

National Synchrotron Light Source Shines Light on Disease

A group of four BNL scientists investigating the underpinnings of diseases from osteoporosis to botulism presented an overview of their work to a group of reporters in person and via live "webcast" on Thursday, October 23, at the Lab. All the presenters use the extremely bright beams of energy (from infrared to x-rays) available at the National Synchrotron Light Source (NSLS).

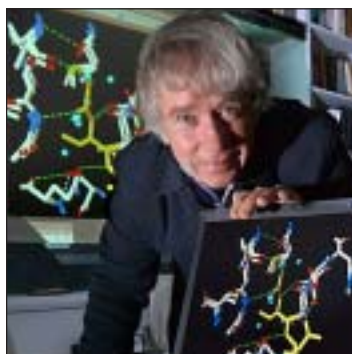
NSLS Chair Steven Dierker gave an overview of the facility, which is used by more than 2,500 scientists from outside the Lab each year – including this year's chemistry Nobel Prize-winner, Rod MacKinnon of Rockefeller University, who used x-rays to determine the structure of proteins that help transmit nerve impulses throughout the body. Solving protein structures via the technique of x-ray crystallography can help scientists understand the proteins' functions and perhaps devise strategies to prevent them from causing disease.

That is the exact approach being pursued by the Biology Department's Walter Mangel and Subramanyam Swaminathan. Through x-ray crystallography and other techniques, Mangel has uncovered several parts of a viral enzyme that might be susceptible to antiviral drugs. "If you can block the activity of the enzyme," he says, "you can block the infection."

What is more, the sites Mangel has identified interact with one another. This led him to propose a new type of multi-drug therapy that viruses would not be able to "outsmart" via evolution of drug resistance. Using multiple drugs against several targets on the same enzyme might be effective against a range of viruses, including those that cause pink eye and AIDS, and against a range of bacteria,



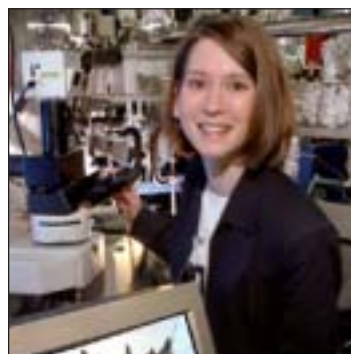
Steven Dierker



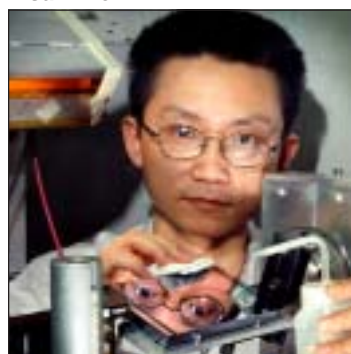
Walter Mangel



Subramanyam Swaminathan



Lisa Miller



Zhong Zhong

including those that cause Chlamydia, plague, and even malaria.

Swaminathan is using the NSLS x-rays to reveal components of botulinum toxin, the protein that causes botulism, that are central to its paralyzing effects. He is working to develop drugs that fit into the toxin's active sites to disrupt the potentially deadly process at three crucial steps. The result may be a vaccine and/or drugs that eliminate the toxin's potential as an agent of biowarfare or bioterrorism.

Shining the NSLS's beams on more traditional targets — bones and other body tissues — are the NSLS's biophysicist Lisa Miller and physicist Zhong Zhong. Miller is using the infrared beams to study bone composition, particularly that associated with areas of microscopic damage. She wants to know how bone composition changes in response to common osteoporosis treatments. Her work could lead to improvements in osteoporosis drugs.

Zhong uses the NSLS x-rays to look not just at bone, but at soft tissues like cartilage, blood vessels, skin, and fat deposits as well. His technique, called diffraction-enhanced imaging (DEI), uses higher energy x-rays that pass right through the sample without being absorbed, which results in a lower dose to the patient than traditional x-ray techniques. DEI makes soft tissues visible because each tissue type scatters the beam differently. A sensitive analyzer crystal can detect these subtle diffractions and translate them into different intensities, visible on x-ray film in magnificent detail. The technique could yield more accurate and earlier diagnosis of soft-tissue diseases such as breast cancer.

To see the scientific talks, go to www.bnl.gov/video. The presenters' slides are also available there for downloading. — Karen McNulty Walsh

Thomas Schlagel Directs the Information Technology Division

Thomas Schlagel, a former BNL employee, has been named Director of BNL's Information Technology Division (ITD).

ITD has an annual budget of about \$15 million and 106 employees, including 80 BNL employees and 26 contractors from DecisionOne, an information technology support company headquartered in Frazer, Pennsylvania. ITD supports the Lab's scientific research and advanced technology initiatives by providing a reliable and secure infrastructure for scientific and business computing.

"I am happy to be back at Brookhaven in this new role," said Schlagel, who had left the Lab to work in private industry in 2000. "There have been a number of positive changes at ITD

since I left, and I plan on continuing to move us forward. My goals are to make sure that ITD is properly aligned to support existing scientific programs and to make sure that we are planning appropriate changes to our infrastructure to support and help attract new science initiatives."

Schlagel earned a B.A. in physics from Carleton College in 1984, and an M.S. in physics and a Ph.D. in theoretical nuclear

physics from the University of Illinois at Urbana-Champaign in 1985 and 1990, respectively. He joined BNL as a research associate in the Physics Department in 1990, and, in 1993, he left the Lab to become a research associate in the Physics Department at Stony Brook University. In 1994, he returned to BNL, working as a computer analyst, and, in 1999, he was promoted to Manager of Scientific Computing Support for Brookhaven.

In 2000, Schlagel took on the position of Director of Systems for Jupiter Media Metrix in Melville, Long Island, a global Internet ratings company that categorizes and ranks Web sites. In 2002, Schlagel became a senior systems integration specialist at Perot Systems Corporation, which manages information technology for the North Shore Long Island Jewish Health System, a position he held until returning to BNL this September.

— Diane Greenberg



Thomas Schlagel

Stephen Schwartz Wins 2003 Haagen-Smit Award For Outstanding Paper Published in Atmospheric Environment

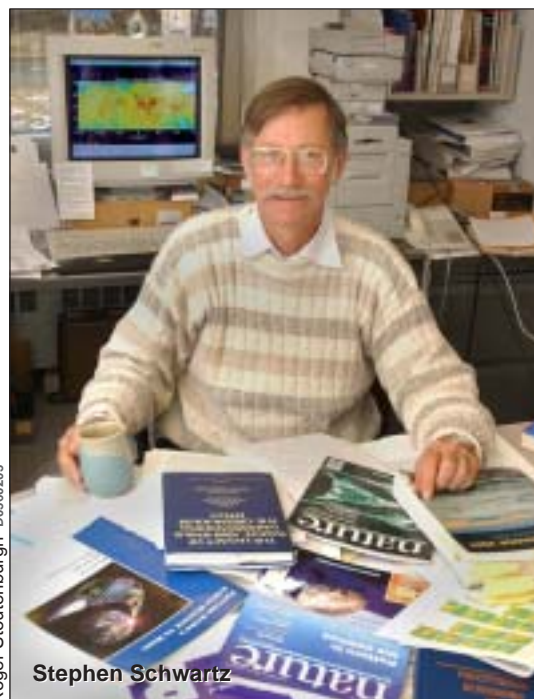
Stephen Schwartz, a senior scientist in the Environmental Sciences Department, was selected as a 2003 winner of the Haagen-Smit Award given by Elsevier, a publisher of scientific, technical and health information.

Named in honor of Arie Jan Haagen-Smit, a pioneer in the field of air pollution and one of the first editors of the *International Journal of Air Pollution*, a predecessor to the journal *Atmospheric Environment* (*Atmos. Env.*), the award has been given annually since 2001. Each year, two research papers are selected "to showcase the excellent science that has been published in this distinguished journal and to further attract outstanding future research."

Schwartz won the award with co-author John Freiberg for the 1981 publication, "Mass-transport limitation to the rate of reaction of gases in liquid droplets" (*Atmos. Env.* 15, 1129-1144). The other 2003 winners were Stuart A. Penkett, Brian M.R. Jones, Kenneth A. Brice, and Alan E. Eggleton for the 1979 research paper, "The importance of atmospheric ozone and hydrogen peroxide in oxidizing sulfur dioxide in cloud and rain water" (*Atmos. Env.* 13, 323-337).

At the annual Haagen-Smit Symposium held at Lake Arrowhead, California, each of the awardees will be presented with a plaque and a set of the six-volume *Encyclopedia of Atmospheric Sciences*. Schwartz plans to donate the encyclopedia to BNL's research library.

"I am honored to receive an award bearing the name of



Stephen Schwartz

Arie Haagen-Smit," Schwartz said. "The 1981 paper recognized in this award describes one of my earliest studies in atmospheric chemistry, and it still holds a warm spot in my heart. I teamed up with John Freiberg, then at Rutgers University, to identify the component steps of the overall process of uptake and reaction of gases in cloud water. This work turned out to be very timely, as it is invaluable in the treatment of the chemistry of acid rain — one of the defining issues of atmospheric chemistry in the 1980s. I am pleased that even some

20 years later, our paper continues to be used and cited to deal with problems well beyond our initial interest in acid rain."

Schwartz also thanked the Office of Biological & Environmental Research (OBER) in DOE's Office of Science for supporting the research that led to the award-winning paper and for their continued support.

Ari Patrinos, Associate Director of OBER, commented, "This is wonderful news and my heartfelt congratulations to Steve and BNL! It is particularly interesting to me because I was at Brookhaven at the time the paper was published, and I remember it very well." (continued on page 2)

NSLS-II Workshop to be Rescheduled

The NSLS-II workshop originally scheduled for Friday, December 12, will be rescheduled for a date in the January - March 2004 time frame. See the NSLS-II web site at www.nsls2.bnl.gov/ for more information.

Calendar
of Laboratory Events

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

— EACH WEEK —

Mondays: BNL Gospel Choir
5:15-7 p.m. Berkner Hall. All faiths are welcome. www.bnl.gov/bera/activities/choir/.

Weekdays: Free English for Speakers of Other Languages Classes
Beginner, Intermediate, and Advanced classes. Various times. All are welcome. Learn English, make friends. See www.bnl.gov/esol/schedule.html for schedule. Jen Lynch, Ext. 4894.

Mon., Tues., & Thurs.: Kickboxing
\$5 per class. Mon. & Thurs. noon-1 p.m. in the gym; Tues., 5:15-6:15 p.m. in the gym; Thurs., 5:15-6:15 p.m. in Brookhaven Ctr. Registration is required. Christine Carter, Ext. 2873.

Mon., Thurs., & Fri.: Tai Chi
Noon- 12:45 p.m., Brookhaven Center North Room. Adam Rusek, Ext. 5830 or rusek@bnl.gov.

Tuesdays: Welcome Coffee
10-11:30 a.m. Rec. Hall. Hospitality event. Come and meet friends. The first Tuesday of every month is special for Lab newcomers and leaving guests. Hospitality Chair Monique de la Beij, 399-7656.

Tuesdays: BNL Music Club
Noon, North Room, Brookhaven Center. Come hear live music. Joe Vignola, Ext. 3846.

Tuesdays: Singles Club
5:15 p.m., Brookhaven Center. Contact: Jean, Ext. 4391.

Tuesdays: Jiu Jitsu Club
6:30-7:30 p.m. in the gym. All levels, ages 6 and above. \$10 per class. Tom, Ext. 4556.

Tuesdays: Toastmasters
1st and 3rd Tuesday of each month , 5:30 p.m., Bldg. 463, room 160. Guests, visitors always welcome. www.bnl.gov/bera/activities/toastmasters/default.htm.

Tuesdays & Thursdays: Aerobics
5:15-6:30 p.m., \$4 per class. Rec. Hall. Pat Flood, Ext 7886.

Tuesdays & Thursdays: Aqua Aerobics
5:15-6:15 p.m. Christine Carter, Ext 2873.

Tues. & Thurs: Upton Nursery School
9-11:30 a.m. in the Rec. Hall. For 3 & 4 year olds. Alison Tilp, Ext. 4465, or tilp@bnl.gov.

Wednesdays: On-Site Play Group
10 a.m.-noon. Rec. Hall. An infant/toddler drop-in event. Parents meet while children play. Suzanne Surrow, 476-6610.

Wednesdays: Farmer's Market
11:30 a.m.-1:30 p.m., Berkner Hall parking lot

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

Wednesdays: Yoga Practice
Noon-1 p.m., Brookhaven Center. Free. Ila Campbell, Ext. 2206.

Wednesdays: Open Chess Night
5-8 p.m., Rec. Hall. Christine Carter, Ext. 5090.

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

Fridays: BNL Social & Cultural Club
6-9 p.m, North Ballroom, Brookhaven Ctr., dance lessons, 9-11:30 p.m. general dancing. Rudy Alforque, Ext. 4733, rudy@bnl.gov.

— THIS WEEKEND —

Saturday, 12/6

***BNL Music Club Holiday Show**
7 p.m., Berkner Hall. Show features talented BNL performers. Philip Hayde, Ext. 7648.

Shopping Trip to Peddler's Village
\$15 per person. Sold out. Christine Carter, Ext. 5090.

Sunday, 12/7

Radio City Holiday Show
\$76 per person . Sold out. Christine Carter, Ext. 5090.

***Christmas Lights in New York City**
The Hospitality Committee invites you to join a bus trip to enjoy seeing Christmas in New York City. The bus will leave from the Recreation Building in the apartment area at 9 a.m. and will return from the city at 6 p.m. The cost for adults is \$20, children 2-12, \$5. To make reservations, e-mail soppenheimer@optonline.net or phone 929-0043.

— WEEK OF 12/8 —

Thursday, 12/11

Community Advisory Council Meeting
6:30 p.m., Berkner Hall, Room B. Open to the public. For more information, see <http://www.bnl.gov/community/CAC.htm>.

‘Clean’ Metals Recycling Yard Opens



Roger Stoutenburgh 01101103

Jim Mills (left) of the Plant Engineering Division, who was the project coordinator overseeing the construction of the new scrap metal storage area, hands over the keys to Bob Di Lello of the Property & Procurement Management Division, who is now in charge of the area.

BNL now has a “clean” metals recycling yard open to accept scrap metal. The facility is located just off Railroad Road, behind the warehouses.

The yard consists of an 8,400-square-foot concrete pad with a weather protective roof that minimizes and helps contain any runoff from the storage area.

To have scrap metal accepted at the yard, the owner of the metal must first complete a Process Knowledge Certification Form (PKCF) and present it to Bob Di Lello of the Property & Procurement Management Division. In the PKCF, the owner certifies that the metal has not been stored in a radiological area and that no radioactivity has been added to the material. In addition, the material is certified as not containing any hazardous or regulated substances such as PCBs, mercury, asbestos, etc., and that materials such as freon, fuels, motor oils, and/or hydraulic or vacuum oils have been removed from it.

To send clean scrap metal to the facility – call Bob Di Lello, Ext. 7238. The facility’s hours are Mondays, Wednesdays, and Fridays, 1-4 p.m.

Schwartz Wins Haagen-Smit Award (cont’d.)

According to the citation for the award, the paper has been cited over 140 times in scientific literature. The citation says, in part, “At the time of its publication, this article was by far the most thorough and accurate formulation and discussion of the physical and chemical mechanisms governing the interaction of trace gaseous species with atmospheric droplets.”

In their award-winning 1981 paper, Schwartz and Freiberg developed a fundamental understanding of the uptake and reaction of sulfur dioxide in cloud drops, a key step in the acid-rain phenomenon.

Now cited in textbooks, this work has been widely used in computer models — including those developed by Schwartz and his BNL colleagues — that simulate the atmospheric trans-

port and transformation of chemicals. These models served as the scientific basis for the Clean Air Act Amendments of 1990 that regulate acid deposition. The theory presented in the paper also has stimulated a large number of laboratory studies that have probed the interaction of gases and liquids.

Schwartz earned a bachelor's degree in chemistry from Harvard University, in 1963, and a Ph.D. in chemistry from the University of California, Berkeley, in 1968. After postdoctoral research at the University of Cambridge, England, he came to Long Island to join the Chemistry Department at Stony Brook University. In 1975, he joined BNL. Schwartz is a Fellow of the American Association of the Advancement of Science.

— Diane Greenberg

Roll Up Your Sleeve: Blood Drive, 12/18

To replenish Long Island’s blood supply, BNL is holding a blood drive on Thursday, December 18, from 9:30 a.m. to 3 p.m. in the Brookhaven Center.

Those eligible to donate are people in good health between the ages of 17 and 75 who weigh at least 110 pounds. Donors should have photo identification and know their social security number.

To make an appointment, contact Susan Foster at Ext. 2888, or e-mail donateblood@bnl.gov. In your message, include your name, phone extension, and preferred time to donate.



Music Club's 'Musical Solstice' Concert To Benefit United Way of L.I., 12/6

All are invited to the BNL Music Club’s “Musical Solstice Concert” Saturday, December 6, 7 p.m. Berkner Hall.

Featured performers

Pamela Betti and the Bluebloods - blues, rock and roll;
Kristhen, Henry, and Kristy Diaz - holiday music with acoustic guitar accompaniment;
Joe Vignola - acoustic country blues;
Tim Caufield Group - jazz trio.

Tickets cost \$5 per person from the BERA Sales Office in Berkner Hall, weekdays, 9 a.m.- 3 p.m. and at the door. Proceeds will benefit the United Way of Long Island.

Bring Cans of Food

Concert-goers are asked also to bring a nonperishable food item for the BNL Food Drive.

Raffle of NY Islanders Tickets

Two \$120 NY Islanders tickets, Dec 13, section 203 row B, seats 14 and 15, have been donated for raffle by Act 1 Entertainment, Inc., 631-758-0324, to benefit the United Way.

Call Joe Vignola, Ext. 3846, for more information.

The concert is open to the public. All visitors age 16 and over must bring a photo ID.

In Memoriam: Malcolm Alexander

Malcolm Alexander joined BNL’s Waste Management Division on September 13, 1999, as a hazardous waste technician. He died on September 13, 2003, at age 47.

In his job as a waste management technician, Alexander was responsible for BNL’s waste storage and collection, disposal, and shipment duties.

Said his supervisor, Leo Palumbo, “Malcolm was a respected co-worker and friend to many of us here at Waste Management. We miss him.”

Originally from Peekskill, New York, Alexander was a resident of Middle Island. He is survived by his son, Ulysses. — Liz Seubert



Attn.: Holiday Shoppers
Science Museum Shop Opens 11:30 a.m.

The BNL Science Museum Gift Shop is returning for the holiday season. Visit the museum to shop for science-based gifts, explore, and see the new MarsScape exhibit. Fridays, December 5, 12, and 19, 11:30 a.m.- 2 p.m.

Money Talks, 12/18
Retirement Distribution Flexibilities

At noon on Thursday, December 18, a representative from TIAA-CREF will give a talk in Berkner Hall on retirement distribution flexibilities. Topics to be discussed will include evaluating retirement income needs, opportunities to save more, asset allocation strategies, TIAA-CREF income options and how they may affect retirement income, and helpful web tools and individual counseling options. Register by completing the form sent to all employees and returning it to Joyce Wund, Bldg. 185.

Van Service Between BNL, SBU

A shuttle van between Stony Brook University (SBU) and BNL is now available. A trial run of this route began on Monday, December 1, and the trial will continue running on weekdays through the end of the fall semester and through intersession. Adjustments to the route based on timing and demand will be made for continuation of this service into the spring semester.

The current schedule is as follows:

Pick up	Drop Off
8:30 a.m. SBU SAC Loop	9:15 a.m. Berkner Hall
9:30 a.m. Berkner Hall	10:15 a.m. SBU SAC Loop
4:30 p.m. SBU SAC Loop	5:15 p.m. Berkner Hall
5:30 p.m. Berkner Hall	6:15 p.m. SBU SAC Loop

Seating on the van will be limited to 12 passengers, first come, first served. All passengers on the van must hold a current BNL ID badge. Those without a current badge will not be permitted to ride the van. For more information, contact Robert McGrath, SBU Vice President for Brookhaven Affairs, at 632-4360.

BNL's United Way of Long Island Fund Drive Holiday Auction, Yard Sale Comes Up Next Week

At the Holiday Auction to be held in Berkner Hall next week on Tuesday and Wednesday, December 9, 11 a.m.-2 p.m. and December 10, 11 a.m.-4 p.m., BNLeers will get a chance to buy tickets to win magnificent prizes, which include baskets of all sorts of new items, gift certificates, overnight stays at hotels, TV sets, and meals at restaurants, as well as a fantastic opportunity to win a one-time cash award in the 50/50 raffle.

At the same time, a terrific yard sale will offer a variety of "must-see" items that may be just what you've needed for years — and all is in aid of BNL's fund drive for the United Way of Long Island.

Organizers Dawn Schick and Linda Sinatra for the Holiday Auction, and Chris Johnson for the Yard Sale have been preparing for weeks, arranging for volunteers, gift items, storage, and all the details that surround such events.

Warmly appreciative of these efforts are this year's fund drive coordinator Jennifer Lynch and co-coordinator Aimée Sumereau. "It's a lot of preparation, but the funds that this event are expected to raise will help many people in need," says Lynch. "So we thank all those who worked so hard to help in its success."



Helping Holiday Auction organizers Dawn Schick (not pictured) and Linda Sinatra (center, back) to preparing baskets which will be raffled at the auction in Berkner Hall on December 9 and 10 are: (from left) Toni Hoffman, Marie Hobson, Aimée Sumereau, Maureen McDonald, Rachel Inguanta, Sharon Jones, Debbie Keating, Sinatra, Jo-Ann Nasta, Lois Moracia, Maryann Julian, Karen Lucadamo, Marlen Batels, Nardia Zelenskaia, and Linda Jones.

As of Wednesday, December 3, the fund total stood at \$62,358.

"That leaves about \$58,000 more we need to reach this year's goal of \$120,000," says Lynch. "Please send donations using the pledge forms sent out last week. So many people are helped with these contributions."

— Liz Seubert

'Learn to Be Tobacco Free' Smoking Cessation Program at BNL

The Occupational Medicine Clinic's Health Promotion Program is sponsoring an on-site smoking cessation program entitled "Learn to Be Tobacco Free," which is presented by the Suffolk County Department of Health Services and demonstrates a success rate of over 60 percent.

The program is conducted under the direction of a certified nurse practitioner. In addition to learning about what happens to your body and what to expect during the first few days and weeks after quitting, prescription medication as well as nicotine replacement products will be available to medically eligible participants.

The program will run for six consecutive weekly sessions from noon to 1 p.m. in the large conference room in Bldg. 490, beginning on Tuesday, January 6. To register, or for more information, contact Michael Thorn, Ext. 8612 or mthorn@bnl.gov.

Hospitality Committee Potluck Dinner

The BNL Hospitality Committee invites all BNLeers to a holiday potluck dinner in the Recreation Hall at 5 p.m. on Sunday, December 14. Bring a dish to share for six people. Santa will visit at 5:30 p.m. For more information, contact Monique de la Beij, 399-7656.



Here Comes Santa Claus!

For the 21st consecutive year, Santa Claus (who, this year, doubles as Firefighter Al Licata when he is not out on his sleigh delivering presents) and his Elf (Firefighter Frank Palmeri Jr.) will be coming to Upton town — to wish everyone happy holidays and to distribute candy canes along with good cheer, complements of the Fire/Rescue Group of the Emergency Services Division.

On Wednesday, December 24, using Fire Engine #1 as their sleigh, Santa and his elf will make their rounds of BNL's offices, labs, and shops from 9 a.m. to noon. To make your reservation to have Santa and his merry crew visit your workplace at a specified time, call the North Pole, Ext. 2351.



Michael Herbert CNI-11-00

Talk on Cancer in the Workplace, 12/8

On Monday, December 8, at noon, all are invited to Berkner Hall, Room B, to a special presentation on "Cancer at the Workplace," to be given by an expert on the subject from Cancer Care of Long Island, a United-Way-supported organization.

Bus Trip to NYC Holiday Lights, 12/7

Tickets: adults, \$10; children 2-12, \$5

The Hospitality Committee invites all to join a bus trip on Sunday, December 7, to enjoy seeing Christmas in New York City. The bus will leave from the Recreation Building in the apartment area at 9 a.m. and will return from the city at 6 p.m. The cost for adults is \$10, children 2-12, \$5. To make reservations, e-mail soppenheimer@optonline.net or phone 929-0043.

Asian Pacific American Association Annual Holiday Potluck Party

The Hospitality Committee cordially invites guests, visitors, and their families to a Holiday Potluck Party on Saturday, December 13, 5-11 p.m., in the Recreation Hall. Bring a dish or two for about six persons to share, and two large bottles of soda. Santa Claus will join the festivities, and parents can bring a small wrapped gift for him to present to their child. Children will be welcome to use the crafts table, and a Chinese ribbon dance will be performed.

For more information, call Marie Van Buren, Ext. 4727, or Hai-Dee Lee, Ext. 2062.

'Step Into Fall' a Success

"I'm pleased to share the success of the 'Step Into Fall' program," says Michael Thorn of BNL's Occupational Medicine Clinic. Thorn, who coordinated the event this year, reports that despite pedometer issues, more than 250 BNLeers completed the six-week program, placing BNL as the largest group to have participated in the program, which was started by the American Heart Association "Take Wellness to Heart" Committee and the Cornell Cooperative Extension of Nassau County.

The Lab's combined step total was 55,773,082 steps. Converted to miles, this total equals walking once around the Earth via the poles, plus 3,000 miles. More than 65 percent of participants who completed the program increased their steps, says Thorn, thanking the volunteer Captains who helped make it all possible.

Basketball, 12/11

A basketball meeting will be held in Berkner Hall, Room B, noon-1 p.m. on Thursday, December 11. All players and captains must attend.

Safety Glass Office Holiday Closings

Over the coming holiday season, the Safety Glass Office will be closed on Wednesday, December 31, and Wednesday, January 7. For more information, call Deborah Botts, Ext. 3888.

Remember . . .

- Buy tickets for the 12/19 BERA Holiday party (see calendar).
- If you can, donate new toys, school supplies, health or beauty aids into the bins in Bldg. 179 or Berkner Hall. These gifts will be given out to children and abused people.
- Last, but NOT LEAST, please give cans of nourishing, exciting food for the BNL Food Drive.

Calendar (continued)

Sunday, 12/14

***Hospitality Holiday Potluck Dinner**
5 p.m., Rec. Bldg. The Hospitality Committee invites all BNLeers to a holiday potluck dinner. Bring a dish to share for six people. Santa will visit at 5:30 p.m. For more information, contact Monique de la Beij, 399-7656.

— WEEK OF 12/15 —

Wednesday, 12/17

BSA Recital: Humorous Talk
Noon, Berkner Hall. Popular local humorist David Bouchier will present "Ghosts of Christmas Past," which will surely put BNLeers in the mood to celebrate the holiday season. For more information, see <http://music.bnl.gov>.

Rifle & Pistol Club Meeting
Noon, Conference Room, Bldg. 535. All BNLeers are welcome. Come learn about the club's activities. Jim Durnan, Ext. 8236, or www.bnl.gov/bera/activities/rpc.

Brookhaven Lecture
4 p.m., Berkner Hall. Ron Pindak of the National Synchrotron Light Source Department, will talk on ferroelectric crystals. All are welcome.

Thursday, 12/18

***Blood Drive**
9:30 a.m.-3 p.m., Brookhaven Center. To make an appointment, contact Susan Foster, Ext. 2888 or donate blood@bnl.gov.

***Money Talks' Seminar**
Noon, Berkner Hall. A representative from TIAA-CREF will give a talk on retirement distribution flexibilities. Topics to be discussed will include evaluating retirement income needs, opportunities to save more, asset allocation strategies, TIAA-CREF income options and how they may affect retirement income, and helpful web tools and individual counseling options. Register by completing the form sent to all employees and returning it to Joyce Wund, Bldg. 185.

Friday, 12/19

Christmas Concert
Noon, Berkner Hall. Carols, old and new, and holiday music, sung by the BNL Choral Group, including soloists. All are invited to this free concert.

BERA Holiday Party
6-11 p.m. East Wind Caterers, Wading River. Tickets cost \$50 per person and include full open bar, hors d'oeuvres, dinner, buffet, dessert, DJ, and dancing. Purchase tickets at the BERA Sales Office in Berkner Hall by Friday, Dec. 12. Christine Carter, Ext. 5090.

— WEEK OF 12/19 —

Monday, 12/22

IBEW Meeting
6 p.m., Rights of Columbus Hall, Railroad Ave., Patchogue. A meeting for shift workers will be held at 3 p.m. in the union office. The agenda includes regular business, committee reports, and the president's report.

Wednesday, 12/24

Lab Closed from 12:30 p.m.

Thursday, 12/25

Lab Closed for Christmas Day
No Bulletin will be published this week.

— WEEK OF 1/19 —

Friday, 1/23

Podiatry: Foot Screening, Consultation
9-11:45 a.m. in the Occupational Medicine Clinic, Bldg. 490. Join Podiatrist Ben Dimichino as he discusses the latest treatments for plantar warts and nail fungus, as well as other common foot-related complaints and concerns. A three-dimensional computerized scanner will also be available for those who wear or feel that they may be a candidate for orthoses. To schedule an appointment, e-mail Linda DiPierro at dipierro@bnl.gov.

Note: This calendar is updated continuously and will appear in the Bulletin whenever space permits. Submissions must be received by the preceding Friday at noon to appear in the following week's Bulletin. Enter information for each event in the order listed above (date, event name, description, and cost) and send it to bulletin@bnl.gov. Write "Bulletin Calendar" in the subject line.

Drive Safely — Accidents Are Avoidable
Drivers, pedestrians, bicyclists: be aware!

During the week before Thanksgiving on the BNL site, a pedestrian walking in a crosswalk was struck and bruised by a vehicle. The accident happened at about 5 p.m. It was dark and raining. Neither the driver nor the pedestrian saw each other until it was too late.

Darkness falls early now, bad weather is more frequent, and there is an increased risk of accidents. But, with extra concentration, says Thomas Roza of BNL's Traffic Committee, most accidents are avoidable. The committee asks drivers to be careful and drive slowly at all times, but especially in conditions of poor visibility and bad weather.

Two more points for drivers to remember: once someone steps onto a crosswalk, New York State (NYS) law requires drivers to stop until the pedestrian has reached the far side of the road. Also, BNL site shelters a large deer population, so deer must be expected. Since deer often wander in groups, if one crosses the road ahead, others may follow and run into a passing vehicle.

Roza reminds pedestrians and bicyclists that

“Please, pause for a moment each time you get behind the wheel, and think about safety. It is an important part of your responsibility for your own safety and the safety of others.”
— Mike Bebon



they also have a responsibility to keep the roads safe. By wearing light-colored coats or scarves or using reflective tape they will be more visible. Also, if a vehicle is too close to a crossing to be able to stop, it is NYS law that the pedestrian must

wait to cross until it has passed.

Says Mike Bebon, BNL's Interim Deputy Director for Operations, “I am very concerned about traffic safety on site. Our record is

poor. There are typically between 30 and 50 accidents on site each year that cause damage to personal vehicles or Lab vehicles. Traffic studies on site have consistently recorded an alarmingly high percentage of drivers who ignore stop signs and other traffic control devices and disregard speed limits. This pedestrian accident should be a wake-up call for us.

“So, please, pause for a moment each time you get behind the wheel, and think about safety,” Bebon continues. “It is an important part of your responsibility for your own safety and the safety of others.”
— Liz Seubert

densed matter physics. Experience with neutron scattering and proficiency in a high-level scripting language (IDL, MatLab, PV-Wave) is highly desirable as is familiarity with experimental scattering techniques. Will participate in neutron scattering experiments at existing facilities aimed at studying the properties of complex magnets, functional materials with nanoscale correlations and strongly correlated electron systems. Particular emphasis will be on exploiting the uses of spallation neutron sources. Under the direction of I. Zaliznyak and S. Shapiro, Physics Department.

MK2772. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in materials science, physics, or related field and an experimental background in order to play a major role in the installation and testing of the thin film and bulk material processing equipment, structural characterization, thermal and electromagnetic property measurement. Experience in several of the following areas is highly desirable: MOCVD/HPCVD and PLD thin-film growth, scanning probe technique (AFM, MFM, STM), microstructural characterization (SEM, TEM and x-ray diffraction, photolithography, electron-beam lithography, ion milling and RIE, magneto-optical imaging, maintenance and operation of Quantum Design SQUID magnetometer MPMS and PPMS. Under the direction of Q. Li, Materials Science Department.

MK4082. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in chemistry and experience in one or more of the following areas: mechanistic studies of energy and charge transfer involving metal complexes and nanoparticles, synthesis and characterization (UV-vis, IR, NMR, electrochemistry, mass spec, microscopy), or photocatalysis of water reduction. Under the direction of C. Creutz, Chemistry Department.

NS2652. ADVANCED TECHNOLOGY ENGINEER (I-7) – Requires a bachelor's degree or equivalent experience and at least 5 years' experience in administering Solaris Enterprise class systems in a production environment. Experience with SAN storage, Veritas Volume Manager, Veritas File System, and terminal servers is necessary, as is experience with and an understanding of how FTP and CVS work with the Globus toolkit and X509 certificates. Experience in administering Redhat and Debian Linux systems in a production environment is also required. Knowledge of other UNIX flavors, system security, and secure access methods necessary. An understanding of system monitoring and performance tuning, as well as knowledge of scripting languages used for system administration, such as Perl and Bourne shell, is also necessary. As a UNIX system administrator, will specify, build and manage systems and provide end-user support to scientists in a large, heterogeneous environment. Information Technology Division.

TB2623. SCIENTIFIC ASSOCIATE III - (P-3/part-time, term appointment/50%) - Requires a bachelor's degree in a physical science (physics, chemistry, materials science or a related field) an MS preferred. A minimum of two years' experience in ultrahigh vacuum technology and synchrotron-based x-ray scattering is also required. Responsibilities include coordinating and supporting beam lines for soft x-ray scattering, emission, and photoelectron spectroscopy, and participating in research on competing interactions in, and interface effects between, transition metal oxide materials. National Synchrotron Light Source Department.

TB4065. BIOLOGY ASSOCIATE IV (P-1-term appointment) - Requires a BA or BS in biology, cell biology, molecular biology, or biochemistry with courses in inorganic and organic chemistry, including lab. Candidate must have knowledge of sterile technique. College-level courses including lab in cell biology and microbiology are desirable. Responsibilities will involve 50% effort on a NASA-funded research project correlating DNA damage induced by ionizing radiation (including space radiation from BNL's NASA Space Radiation Laboratory [NSRL]) with induction of cell transformation. The other 50% effort will be in support of the Cell Biology Facility at the NSRL. Extended hours, as well as weekend work and travel to collaborating institutions is a possibility. Participation in weekly in-lab research meetings and journal clubs as well as laboratory clean-ups is expected. Biology Department.

Motor Vehicles & Supplies

02 HYUNDAI ELANTRA - a/t, a/c, all power, remote entry, cd changer, excel. in/out, 17K mi., \$10,500. Rodney, 751-7023.

00 CHEVROLET BLAZER ZR2 - a/t, a/c, p/s, p/b, p/w, high rider, m/roof, 41K mi., \$14,000/neg., mint, must sell. Vinny, 286-3446.

00 CHEVY TRUCK SILVERADO - V8, white/gray leather int., Bose am/fm/cass/cd, crew cab., 39K mi., \$20,000 neg. Cynthia 698-9016.

00 DODGE NEON ES - a/t, a/c, p/s, p/b, p/w, aluminum wheels, excel. cond. 84K mi., \$5,800. Paul, 516-364-0362.

00 HONDA CIVIC EX - a/t, a/c, p/s, p/b, p/w, 4 dr., cd/cass., c/c, keyless ent., s/m/roof, mint, 60K mi., \$9,998. Ext. 7657 or 298-9560.

00 TOYOTA CAMRY - a/t, a/c, p/s, p/b, p/w, runs well, excel. cond., 81K mi., \$9,500. Phil, Ext. 5475.

00 VOLKSWAGON PASSAT WAGON - a/t, a/c, p/s, p/b, p/w, V6, loaded, mint cond., 47K mi., \$18,500. Raymond, 718-225-5783.

99 DODGE 3500hd - a/t, a/c, p/s, p/b, gas, dump body, 53,600 mi., \$16,000 obo. Gary, Ext. 2155.

99 FORD EXPLORER - V8, 5L, a/t, p/s, p/b, p/w, p/leather seats, am/fm cass.,/CD, 58, 800 mi., \$15,000 neg. Tracy, 369-0103 or 645-1351.

98 GMAURORA - a/t, a/c, p/s, p/b, p/w, fully loaded, white, leather seats, mint cond., 76K mi., \$10,000. Robert, 473-5795.

95 CHEVY G20 VAN - a/t, a/c, p/s, p/b, insul., 3rd bench seat, cd/radio, runs well, 195K mi., \$2,000 neg. Don, Ext. 7237 or 929-6571.

95 OLDSMOBILE 98 - a/t, a/c, all power, incl. driver & pass. seats, remote ent., s/roof, leather, 87K mi., \$3,100, Rodney, 751-7023.

95 TOYOTA CAMRY - a/c, p/s, p/b, p/w, 35K mi. on new guar. eng., cd, new brakes, \$4,200. Maryann, Ext. 4705 or 929-4978.

94 CHEVY CAMARO - a/c, p/s, p/b, p/w, blk., air bag, s/roof, c/c, am/fm/cass., excel. cond., 120K, \$3,900. Ext. 4342 or 821-6389.

93 CARGO VAN - E-250, orig. owner, professionally maint., gd. cond., hwy. mi. Jane, Ext. 2531 or 369-2719.

93 CHRYSLER VAN T&C - 6-cyl, leather, new brakes & tires, gd. cond., \$3,000. Richard, 924-6751.

93 DODGE CARAVAN - p/s, p/b, p/w, V6 3.3L, abs, excel. cond., 114K mi., \$3,100. Peter, Ext. 3705 or 689-1877.

93 DODGE CARAVAN - 3.0L, V6, p/l, p/w, new Alpine radio, cd, & windshield, 82K mi., \$3,900. Mike, Ext. 5319 or 698-8028.

93 FORD CROWN VICTORIA LX - p/b, p/w, leather, air bag, anti-lock brakes, keyless ent., alarm, orig. owner, \$2,800 obo. Bob, Ext. 4867.

