

Research Support Building Construction Starts With Groundbreaking Ceremony



At the groundbreaking ceremony for construction on the Lab's Research Support Building are: (from left) Deputy Director for Operations Michael Bebon, DOE's Office of Science Acting Chief Operating Officer Leah Dever, New York State Assemblyman Fred Thiele, Jr., John Schneider representing the office of U.S. Representative Tim Bishop, DOE Brookhaven Site Office Deputy Manager Frank Crescenzo, BNL Director Praveen Chaudhari, and Assistant Laboratory Director for Facilities & Operations Andrew McNerney.

Over 100 employees and guests attended a ceremony on March 10 in Berkner Hall to celebrate the groundbreaking for the 65,000-square-foot Research Support Building to be built on a site adjacent to Brookhaven Avenue. After listening to remarks by Mike

Bebon, BNL's Deputy Director for Operations; BNL Director Praveen Chaudhari; Frank Crescenzo, