just $15. Chuan, Ext. 3757 or chuan@quark.phy.bnl.gov.

SLIDING GLASS DOOR – 6' Anderson, in gd cond, $50. Mark, 591-1054.

TABLES – 4pc l/r tables w/glass top and wrought iron bottom, ask/$150/obo, pics upon request. Wendy, Ext. 3924 or wwilliams@bnl.gov.

Audio, Video & Computers

21 PANASONIC TV/VCR COMBO – Great for a dorms. CRT TV comes with remote. Asking $5. Paul, porfin@bnl.gov. Paul, porfin@bnl.gov.

DIGITAL PICTURE FRAME – 8", new, Viewsonic DPG807BK, 800x600, $50. Ben, Ext. 4299.

QUASAR PALMCORDER CAMCORDER – (new in box, never used) 2.5 color LCD monitor, AccuBrite Built-in Light with Digital Fade (comes with accessories) $30. R. Barreto, 591-4267.

Sports, Hobbies & Pets

2 JET TICKETS – Sept 3, vs Philadephia Eagles + parking Pass. Patrick, Ext. 4638.

BASKETBALL HOOP – freestanding/$50. Donna, 398-8024.

EXERCISE EQUIPMENT – Nordic Rider Dual Motion, $45. irachel@bnl.gov.

KITTEN – Longhaired tortiseshell for adoption to good home only. Donna, Ext. 3906.

LEG MAGIC EXERCISER – barely used/$40, excel cond, folds up easily, takes up very little space. Mario, 646-267-9069 or mariom@bnl.gov.

PARROTS – 3 cockatiels, yellow nape, mollucan, umbrella w/cages, ask/$700. Allen, 516-769-6649 or ajones@bnl.gov.

Come Listen or Dance to Compelling Music: Memphis Soul Review Will Perform, 9/11

Memphis Soul Review, a seven-piece band featuring local musician Bobby Nathan, will perform on Friday, September 11, at 8 p.m. in the Brookhaven Center. The band recreates Texas rock and blues, complemented by a horn section, and features rhythm and blues music by artists of the 1960s and 1970s. A professional dance instructor will offer lessons. Sponsored by the BNL Music and Social and Cultural Clubs, the event is open to the public. Tickets for the show are $16; buy them at the BERA Store, through *www.ticketweb.com*, or at the door. Advance ticket purchase is recommended. Visitors to the Lab of 16 and older must bring a photo ID.

Bobby Nathan began playing guitar in 1959. In the 1970s he toured the U.S. with the band Strawberry. In 1976 he formed the band Uptown and played at local disco clubs. In 1979 Nathan and his wife Joanne opened Unique Recording Studios in New York City where he works with many notable artists including Bruce Springsteen, Anita Baker, Joe Cocker, Diana Ross, LaToya Jackson and James Brown. In fact, Nathan was the first to sample James Brown's screams and Led Zeppelin's drums.

The seasoned musicians making up Memphis Soul Review are Bobby Nathan, lead guitar; Ed Terry, lead vocalist; Arno Hecht and Larry Etkin of the Uptown Horns; Joanne Nathan on keys; Gregg "Clutch" Reilly on bass; and James Benard on drums. For more information on the band, see *www.bobbynathan.com/*. — Jane Koropsak

STAIR MASTER – 4000PT, barely used, pd/$2000, ask/$600. Maurice DuBois, 928-6930.

TOTAL GYM 1500 – Total Gym 1500 with leg attachments. Will bring to lab if you are interested in seeing it or see picture here: http://tinyurl.com/lavn9d. Melanie, Ext. 3906 or mschwart@bnl.gov.

WEIGHT BENCH – adjustable height and tilt, in excel cond, rarely used weights/ bar/barbells are all incl, weights total 140 lbs, ask/$100 . Mario, 646-267-9069 or mariom@bnl.gov.

Miscellaneous

2 CONCERT TICKETS – 1 tkt to Ingrid Michaelson Sept. 16 @ Webster Hall NYC/$27, 1 tkt to Rodrigo y Gabriela @ Terminal 5 NYC/$43. Ext. 4617 or burns@bnl.gov.

AQUA-JET FOOT SPA – 2-powerful motors,2-rotating hydro jets, soothing heat source to 115º, cdless remote, removeable pumice stone, never used/$95. Ext. 5873.

BOYD'S BEARS – approx 100 plush bears, few bunnies, various sizes/prices, list avail. Ext. 7013 or derocher@bnl.gov.

CHRISTMAS LIGHTS – old fashioned w/lg bulbs, new in box. $10. Peter, Ext. 5551, 772-4751 or pheilig@bnl.gov.

DIAMOND RING – Solitaire .65ct, 14K yellow gold setting; photos avail, $950/obo. 516-817-0999 or Lllady007@optonline.net.

DIAPERS – Luvs, new, sealed, sizes 4 and 5, 160 pcs, $15. Ext. 3485.

Yard & Garage Sales

RIVERHEAD – Huge Yard Sale - Tons of household items. Comforter sets, air conditioners, more. Sat. 9/12 at 19 JT BLVD. 9am - 4pm. Raindate is 9/19. 872-8970.

Free

CHILD BIKE TRAILER – Quick 'n EZ Bike Trailer for pulling up to 2/toddlers, attaches to the back of any typical bicyle. Bernie, Ext. 2017 or bkosciuk@bnl.gov.

Wanted

2 BR APARTMENT – Wanted for a mature professional couple and child. Approx. $1,000 range. 708-4778.

ADOPT-A-PLATOON – Monetary donations gratefully accepted towards mailing shipments to military overseas. Thank you. Joanne, Ext. 8481.

APARTMENT FOR MOM, SON – and beloved dog Presently in shelter,dog at kennel. Trying to reunite them. Great, giving people that lost all. $950-$1050. Kathleen, Ext. 3161.

BNL FAMILY MEMBERS IN MILITARY – If you have a family member that has been deployed overseas, please contact Adopt-a-Platoon. Joanne, Ext. 8481.

CHILD CARE – Looking for reliable child care, M - F after school in my Center Moriches Home, 3:30 - 4:45, two children ages 6 & 10. Ext. 4929.

LARGE BASKET DONATIONS – needed for Chinese Auction would be appreciated. Donna, Ext. 2826 or donna@bnl.gov.

SMALL FRIDGE FOR STUDENT. – want a dorm kind of fridge. Esther, Ext. 3260.

UNWANTED GUITARS/PARTS – looking for free items in disrepair (or not) that you will part with for luthier practice. 831-3469.

YOUNG STUDENTS - to attend Math and Language School for 3-15 years old at Stony Brook.Registration:www.schoolplusstonybrook.org,contacts:schoolplus_sb@yahoo.com,631-615-4215.

Community Involvement

PLEASE GIVE to the BNL FOOD DRIVE – donation bins are in Bldg. 400, Bldg. 179.

For Rent

MANORVILLE, NY – 1 bdrm l/k combo,Full bath,pvt ent,v/quiet,10 miles from lab.,inc all,no smkg/pets please. $800/mo. Dhruba, Ext. 3849, 591-1315.

MILLER PLACE – Furn. Col. house in prof. residential area. cac/central heat/TV/Internet. full kitch. own bdrm. incl all. 8mi. to BNL. 10 mi. to SUNY stony brook. Responsible non smoker. $675/mo. 744-8386.

PORT JEFFERSON – SUBLET: 9/10-12/28 lg studio, sep kit & bath, patio, walk to downtown Port Jeff & train station. $1,095/mo. Rama, Ext. 8213 or rcalaga@bnl.gov.

SHOREHAM – lg furn 1 bdrm apt w/all appli, l/r, d/r, full kit/bath, a/c, util. incl. no smkg/pets, pvt ent/drwy, use of bkyd, single/couple only, 1 mo sec. 5 min to lab. $1,100/mo. Judy, Ext. 5263, 375-7959.

SOUND BEACH – 4-bdrm house, Miller Place Sch., 2 baths, oak flrs, d/w, w/d, bsmt, bkyd, summer kit, deadend st, 5 min to beach, 20 min to BNL/Stony Brook. $2,250/ mo neg. irinaivladimir89@gmail.com.

WADING RIVER – one bedroom apartment in grt neighborhood. Partially furnished, outside separate entrance. Nicely appointed. $1,000/mo. 897-9713.

YAPHANK – Fully furnished spacious studio apt for one. Hi Speed Int./all utilities included. Quiet area 5 min. to Lab. No smoking, no pets. $900/mo. 516-205-6712.

For Sale

50 ELIZABETH WAY, RIDGE – Victorian, Fireplace, Cac, Hardwood Floors, Fin Basement, Bonus Room. Professionaly Landscaped, Trex Decking, Bluestone Patio. Mins to Lab. $375K. 758-2552.

BROOKHAVEN HAMLET – 3br, 2.5ba, 2car, custom wtrfront Col. on 1 acre cds of nature preserve, attch office, waiting rm w/ half bath, great opp for professional. $515,000. mcquilken@bnl.gov.

PATCHOGUE – 3 bdrm house, 2 bath, l/r w/fp, d/r, lg kit, cac, deck, 1 acre, wooded/priv, outdr shower, updates, full bsmt, PatMed Sch. $355,000 neg. Ext. 7517 or hanlon@bnl.gov.

In Appreciation

Thank you to my friends and co-workers for the wonderful sendoff at my retirment and the generous gift. It was truly a memorable occassion. Thanks to Jane & Linda for their efforts in planning this event. — Nereida Santiago

the Bulletin

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

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Roger Stoutenburgh, photographer

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

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