93 INFINITY J-30 - fully loaded, Alpine Bose cd, 72K mi., \$6,200. Tom, Ext. 4030.

93 NISSAN QUEST -a/c, p/s, p/b, p/w, runs well, gd. cond., 130K mi., \$4,000. Najeh, 344-1001.

92 INFINITY M30 - a/t, p/s, p/b, p/w, leather, m/roof, p/seat, c/c, 110K mi., \$3,000. Herb, 928-0297.

92 LINCOLN TOWN CAR - gd. cond., runs well, \$1,200/neg. Lucas, Ext. 5701.

91 HONDA ACCORD LX - a/t, a/c, p/s, p/b, p/w, am/fm/cass. c/c, gd. cond., no rust, 107K mi., \$2,500. Ken, 281-5565.

91 TOYOTA CAMRY DX - a/t, a/c, p/s, p/b, p/w, new timing belt, mint cond., 147K mi., \$2,900. Adnan, Ext. 2379.

89 JAGUAR - red, gold leather int., 4dr., am/fm radio cass. player, ask. \$3,500 neg. Cynthia, Ext. 3084.

86 PONTIAC TRANS AM - maroon, w/gray interior, clean, high-performance eng., 138K mi., \$9,500. Ken, 948-5277.

83 DODGE CREW CAB - 1-ton lift gate, best offer. John, 289-8253.

82 HARLEY DAVIDSON SPORTSTER - all blk., all offers considered, mi./unknown, tank & odometer replaced, \$4,000. Wen, 821-0539.

70 FORD MUSTANG - a/t, p/s, blue convert./white top, 302, V8, dual exhaust, clean, 114K mi., \$11,000. Marion, Ext. 5078 or 281-5667.

Boats & Marine Supplies

22' CAMPER - '99 Nomand, clean, ready to go. \$15,000. Ken, 948-5277.

22' CRUISERS INC. BARNEGIT - '87 w/ trailer, rebuilt 350 Chevy/ O/D, mint, \$7,000; '93 Sea Doo Jet Ski w/trailer, mint, \$850. Paula, 516-798-2599 or 516-860-9339.

20' BARETTA - '84, w/trailer, '94 MerCruiser 3L, 135 hp eng., Bowrider canvas top, full swim platform, runs well, \$2,500. Mark, Ext. 3837 or 281-5060.

Furnishings & Appliances

BEDROOM SET - oak desk w/detach hutch & light, dresser, nt. table, 2 headboards, excel., \$525. Kathleen, Ext. 2113 or 298-5345.

BUNK BED - heavy duty all wood w/storage. Edward, 653-4125.

TABLES - in brass/glass: coffee, \$75, end tables, \$50; flr. lamp, brass, \$50; Singer sewing mach., \$40; Tom, Ext. 3085 or 744-4535.

COFFEE URN - 12-36 cup Farberware coffee urn, brand new in orig. bx., orig. \$120, ask. \$60. Terry, 344-2458 or 2232.

DINING SET - walnut tbl./6 ch., china, \$500; bar w/2 stools, \$100; f/pl., ventless, free-stgd., burns gel., \$100 obo. George, 472-1479.

MATTRESS - full size w/boxspring, hardly used, best offer. Mary, Ext. 2900.

REFRIGERATOR - GE profile 23.7 cu. ft., no frost, 7 yrs. old, perfect cond. \$400. Celeste, 878-4356.

SOFA SLEEPER & LOVE SEAT - Qu.-size, grape color, 2 yrs. old, gd. cond., blue recliner also avail., \$425. Rodney, 751-7023.

SOFABED & LOVE SEAT - cream w/multi-col. of green, mauve, grape, excel. cond., \$600 neg. Theresa, Ext. 2534 or 467-5853.

STOVE - Tappan gas stove, 30", white, 1 yr. old, \$100. Don, Ext. 7237 or 929-6571.

WASHER & DRYER - Whirlpool, both extra-lg. capacity, approx 8 yrs old, work well, \$100/ea., obo. Ext. 7365 or 472-3488.

Tools, House & Garden

BATHROOM FAUCET - brass, Amer. Std. W/ burg centerset, 2804 series w/new, unopnd. cartridge, \$25. Linda, Ext. 2733 or 395-6784.

TREES - maple saplings to 8', \$3 ea. Celeste, 878-4356.

Sports, Hobbies & Pets

CAMERA - Canon SLR, EOS 630, w/case, manuals, body \$200; 70-210 f/4 lens, \$100; 200E flash, \$20. Ext. 4607 or 368-0452.

HOME GYM SYSTEM - Weider #8515, mult. weight stations & stairmaster, needs cable or repair, \$50. Dr. Schreeve, 286-8807.

LIFT TICKETS - 1 day, gd. at any AmSki Corp. area until 12/24, \$25. Eugene, 286-6850.

N-GAUGE TRAINS - Trix & Kato diesel & stm. engs., \$15-\$90, MDC rolling stock, more, \$7-\$13. Ron, Ext. 4553.

NORDIC TRAC - all Amer., indr. skier, gd. cond., \$50 obo; wkout bench w/resist. bands, video, \$40 obo. Kathi, Ext. 2456 or 399-0325.

TARANTULAS - Red knee, CB juveniles approx. 2", nice color, \$35. John Ext. 7578 or 805-6764.

TELESCOPE - Orion 6" Newtonian reflector, Dobsonian mount, 3 Orion Explorer II eyepieces, 25,17 & 10 mm, \$150. Roger, Ext. 4698.

WET-SUIT - ¼", excel. cond., med/lg., \$100/obo. Tom, Ext. 3085 or 744-4535.

Audio, Video & Computers

COMPUTERS - Dell 1.1Ghz CPU, 256Mb RAM, 20b HD, cdrw/dvd, Win 2000 OS, \$350, cdrw, \$300. Don, Ext. 7237 or 929-6571.

COMPUTER - Dell P4 2.2g, CDROM + 40G, 1 yr. on-site service, never used, \$450, obo. Sheng, Ext. 8401.

INK CARTRIDGES - 2 col., for Epson S020191; 1 blk., for Epson S020189; all for Stylus col. 740/760/860/1160; \$10/ea. Anita, 286-5897.

McAFEE INTERNET SECURITY 5.0 - still in box, \$10; VHS tapes, The Return of Jafar, Aladdin, both \$5 ea. Angela, Ext. 5322.

NINTENDO GAMES - w/controllers & games, best offer. Nancy, Ext. 4303 or 878-5449.

POCKET PC - Hewlett Packard IPAQ w/ color screen, charger, case, excel. cond., \$180. Andrea, 745-7434.

Miscellaneous

BUMPER POOL TABLE - 4'x3', never used, \$125. Dick, 751-6820.

LID - for a Dakota Quad Cab, \$800/new, ask. \$400. Dennis, 399-1605.

MAPLE SYRUP - from my family's farm in VT. Peter, Ext. 7687 or 744-1112.

