

In 'Ocean Floor' Lab at Brookhaven Scientists Create, Study Methane Hydrates

Data may help in developing strategies for mining natural gas locked up in seafloor sediments

Scientists at BNL have recreated the high-pressure, low-temperature conditions of the sea floor in a tabletop apparatus for the study of methane hydrates, an abundant but currently out-of-reach source of natural gas trapped within sediments below the ocean floor. This research, which was initially funded by BNL's Laboratory Directed Research & Development program, is now funded by DOE's Office of Fossil Energy.

Michael Eaton, a Stony Brook University (SBU) graduate student working for BNL's Devinder Mahajan of the Energy Sciences & Technology Department, presented a talk outlining the use of the apparatus for the creation and study of methane hydrates during a special March 13 and 14 symposium co-organized by Mahajan at the 229th National Meeting of the American Chemical Society in San Diego, California.

The symposium, which was on Gas Hydrates and Clathrates, was co-sponsored by the Petroleum and Fuel Divisions of the American Chemical Society. The symposium proceedings will be published later this year in a special issue of the *Journal of Petroleum Science & Engineering* for which Mahajan is guest editor.

"The amount of natural gas that is tied up in methane hydrates beneath the seafloor and in permafrost on Earth is several orders of magnitude higher than all other known conventional sources of natural gas — enough to meet our energy needs for several decades," Mahajan says. But extracting this resource poses several challenges.

For one thing, methane hydrates — which are ice-like cages made of water molecules surrounding individual methane molecules — are only stable at the very low temperatures and high pressures present at the ocean floor. "If you try to bring them up, these things fizzle and decompose, releasing the trapped methane," Mahajan says.

So a multi-agency team led by DOE — as part of its mission to secure America's future energy needs — is trying to learn about the conditions necessary for keeping hydrates locked up so they can be extracted safely and tapped for fuel.

At BNL, Keith Jones and Huan Feng of the Lab's Environmental Sciences Department, Stanmire Tomov of the Information Technology Division,

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Joanna Fowler

Academy of Molecular Imaging Honors Joanna Fowler As Distinguished Basic Scientist Of the Year

Joanna Fowler, a senior chemist in the Chemistry Department, has been named the 2005 recipient of the Distinguished Basic Scientist of the Year Award from the Academy of Molecular Imaging.

The academy promotes the growing field of molecular medicine by building a school of thought, scientific paradigms, and clinical practices related to molecular imaging. This occurs, in part, through educational programs and interactions with government agencies, which are designed

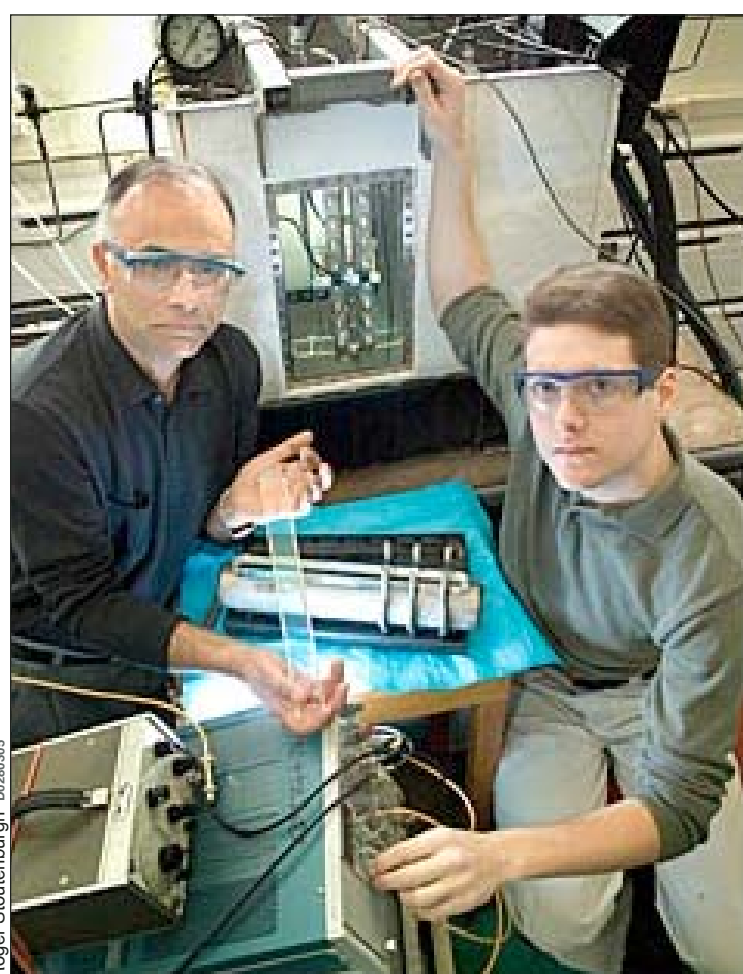
to raise awareness and support of molecular imaging.

Fowler, the Director of Brookhaven's Center for Translational Neuroimaging, is being honored for her many career achievements. In 1976, Fowler and her colleagues designed and synthesized a radioactively "tagged" form of sugar that is now used widely to study brain function and also to diagnose and plan treatment for cancer. She also developed another radiotracer, as these "tagged" molecules are called, that first showed that cocaine's distribution in the human brain parallels its effects on behavior.

Another of Fowler's major accomplishments was the development of radiotracers to map monoamine oxidase (MAO), a brain enzyme that regulates the levels of other nerve-cell communication chemicals. Using these radiotracers, she discovered that smokers have reduced levels of MAO in their brains. This may account for some of the behavioral and epidemiological features of smoking, such as the high rate of smoking in individuals with depression and drug addiction, two conditions involving poor nerve-cell communication.

"It has been a privilege for me to be associated with an outstanding group of collaborators throughout my career and to have the long-standing support of the Department of Energy, which has nurtured the development of new imaging technologies that have had a major impact on human health," Fowler said. "I am especially dedicated to using imaging to understand addictive disorders, which place

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Devinder Mahajan (left) and Michael Eaton

Tracking Tracer Gases in Urban Canyons

On a cold, clear morning in early March, a team of approximately 75 scientists, students and federal and local officials gathered at the New Yorker Hotel for a safety and media briefing before heading out into the streets around Madison Square Garden for the first day of a large field study on air dispersion in an urban environment.

At 7 a.m., vans of air monitoring equipment began to arrive at their appointed destinations at the four corners of the arena and behind 1 Penn Plaza, towering home to the Garden's business offices. Workers in wool hats and scarves moved quickly in the near-freezing temperatures to assemble the monitors on busy street corners. Tanks of perfluorocarbon tracer (PFT) gas arrayed with gauges were placed nearby.

At precisely 9 a.m., a member of each crew opened a valve on the gas tanks, and the experiment was under way. For the next five hours, the dispersion of the colorless, odorless and non-toxic gas was tracked by a number of samplers, some located

"We are interested in how contaminants behave in very complicated urban canyon environments like New York City. Anyone who's been to the city has observed that the flags on one side of the street may be blowing one way and those on the other side of the street in the complete opposite direction."

— Paul Kalb of BNL's Environmental Sciences Department, who coordinated the BNL team's Urban Dispersion Program field study held in New York City on March 10 and 14.

on rooftops, others placed in baskets attached to lampposts. Mobile air samplers were carried by students positioned on street corners, and by Environmental Protection Agency (EPA) employees who walked along assigned routes, periodically capturing a sample of air from the invisible plumes. A DOE van equipped with state-of-the-art analytical equipment also cruised the streets of the downtown area providing near real-time data on the plume location and concentration. Data on micrometeorological conditions, i.e., block by block, were measured and logged by sophisticated anemometers, also located at street level and on tops of surrounding buildings, for

use in determining plume behavior.

After one hour of releasing the PFT gas, the valves were shut for 90 minutes, and then re-opened for another hour. At the end of the five-hour monitoring period, the samplers and other monitoring equipment were taken down and trucked back to BNL for analysis.

The field study, and an identical one conducted the next week, were part of the \$10 million Urban Dispersion Program, sponsored by the U.S. Department of Homeland Security, the Defense Department's Defense Threat Reduction Agency, the EPA, and DOE.

Data gathered from the study will help improve existing models of how a gas or chemical release might move around Manhattan's tall buildings and canyons. Emergency management, law enforcement and intelligence personnel use these models to plan for, train for and respond to potential terrorist attacks and accidents involving toxic industrial chemicals.



One of the locations where perfluorocarbon tracer gas samplers were installed was on the roof of the New Yorker Hotel, which overlooks Madison Square Garden, near where the gases were released for the Urban Dispersion Program field study held.

The New Yorker Hotel served as headquarters for the scientific team, providing a suite of rooms for use as a command center and a large meeting room for assembly, training participants and briefing media representatives.

"We thought it was important to be involved," said the hotel's director of marketing Tom McCaffrey. "This is a big

building. We have lots of people here and we're very conscious of their safety. New York may again be a target for terrorists, and knowing how things travel in the air can help make us all safer in the future."

The field studies offered a rare opportunity for hands-on training of future engineers and environmental scientists through a

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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 Recreation Bldg. and at the laundry, both 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 —

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.

Mondays: BNL Gospel Choir

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

Mondays & Wednesdays: Pilates

Mon., Noon-1 p.m. in the Rec. Hall; Wed., 5:30-6:30 p.m. in the Rec. Hall. Christine Carter, Ext. 5090.

Mon., Tues., & Thurs.: Kickboxing

\$5 per class. Mon., noon-1 p.m. in the gym; Tues., 5:15-6:15 p.m. in the gym; Thurs., noon-1 p.m. in the gym; Thurs., 5:15-6:15 p.m. in Brookhaven Ctr. North Room. Registration is required. Christine Carter, Ext. 5090.

Mon., Wed., & Fri.: Tai Chi

Noon-1 p.m., Brookhaven Center North Room. Adam Rusek, Ext. 5830 or rusek@bnl.gov.

Tuesdays: Welcome Coffee

10-11:30 a.m., Rec. Hall. First Tuesday of every month is special for Lab newcomers and leaving guests. Cindy Ottemann, 849-2646.

Tuesdays: BNL Music Club

Noon, North Room, Brookhaven Center. Come hear live music. Joe Vignola, Ext. 3846.

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., \$5 per class or \$40 for ten classes. Rec. Hall. Pat Flood, Ext. 7886.

Tuesdays & Thursdays: Aqua Aerobics

5:15-6:15 p.m. Eight-week session. \$20 to attend once a week; \$40 to attend twice a week. Ext. 2873 for more information.

Tuesdays & Thursdays: Jazzercise

Noon-1 p.m., Rec. Hall. Preregistration is required. Christine Carter, Ext. 5090.

Tues., Thurs., Fri.: Upton Nursery School

8:30-11:30 a.m. Rec. Hall. Two- and three-day program avail. 727-8082 or Ext. 5090, for information.

Tues., Wed. & Thurs: Rec Hall Activities

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

Wednesdays: On-Site Play Group

10 a.m.-noon. Rec. Hall. An infant/toddler drop-in event. Parents meet while children play. Kati Petreczky, 821-4131.

Wednesdays: Weight Watchers

Noon-1 p.m. Michael Thorn, Ext. 8612.

Wednesdays: Yoga

Noon-1 p.m., Brookhaven Center. Free. Ila Campbell, Ext. 2206, ila@bnl.gov.

Wednesdays: Open Chess Night

5-8 p.m., Rec. Hall. Christine Carter, Ext. 5090.

Wednesdays: Dance Lessons

5:15-8 p.m. Brookhaven Cntr., North Room. BNL Ballroom Dance Club hosts lessons, beginner to adv. John Millener, Ext. 3853.

Thursdays: Reiki Healing Class

Noon-1 p.m., Bldg. 211 Conference Rm. Nicole Bernholz, Ext. 2027.

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 —

Friday, 4/1

Last Day to Vote for BERA Candidates

11 a.m.-1:30 p.m. Teachers Federal Credit Union. Vote for two BERA Board members from among Frank Dusek, Collider-Accelerator Department; Joann Giambalvo, Staff Services Division and Safeguards & Security Division; Benny Hooda, Environmental & Waste Management Services Division; and Jody Mitchell, Procurement & Property Management Division. Or vote online from the BERA homepage.

*Jack's Waterfall in Concert

8 p.m. Berkner Hall. Jack's Waterfall band, with Leslie Mendelson to open the show, will play blues, pop, jazz, folk and gospel music. See notice, page 4. Buy ticket in advance at the BERA Store in Berkner Hall at \$10 or for \$15 at the door.

Shoreham Wading River/Madrid Exchange Students Visit BNL



Roger Stoutenburgh D1190305

Last week a group of Spanish students visited BNL. They are part of a long-standing exchange program between the Albert G. Prodel Middle School in Shoreham and the Instituto Estudios Superiores "Santa Marca" in Madrid. The group visited the PHENIX experiment at the Relativistic Heavy Ion Collider (RHIC), the Science Museum, and the National Synchrotron Light Source. The photo shows the students and the Spanish and U.S. chaperones at the RHIC magnet outside Building 1005, with tour guides Cecilia Sanchez-Hanke and Raul Armendariz, who presented the tours in Spanish, and Martin Purschke of the Physics Department, who is the parent of one of the participating students and organized the event.

Celebrate National Library Week
With the Research Library, 4/10-16

In celebration of National Library Week all are invited to an Open House at the Research Library, Bldg. 477, for a general overview of information resources. There, information specialists from the database providers listed will conduct lunchtime sessions in how to use their services. During these sessions, feel free to bring your lunch. Refreshments and door prizes will be offered.

Monday, 4/11	Open House 10 a.m.-3 p.m.
Tuesday, 4/12	ISI Web of Knowledge, a bibliographic database with cited reference searching Introductory session noon-1 p.m. In-depth training 1-2 p.m.
Wednesday, 4/13	SciFinder, a bibliographic database with chemical structure searching Introductory session noon-1 p.m. In-depth training for experience users 1-2 p.m.
Thursday, 4/14	Knovel, a full-text interactive database of hundreds of well respected sci-tech references. Introductory session noon-1 p.m. In-depth training for experience users 1-2 p.m.
Friday, 4/15	Open House 10 a.m.-3 p.m.

Explore the array of information resources available through the Research Library's Home Page at www.bnl.gov/isd/reslib/. For more information, call the Research Library, Ext. 7761 or 3487.

Earth Day's 'Twice is Nice' Contest

In celebration of Earth Day 2005, the Environmental and Waste Management Services Division is hosting a "Twice is Nice" Contest to promote the reuse of materials within the Lab and at home. The goal of the contest is to create an entry that reuses items destined for the trash such as household wastes, construction debris, old yard tools, etc. The contest is open to all BNLeers. Check your mailbox for entry forms, which contain the contest rules. For more information, contact Karen Ratel, Ext. 3711, ratel@bnl.gov.

Joanna Fowler Honored

(cont'd.)

an enormous burden on families and on the health care system."

The imaging technologies used in Fowler's studies are recognized as a direct outgrowth of DOE's long-standing investment in basic physics and chemistry research. Through work on accelerators designed to answer questions about the fundamental nature of matter and energy, pioneering DOE scientists understood and realized the potential to develop these tools for the diagnosis and treatment of disease. The ongoing research using these tools to investigate drug addiction and other diseases of the brain is a prime example of how DOE's national laboratories bring together the expertise of chemists, physicists, and medical professionals to address questions of profound significance for society.

Fowler received her Ph.D. in chemistry from the University of Colorado and did her postdoctoral work at the University of East Anglia in England and at BNL. She is also an adjunct professor in the Chemistry and Biomedical Engineering departments at Stony Brook University.

In 2003, Fowler was elected to the National Academy of Sciences. Her numerous other honors include the American Chemical Society's Glen T. Seaborg Award for Nuclear and Radiochemistry (2002), the Society of Nuclear Imaging in Drug Development's Alfred P. Wolf Award (2000), DOE's E.O. Lawrence Award (1999), and the Francis P. Garvan-John M. Olin Medal in 1998.

— Laura Mgrdichian

Scientists Study Methane Hydrates

(cont'd.)

William Winters of the U.S. Geological Survey, and Roger Flood and Miriam Rafailovich of SBU, are all among the researchers working with Mahajan. The group has built a vessel that mimics the seafloor temperature and pressure conditions, where they can study the kinetics of methane hydrate formation and decomposition.

Unlike other high-pressure research vessels, the BNL apparatus allows scientists to interchange vessels of different volumes, study even fine sediments, and visualize and record the entire hydrate-forming event through a 12-inch window along the vessel. In addition, mass-balance instrumentation allows the BNL group to collect reproducible data in the bench-top unit. Even better, Mahajan says, they can study the kinetics in actual samples of sediment that once contained hydrates — as close to the natural conditions as you can get in a lab.

"You fill the vessel with water and sediment, put in methane gas, and cool it down under high pressure. After a few hours, the hydrates form. You can actually see it. They look like ice, but they are not. They are stable at 4 degrees Celsius," he explains.

Added Benefit: Using the NSLS

One further advantage of doing this work at BNL is that the scientists can use the National Synchrotron Light Source (the NSLS) a source of intense x-rays, ultraviolet, and infrared light —to measure physical characteristics of the sediments under study. For this research, which was done as beam line X-27 A using x-ray computed microtomography (CMT), the scientists could gain information about the porosity and other physical characteristics that may affect the availability of nucleation sites where hydrates can form.

Such data about hydrate formation in natural host sediment samples are scarce. By studying different samples and learning what combinations of pressure and temperature keep the methane locked up, the scientists hope to identify ways to compensate for the changes the hydrates experience as they are brought to the ocean's surface so they can be extracted with a minimum loss. The comparisons of different sediment samples might also help pinpoint the most abundant sources of locked-up methane.

"It may be at least a decade before we can even think about mining these deposits, but answering these fundamental questions is certainly the place to start," says Mahajan, who holds a joint appointment as a professor of chemical engineering at SBU. "This is a very important issue tied to our future national energy security and training the next-generation scientists in this area is one of our goals."

— Karen McNulty Walsh

Tracking Tracer Gases in Urban Canyons (cont'd.)

partnership with the New York City College of Technology and Medgar Evers College, both located in Brooklyn. Noel Blackburn from BNL's Office of Educational Programs invited the participation of Reginald Blake and Dereck Skeete, who recruited several dozen students from the two colleges to take part in the experiments. Blackburn and the two professors supervised the students as they took up positions on the street near the release points, periodically taking air samples with portable monitors and recording the data from those samples.

"We really appreciated the assistance that the student volunteers provided — while it was a learning experience for them, their help in deploying and collecting samples enabled us to significantly enlarge the amount of data collected," said Kalb.

Medgar Evers environmental science major Elisabeth Baker said her participation in the field studies will help with her chosen career path.

"I've learned about meteorology, wind patterns and procedures for conducting research," she said. "Those of us interested in environmental science need to be trained to deal with ordinary pollution and with the dispersal of toxic chemicals. This project gave me a greater understanding of both."

Two additional tests, scheduled for August and spring 2006, will add to the team's knowledge of how weather conditions in spring and summer will affect air dispersion. Previous field studies were conducted in Salt Lake City in 2000 and Oklahoma City in 2003. More information is available at <http://urbandispersion.pnl.gov/index.stm>.

— Kay Cordtz



Above: Tom Watson (left) of BNL's Environmental Sciences Department trains students to use samplers for getting data in preparation for the Urban Dispersal Program field study.

Right: John Nagy, Environmental Sciences Department, checks gauges on a PFT tank to monitor the rate of gas release.



Rare Event: Sighting the *Cervus terrepene*

In what may be a unique sighting, Lab Photographer Roger Stoutenburgh, who is noted for his photos of wildlife, captured this fine example of a head-on view of what has been dubbed the *Cervus terrepene*, commonly called the Buck Turtle. When consulted, BNL Ecologist Tim Green was unconditionally doubtful of getting another viewing of such a creature on site. “This species is quite rare. We’d have little more chance of seeing another one of these than a cyclops or a phoenix,” was his uncharacteristically negative opinion.



Roger Stoutenburgh CN11-800A

In view of the date of issue, April 1, the Bulletin does not expect that many readers will be surprised to learn that Roger Stoutenburgh, in addition to being a keen wildlife photographer, is also skilled in Photoshop. So, we will not insult anyone by saying “April Fool!”

Caution: Construction Near Pool Entrance

Beginning next week, construction activities will be ongoing near the main entrance to the swimming pool, Bldg. 478, from the Bldg. 490 parking lot. All are asked to be extra cautious and to follow directions when parking or walking to the pool entrance.

ANS Meeting, 4/6

On Wednesday, April 6, at the next meeting of the Long Island Chapter of the American Nuclear Society (LIANS), the speaker, Robert Bari, BNL Senior Physicist and Senior Advisor, will talk on “Proliferation Resistance and Physical Protection of Future Nuclear Energy Systems.”

The meeting will be at the Brick House Brewery and Restaurant, 67 W. Main Street, Patchogue. Appetizers will be served at 6 p.m., and dinner at 7 p.m. Bari’s talk will begin at 8 p.m. The cost is \$20 per person. Make reservations by Monday, April 4: call Arnie Aronson, Ext. 2606, and leave a voice message.

Upton Nursery School Holds Open House

Parents of three- to-five year old children are invited to visit the Upton Nursery School on Open House days: April 5, 12, and 19, 9-11:30 a.m., at the Recreation Bldg. in the apartment area.

The school offers: certified and caring teachers, social and language development, academic readiness, and a multinational student body.

Classes are forming now for the fall, Pre-K (three- to five-year olds). Two- and three-day morning schedules are available. Drop in to visit or call 727-8082 for information.

Help Others at Response Hotline: Train, 4/5

Response of Suffolk County, Inc. is a non-profit organization that offers a 24-hour crisis intervention/suicide prevention hotline. Several BNLees and retirees volunteer with Response, and more volunteers are needed.

“Be there for someone who needs a caring voice, and meet some terrific people,” say those who already give their time for this cause.

The next training session starts on Tuesday, April 5, 6:30 - 9:30 p.m. at Temple Isaiah, 1404 Stony Brook Road, Stony Brook. For more information, call Response (631) 751-7500.

This notice is sponsored by the Lab’s Volunteers in Partnership (VIP) program. BNLees who volunteer at a service agency or promote community interests and think that others at the Lab might join in their efforts may contact Barbara Blenn, VIP Coordinator, Ext. 4486, to discuss specific needs.

Brookhaven Retired Employees Association (BREA) News Talk on Retirement Investment Strategies, 4/8

BNL retiree Frank Federman, a Brookhaven Retired Employees Association (BREA) member and a registered financial advisor, will speak on “Investment Strategies During Retirement” at Berkner Hall on Friday, April 8, at 11 a.m. All are welcome to attend.

Federman notes that “Retirement for many people marks the end of a journey; I will discuss the financial journey beyond the point of retirement. This discussion will focus on the retiree’s new goals and the choices available to enable their realization.”

One-on-One Retirement Counseling

A TIAA-CREF consultant will visit BNL on Monday, April 4; Thursday, April 7; Thursday, April 14; and Tuesday, April 19; to answer employees’ questions about financial matters such as understanding the importance of protecting assets against inflation, finding the right funding allocation mix, learning about TIAA-CREF retirement income flexibility, and comparing lifetime income vs. cash withdrawal options. For an appointment, call Kathy Murphy, 866-842-2053, Ext. 4625 (not the on-site Ext. 4625).

Electrical Safety and NFPA 70E

As common sense suggests, circuit breakers and disconnect switches should never be operated by any unauthorized person. While many people are aware of OSHA and the National Electrical Code (NFPA 70), far fewer are aware of the National Fire Protection Association (NFPA) Standard 70E, “Standard for Electrical Safety in the Workplace.” This standard is generally used by industries that operate facilities with significant power use. For BNL and other DOE facilities, it is a contractual requirement to follow this standard, and also a good practice in general.

Standard for Electrical Safety in the Workplace.

The standard identifies the hazards faced by electrical workers and provides guidance on the Personal Protective Equipment (PPE) that must be used to work safely. It also identifies a less-obvious group of workers who are exposed to risks — although those risks are extremely low — that must have an appropriate level of protection. These workers operate circuit breakers and/or disconnect switches. In most cases, unlike your home’s electrical panel or the disconnect switch that might be next to your central air conditioner, BNL’s electrical panels and disconnect switches have substantially more energy available to discharge if a fault occurs. Electrical faults, though rare, can occur during operation of this equipment — particularly older equipment — and can give off significant energy in the form of heat and blast energy.

Reducing Potential Exposure

For tasks involving the operation of circuit breakers or disconnect switches, NFPA 70E requires the use of safety glasses and that clothing be of natural fiber. This ensures that if a fault occurs, and energy is released from within the breaker or switch enclosure, that workers’ clothes will not melt to their skin and cause severe burns. While this is unlikely to occur, protection in the form of safety glasses and proper clothing must be worn to ensure safety. BNL is developing standard training to replace the organization-level ad-hoc training that has served as a stopgap measure for workers who perform these operations. BNL has begun an engineering analysis to determine the specific level of hazard at this equipment and seek solutions, where appropriate, to reduce potential exposures.

Bottom Line

In summary, employees should not operate circuit breakers or disconnect switches unless they have been authorized to do so by their supervisor and have determined the PPE required. Contact your supervisor or your ES&H Coordinator if you have additional questions.

This Weekend, Set Your Clock Forward And Check Your Smoke Alarm Battery

Spring is here: shoveling snow will soon become a distant memory, flowers will bloom — but there’s no free lunch. This Sunday, one hour will be cut from our lives. Set clocks forward so that on Sunday, April 3, 2 a.m. reads 3 a.m., and move on! To ensure losing even more time on the abbreviated day, many people make it a habit to check smoke and/or carbon monoxide detector batteries when they change their clocks. They can sleep sounder even if shorter.



Roger Stoutenburgh 021002

These spring blossoms were photographed on site by Roger Stoutenburgh in 2002.

Arrivals & Departures

Arrivals

Vatsal Bhatt ES&T
Marcel Rosenfeld ES
James Schmidt ES

Departures

Douglas Caracappa ES/WM

Weight Watchers

Register for the next Weight Watchers series on Wednesday, April 20, noon-1 p.m. in the Brookhaven Center. Each series of 10 weekly meetings costs \$89. Meetings are on Wednesdays at noon. All are welcome.

2004 Environmental Stewardship Awards Wanted: Nominees

As part of BNL’s commitment to environmental stewardship, three BNL employees who have demonstrated an outstanding effort in pollution prevention, waste minimization, or resource conservation will be chosen to win the 2004 Environmental Stewardship Award. Awards will be presented at an Annual Earth Day Ceremony to be held on April 22.

If you believe that you or someone you know should be recognized for their environmental stewardship efforts, contact Karen Ratel, Bldg. 120, or ratel@bnl.gov by April 15, with the following information:

- Your name, extension, division, and bldg. number
- Nominee name, extension, division, and bldg. number
- A brief overview of employee contribution with any supporting documentation.

Calendar

(continued)

— WEEK OF 4/4 —

Tuesday, 4/5

Radisson Hotel Demo

10:15 a.m.-2 p.m., Berkner Hall. Radisson Hotel of Holtsville will offer BNL travelers with a special rate of \$105, which includes complimentary high speed internet access and hot buffet breakfast. For more information, call Nick Wilson, 961-8292.

Thursday, 4/7

Cycletrons Motorcycle Club Meeting

5 p.m., Brookhaven Center. BNL’s Motorcycle Club meets on the first Thursday of each month. All are welcome. For more information, contact Frank Dusek, Ext. 2022, dusek@bnl.gov.

Friday, 4/8

*BREA Talk on Retirement Investment

11 a.m., Berkner Hall. Sponsored by the Brookhaven Retired Employees Association (BREA), BNL retiree Frank Federman will speak on “Investment Strategies During Retirement.” All are welcome. See notice at left.

— WEEK OF 4/11 —

Monday, 4/11

*Research Library Open House

Mon.-Fri., 4/11-15. Celebrate National Library all this week at the Research Library Open House. Library orientation, database demos and training. All are welcome. See notice, page 2.

*Asian Pacific American Heritage Event Peace Activist Talk

Noon-1 p.m. Hamilton Seminar Room, Bldg. 555. Claude Anshin, peace activist, gives talk, signs his books. All are welcome. See notice, page 4.

Tuesday, 4/12

BREA Business Meeting

Noon-1. Bldg. 475C. Brookhaven Retired Employees Association (BREA) welcomes all to this monthly meeting. Joyce Tichler, tichler@bnl.gov.

Wednesday, 4/13

*BSA Noon Recital, Opera Scenes

Noon, Berkner Hall. Opera scenes from Benjamin Britten’s *The Turn of the Screw* will be staged by David Lawton, Music Director of the Stony Brook Opera. All are welcome.

Sunday, 4/17

International Potluck & Dance — Hospitality Committee Event

5 p.m. Recreation Hall in the apartment area. The Hospitality Committee invites the Lab community to a potluck and dance event including demonstrations of international dances and a chance for all to join in. Bring a potluck dish to share, and, if you like, wear your national costume. Cindy Ottemann, cjottabb@optonline.net or 849-2646.

— WEEK OF 4/18 —

Monday, 4/18

*BSA Distinguished Lecture

4 p.m. Berkner Hall. James Barber, Imperial College, London, U.K., will talk about “The Structure and Function of Photosystem II.” All are welcome to this free public lecture.

Wednesday, 4/20

403rd Brookhaven Lecture

4 p.m. Berkner Hall. Saskia Mioduszewski, Physics Department, will talk on “Probing the Matter Created at RHIC.” All are welcome.

FRIDAY, 4/22

BNL Earth Day Celebration

Time to be announced. Berkner Hall. Presentation of Environmental Stewardship Awards (see notice, left).

— WEEK OF 4/25 —

Saturday, 4/ 30

*Brooklyn Botanical Garden Bus Trip

8 a.m.-5 p.m. Joint BERA/APAA Heritage event. Join luxury bus trip to the Japanese Cherry Blossom Festival at the Brooklyn Botanical Garden and celebrate “Sakura Matsuri,” performances displaying Japanese culture. Buy bus tickets at the BERA Store in Berkner Hall, \$10 each. Garden admission is free.

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.

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.

The following position has been exempted from the freeze by the Deputy Director:

LABORATORY RECRUITMENT - Opportunities for Laboratory employees

TB3519. STAFF ENGINEER (P-5) Requires a bachelor's degree in electrical engineering or a closely related field and at least 5 years experience in an accelerator physics environment. Must have demonstrated skills in designing, building, deploying, troubleshooting and maintaining complex electrical subsystems for high voltage modulators, low- and high-power microwave RF equipment, klystrons, high voltage apparatus, mixed analog and digital circuitry, ultra high vacuum system and interlocks, video signal timing and distribution, high power laser systems and computer interface standards. Must be prepared to document equipment and associated safety procedures. NYS Professional Engineer license is desirable. Will develop specifications, issue purchase requisitions and work with vendors to resolve problems. Provides general engineering support and day-to-day oversight of electrical systems operation at the Accelerator Test Facility. Physics Department.

Motor Vehicles & Supplies

01 FLAGSTAFF TRAILER - 29.5 ft. Sleeps 8, with slide & warranty. \$11,500/neg. 220-9100.

01 CHRYSLER PT CRUISER - a/c, p/s, p/w, p/l, tilt wheel, c/c, am/fm/cd, prem. sound, a/t, abs, orig owner, excel cond. 48K mi. \$9,100/neg. 208-0408.

98 FORD F150 - V6, a/t, a/c, 4wd, abs, p/s, premium wheels, new tool box, runs excel, looks great, am/fm/cass. 52K mi. \$10,200. Ext. 7430 or 286-6492.

96 MERCURY SABLE - . 150K mi. \$2,000. Paul, 924-8143.

95 TOYOTA COROLLA DX - a/t excel. 128K mi. \$3,700/neg. Dongjo, Ext. 5246.

94 SATURN SL1 - a/c, all power, c/c, rec. eng., tranny, time belt, rad. 28 hwy/19 city, records & Carfax info. avail \$2,000/neg. 225-0642.

94 GMC SIERRA 1500 SLE - ext. cab, short bed, gd. cond., V6, 4.3L, 2wd, a/t, a/c, p/w, p/l, am/fm/cass, fg cap, bd lnr. 216K mi. \$3,600. David, 662-2239.

94 MAZDA 626 - 4cyl., 4dr., new tires, a/t, a/c, p/w, p/s, 30mpg, excel. cond. 110K mi. \$2,399/neg. Yeming, 335-9007.

93 NISSAN MAXIMA - 4dr., a/t, moon roof, all power, Bose cd/cass. stereo, new tires, brakes, shocks, exhaust. 130K mi. \$2,000/neg. Paul, Ext. 7644.

Boats & Marine Supplies

19' GRADY WHITE TOURNAMENT - 130 H.P. Yamaha, magic tilt trailer, full enclosure, VHF & Depth Finder, swim platform & more. \$11,000/neg. Victor, 878-8302.

BOAT ITEMS - JABSCO oil changer, DieHard battery charger, excel. cond., used only for 2 years, \$25 each. Mike, Ext. 6090 or 516-983-6874.

MARINE ELECTRONICS - Raytheon R20X Raster Radar with 24" Radome \$650; Sitex CVS108 Fish Finder Thru Hull Triducer \$250. Bill, Ext. 7136 or 661-9155.

Furnishings & Appliances

BED - King size w/mattress, boxsprings, frame. 3 yrs. old, very comfortable, must sell \$400/obo. You pick up. Nick, 974-0818.

BEDROOM FURNITURE - Waterbed Q-size mirrored headboard, armoire, dresser w/mirror, end tables w/brass lamps Ask \$500. 205-0373.

CHINA CABINET - JC Penny, oak, glass doors, mirrored, lights/shelves on top, 3 drawers, 2 drs. on base. v.gd. cond. pic avail. \$200 neg. Christine, Ext. 5090 or 821-2558.

COMPUTER DESK/HUTCH - pictures avail, send request to kanecomp@optonline.net. Buyer pick up from Holbrook. Ask \$100. Karen, 868-0786.

Perfect Attendance Photo, Tuesday, April 5, 3 p.m.

At 3 p.m. on Tuesday, April 5, a "Perfect Attendance 2004 "photo will be taken of BNL employees who have received an invitation to attend a ceremony at that time to honor them for their records of perfect attendance in 2004. Remember: you have to win it to be in it, but to be in it, you must be present at 3 p.m.!

What's New at the Cafeteria, Center Club

Cafeteria - every Tuesday, FLIK will feature shaker salads.

Center Club - every Wednesday will be "Ladies Night," with half-price appetizers from 5 p.m. to 7 p.m.

COUNTER-TOP DISHWASHER - Attaches to kitchen sink. Never used. Purchased through AMEX catalog for \$250. Great for single person. Asking \$175. Carl, Ext. 4420.

CURIO CABINET - Howard Miller, Oak, 5 yrs. old, Excellent condition. \$300. Photo available. 821-1271.

DINING ROOM TABLE - solid oak, 2 leaves, 4 upholstered arm chairs, table protector pads. \$500. Thomas, 909-1498.

DRYER - Frigidaire Sup Cap, w/auto & time dry cycles, 4-temp opt, Almost brand new, cost \$349, ask \$250. 208-0408.

HAIR DRYER & IRON - Conair travel size blow dryer, never used, \$2; Norelco EZ Steam 725 iron, \$2. Peter, Ext. 2913.

MATTRESS - full-size w/boxspring and rail, excel. cond. \$99. Jim, 335-9007.

BUNK BED - oak; bookcase, desk, 5 drawers, loft system, 2 years old, excel. cond. Will e-mail pix. \$425. Gary, Ext. 2155.

POOL TABLE - 7-ft. ProSport w/ accessories, excel. cond. \$300. Jo Ann, Ext. 7009 or 471-7479.

Audio, Video & Computers

CAMERA - Canon AE-1 - 50mm FD lens, 244T spd. light flash, macro focusing zoom lens, carrying-case, booklets, \$299. Ray, 924-4147.

COMPUTERS - 2 desktops, Dell Pentium 4, 256mb, 40hd; Cybermax Pentium 2, 128mb, \$200/both. Laura, 744-4611.

DSL MODEM BROADBAND - ZYXEL Prestige 600 Series, Model 645, no A/C adapter - \$5. Maxim, Ext. 3621.

PALM M515 HANDHELD - good cond., manuals and software incl., many accessories, \$200 neg. Frank, Ext. 4620.

YAMAHA RX-5 DRUM MACHINE - Vintage classic, original list \$1200, selling for \$100 with the manual. Maxim, Ext. 3621.

Sports, Hobbies & Pets

ELLIPTICAL EXERCISER - Low impact ProForm model 485, good cond., price negotiable. 821-4318.

EXERCISE EQUIPMENT - Iron Horse model Roadmaster R-8027-T. Ext. 5337.

EXERCISE MACHINE - Universal 4-station exercise machine w/extra weights. Original cost \$2k. Best offer. 208-0408.

SCUBA TANK - 13 cu. ft. "Pony" bottle, hydro'd April 2003. \$75. Carl, Ext. 4420.

TABLE TENNIS TABLE - Joola German high qual. tournament type, great cond., quality net incl., \$175. Laura, 744-4611.

TREADMILL - ViaMaster Power 1700, adjustable spd. & elevation, perfect cond., ask \$50. Mickey, 642-7442.

WINE BARRELS - 60-gal. solid American white oak. Used once for red wine fermentation. Great for planters/furniture. \$50/ea. Peter, 764-9335.

Tools, House & Garden

RADIAL ARM SAW - Craftsman, w/table, good cond. \$100 or best offer. Call evenings. Susan, 928-7893.

TOOLS - 30gal/3hp 220 volt Sears air compressor w/hoses \$150; 1/2 hp bench grinder \$50; Car ramps \$15. 205-0373.

Miscellaneous

BIRDING BOOKS - and videos, lg. & varied collection, price neg. Laura, 744-4611.

EXERCISE EQUIPMENT - Gazelle, like new, used 5 times. \$85. Barbara, Ext. 2585.

GOWN - floor length, velvet, size 10, Ronni Nicole, slinky, black, scoop neck, bare shoulders. New w/tags. \$35 obo. 803-0506.

MOVING SALE - Contents of apartment for sale. Stereo, comp. desk, display case, sofa/loveseat etc. 205-0373.

PIANO - black, studio, John Broadwood & Sons, no bench, ask \$495. Linda, Ext. 7187.

PLANT LIGHT - grow plants indoors year round, 2 adjustable shelves, 48"L, 20"D, 44"H, \$75. Laura, 744-4611.

TICKETS - 2 for *Dan Giovanni* at Lincoln Ctr. 4/9, 2 p.m., \$100 ea. obo. Kathy Ext. 3926.

Free

BEDS - 3, single wooden w/mattresses; single platform; 2 stack on ea. other. Laura, 744-4611.

Wanted

BERA LIFE GUARDS - Life guards needed for BERA swim lessons & general coverage. LGT cert. Must be 18 or over. Christine, Ext. 5090.

DONATIONS - Cash and/or food (dry/canned goods) for Thee Island Inn Soup Kitchen on Rte 25 in Middle Island. Barbara, Ext. 2098.

LAPTOPS - Looking for old or broken laptops. Will pay cash. Dan, Ext. 3928 or 631-678-8502.

SNAP N GO CAR SEAT CARRIER - BabyTrend Snap N Go Infant Car Seat Carrier needed. Will pickup on site for \$20. Karen, 868-0786.

VIDEO CAMERA - need to borrow (for free) or buy (if cheap) an old analog video camera, 8mm, PAL system. Tomasz, Ext. 7448.

For Rent

CENTER MORICHES - 4-bdrm. house on water, dock, eik, 2 baths, l/r, d/r, f/p, w/d, dish washer, \$2,100/mo. Elaine, 261-7908.

EAST MORICHES - beautiful 1-bdrm. apt. on lake w/deck, l/r, eik, c/a, w/d, , heat incl., no smkg/pet, refs., 1 mo. rent and sec. req'd. \$1,350/mo. Johnson, 874-0148.

MEDFORD - 1 bdrm apt., priv. deck, off rd. parking, no smkg/pets, 1 mo. sec, cable incl., suitable for one. \$800/mo. Ernst, 475-7250.

MEDFORD - 1 bdrm. apt., eik, tile bath, l/r, sep. ent., Inc. util., cable, internet. Driveway pkg. No smkg/pets. 1 mo. sec. 15 min. to BNL, \$800/mo. Betty, Ext. 3562 or 758-2653.

MEDFORD - new 2-bdrm., 10x10, 10x12 bsm't apt., lg. kit., lg. dr/lr, side yard, off street parking, all utils. incl., no smkg/pets, avail. 4/15. \$1,200/mo. Steve, 374-3967.

SHIRLEY - 2 bdrm. 2 mi. to BNL. Rent includes heat, electric, water, cable, a/c. Available from June. \$1,200/mo./neg. Tomasz, Ext. 7448.

SOUTHAMITYVILLE - Share 2-bdrm. home, l/r, d/r, den, lg. eik, bsmt., deck, BBQ, fenced yard. Quaint so.-shore community. Avail. now, utils. incl. Audrey, \$800/mo. 598-0181.

ALEXANDRIA, NH - Newfound Lake view from all rooms, priv beach w/swim raft + pool, tennis, sleeps 6, weekly rental. \$1,000/wk. Ed, Ext. 4188 or 806-3598.

MYRTLE BEACH, SC - 2-bdrm. (4 beds), 2.5-bath townhouse on golf course in Little River, SC., community pool. \$491-\$813/week or \$700- \$1,200/mo. Chris, 472-4994.

PRINCE EDWARD ISLAND, CANADA - spacious, 4 bdrm. historic farmhouse, 20 acres in central loc. on shoreline of Victoria by the Sea Victoria Rose Farmstead. \$1,200/wk. Joe, Ext. 2912 or 765-4397.

For Sale

SOUTHOLD, NY - Young 3-bdrm, 2-bath expanded Cape, l/r, d/r, mint cond., on .5 acre, h/w flr., full bsmnt., gar., lg. 4-season rm. overlooking 37-acre woodland. \$489,000 John, 428-7065.

On-Site Service Station

The new mandatory New York State motor vehicle inspection (OBD II) is performed by computer. If you have a 1996 or newer vehicle and would like to know more about this procedure, then stop by the on-site service station and pick up descriptive literature or go to the Office of Transportation and Air Quality website at www.epa.gov/otaq/obd.htm. Vehicles dating from 1995 or older will continue to be inspected on the dynamometer.

Volleyball Standings

Standings as of March 21, 2005

Open League A

UCB Roof Co.	74 - 16
EZ Pass	56 - 34
Far Side	31 - 59
Jet Setters	19 - 71

Open League B

Shankadelic	45 - 15
Easy Spikers	44 - 16
Late Entry	33 - 24
PHENIX Fire	19 - 35
Setting Ducks	18 - 36
What Ball, Where?	12 - 45

Mixed League 2

Ball Hogs	35 - 19
New Blood	32 - 22
Another Round	29 - 25
Nuts and Bolts	25 - 29
Goodtimers	24 - 30
Court Jesters	17 - 37

Mixed League 3: Final Standings

Upton Ups	73 - 27
Last Minute	68 - 32
Newbies	48 - 52
Volley of the Dolls	11 - 89

Jack's Waterfall Concert, Today, 4/1 Leslie Mendelson Opens Show

Jack's Waterfall, a local band that plays a mixture of blues, pop, jazz, folk, gospel and global music, will appear in concert at Berkner Hall on Friday, April 1, at 8 p.m. Singer/songwriter Leslie Mendelson, who blends R&B with country, folk, and soul music, will open the show. Sponsored by the BNL Music Club, the concert is open to the public. All visitors to the Lab age 16 and over must bring a photo ID.

Jack's Waterfall has appeared at the B.B. King Blues Festival, the New Jersey Folk Festival and the Riverhead Blues Festival. Licitra has toured the U.S. as a member of the Kerry Kearney Band, opening for such acts as the Allman Brothers and the Dickie Betts Band. The current edition of Jack's Waterfall includes Licitra on keyboards, Joe Lostritto on guitars, Jerry McDonald on upright bass, Fred Golik on drums, and Cindy Lopez on backing vocals.

A native Long Islander and a one-time member of the R&B ensemble Mother Freedom, Leslie Mendelson now, as a Manhattan resident, plays the city scene singing about everyday life. A prolific songwriter who gains inspiration from the Greenwich Village Songwriter Exchange, Mendelson regularly performs her playful compositions on guitar and piano.

Tickets for the concert cost \$10 each in advance and \$15 each at the door. They may be purchased at the BERA Sales Office, today, 9 a.m.-3 p.m., cash or check only.

Asian Pacific American Association News

May is National Asian Pacific American Heritage month. However, due to the many workshops and meetings held at Berkner Hall throughout May, the BERA Asian Pacific American Association (APAA) will spread their heritage celebrations over April and May. These events will include:

- **Month-long** poster display, Berkner Hall lobby
- **Monday, April 11**, noon-1 p.m., Hamilton Seminar Room, Bldg. 555. All are welcome to a talk and book-signing by Claude Anshin Thomas, a decorated Vietnam combat soldier, Zen monk, and international peace activist who is the author of *At Hell's Gate: A Soldier's Journey from War to Peace*. This free talk is open to the public. Visitors of age 16 and over must carry a photo ID. Thomas will also speak later that day at the Stony Brook University Wang Center, 7 p.m.



- **Saturday, April 30**, 8 a.m. - 5 p.m. Bus Trip to the Japanese Cherry Blossom Festival at the Brooklyn Botanical Garden to celebrate "Sakura Matsuri," a range of performances and demonstrations celebrating Japanese culture. Garden admission is free. Purchase bus tickets at \$10 each at the BERA Store, Ext. 3347.
- **Saturday, May 7**, 6:30-9 p.m. Berkner Hall. Local Long Island studios and several on-site BERA organizations will perform in a "Martial Arts Expo" that will include art forms such as Kung Fu, Tai-Chi, Jiu Jitsu, Karate, Tae Kwon Do, Kendo, and Ai-ke-do. Tickets are \$10/adult, \$5/children 12 years and under, at the BERA Store, Ext. 3347, or from Beth Lin, Ext. 3372, Susan Eng Wong, Ext. 7988, or Marie Van Buren, Ext. 4727.
- Date to be announced: Tinikling Bamboo Dance, Philippines.

Host Parent Volunteers Needed For 'Take Our Daughters & Sons to Work Day'

Parent volunteers are needed to host the Little Flower children participating in "Take Our Daughters and Sons to Work Day," which will be held on Thursday, April 28. Contact Susan Foster, Ext. 2888 or foster@bnl.gov for more information.

Take Me Out to the Ball Game

On sale now at the BERA Sales Office, weekdays, 9 a.m. -3 p.m.: Long Island Ducks games — eight seats available for each home game, \$10 per ticket.

Mets and Yankee games, price includes ticket and coach ride from the Brookhaven Center at 4 p.m.

May 13 - New York Mets vs. Cardinals	\$40 each
July 29 - New York Yankees vs. Anaheim	\$46 each
August 12 - New York Yankees vs. Texas Rangers	\$46 each

Lifeguard Openings

Lifeguard positions are currently open for the BNL swimming pool. Qualifications include LGT-Lifeguard Training and CPR for professional rescuer. Availability on weekends — Saturdays and Sundays — is essential. Qualified applicants should contact Christine Carter, 344-5090, or ccarter@bnl.gov.

High Flux Beam Reactor Access

The lobby of the High Flux Beam Reactor (HFBR), Bldg. 750, which is used by members of the Association for Students and Postdocs, will continue to be open as usual.

However, beginning April 4, until further notice, the HFBR confinement area will be open for access on Mondays and Thursdays for authorized personnel only. No unauthorized entry will be allowed. For more information, call Fred Sauerbrun, Building Manager, Ext. 2760.