ORGAN - Wurlitzer model 4060, console, upper & lower kybrds., full ft. pedals, chords & rhythm sects., more, \$450. Peggy, 751-2149.

TRAIN TABLE - children's white, w/6 bins that fit beneath, less than 1 yr. old, great cond., med. scrtch on top, \$60. Clayton, Ext. 2360.

YANKEE T-SHIRTS - "The Curse Lives 2003" on back, "Hey, at least we beat the Red Sox!" on front, 100% cotton, \$15 ea. Cindi, Ext. 4495.

Car Pools

CAR POOL - needed from Greenport or vicinity, North fork. Ed, Ext. 5360 or 477-8177.

CAR POOL - established, meets in Plainview for 8 a.m.-4 p.m. shift. Ron, Ext. 6068.

Wanted

BRICKS & STONES - used, approximately 800 for walkway. Christine, Ext. 5090 or 821-2558.

CANS OF FOOD - urgently needed for BNL Food Drive. Place cans in the bins in each bldg. Please don't forget.

FM TUNER - preferably analog type. Paul, 289-5770.

GIFT WRAP - and people to wrap gifts needed for U-Way fund raiser, 12/17-23,11 a.m.-2 p.m., Berkner Hall. Drop wrap donations at Bldg. 179B or BERA Sales Office in Berkner. Christine, Ext. 5090.

OLD DOLLS, TEDDY BEARS - doll dishes & related items. Betty, 475-4199.

PLAYER PIANO ROLLS - requested in playing cond. Bert, Ext. 5474 or 581-4436.

RESEARCH VOLUNTEERS - men and women, ages 18 and over, are needed for MRI study. Strictly confidential, fee provided. 344-2773.

SKIERS - to ski at Windham, 1/7, \$54 for bus & lift, send payment to Augie Hoffmann, Bldg. 510A, Ext. 3884.

TOY TRAINS - Lionel, American Flyer & others, excel. price paid, will pick up. Marion, 281-5667 after 3:30 p.m.

TRAINS - Lionel American flyer & others, cast metal toys, high cash paid, also sets for sale. Bruce, 924-4097.

VACUUM TUBES, & GEAR - old/new vac. electron tubes & equipment, radios, tuners, test equipment etc. Jonathan, Ext. 5335.

WINTER COATS - for BNL coat drive, drop off at Bldg. 459 lobby, for more info, Toni, Ext. 5257.

Free

NATIONAL GEOGRAPHIC - every issue from 1923-2001, you pick up. kjones@bnl.gov.

WALL UNIT - wall mounted, four 7ft. runners, 7 pieces, excel shape; sliding drs. w/ 5 ft. runner. Albert, Ext. 3999 or 744-1206.

Happenings

Bus trip to NY Internat'l Boat Show, 1/4, depart Riverhead 8:30 a.m., return late afternoon, \$40/pp incl. show/admission. Bob, Ext. 2281 or 727-2346.

Long Island Symphonic Choral Association, which contains several BNLers, will perform "Mass In B-Minor" by J.S. Bach on 12/13 at 8 p.m. at the St. James RC Church in Setauket. Tickets cost \$16. To buy, call Dave, Ext. 5081, or Alex, Ext. 5334.

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 employees within the department/division and/or appropriate bargaining unit, with preference for those within the immediate work group; (2) present 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; call the JOBLINE, Ext. 7744 (344-7744), for a list of all job openings; use a TDD system to access job information by calling (631) 344-6018; or access current job openings on the World Wide Web at www.bnl.gov/HR/jobs/default.htm.

OPEN RECRUITMENT – Opportunities for Laboratory employees and outside candidates.

MK2625. PHYSICIST (S-3) – Requires a Ph.D. in accelerator physics and significant hands-on experience in the area of accelerator magnets and insertion devices. Will lead the NSLS Magnet Measurement Laboratory, which provides the quality assurance, acceptance testing and calibration of magnets prior to placement in the VUV and X-ray rings and in the DUV-FEL. The Lab also designs and constructs state-of-the-art magnets and insertion devices. Will be expected to be actively involved in the accelerator and magnet R&D towards the future of the NSLS-II Light Source. Under the direction of B. Podobedov, National Synchrotron Light Source Department.

MK2624. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in accelerator physics or related field and experience in the area of storage rings. Working in the Accelerator Division of the NSLS, will perform R&D on lattice design and collective effects for high-brightness storage rings and contribute to the implementation of new insertion devices and performance optimization of the existing NSLS storage rings. Under the direction of B. Podobedov, National Synchrotron Light Source Department.

MK2255. POSTDOCTORAL RESEARCH ASSOCIATE/RIKEN BNL FELLOW - The

RIKEN BNL Research Center (RBRC) at Brookhaven National Laboratory (BNL) carries out a theoretical research program focused on the physics of the Relativistic Heavy Ion Collider (RHIC), heavy ion reactions, hard QCD/spin physics, and lattice QCD. Members of the center work closely with the existing nuclear and high energy physics groups at BNL as well as with the lattice group at Columbia University. The lattice QCD effort makes use of the local one teraflop QCDSF (QCD on a signal processor) and the soon to be completed ten teraflop QCDOC (QCD on a chip) supercomputers. Applications will be considered for Research Associates (two-year appointments) and RIKEN BNL Fellows (up to five-year appointments) for the fall of 2004. Scientists with appropriate backgrounds who are interested in applying for these theory positions should send a curriculum vitae and have three letters of reference sent to Prof. T.D. Lee, RIKEN BNL Research Center, Building 510A, Brookhaven National Laboratory, Upton, NY 11973. Applications should be received by January 15, 2004.

MK2823. POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. in biochemistry, chemistry or related field relevant to protein crystallography and/or strong background in biochemistry with emphasis in enzymology. Will be involved in research to crystallize a membrane protein from Pseudomonas that hydroxylates omega carbon of alkanes. This work will involve both quantitative biochemistry and crystallography under the guidance of both a biochemist and crystallographer. Under the direction of J. Shanklin, Biology Department.

MK2588. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in experimental nuclear or elementary particle physics and experience with both detector hardware and the use of modern computing tools for detector simulation and data analysis. Position is with the PHENIX Group, which is a large, multipurpose detector, performing forefront research in the study of relativistic heavy ion and polarized proton collisions at the highest available energies. PHENIX explores a broad area of physics with emphasizes the study of hot hadronic matter and the search for new effects, such as a possible phase transition to a qua-gluon plasma in heavy ion collisions, and the origin of the proton spin in polarized proton interactions. Will participate in 1) the collection and analysis of data and 2) the work on detector operations, maintenance and upgrades, devoting approximately 50% of effort to each. Under the direction of M. Tannenbaum, Physics Department.

MK2589. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in con-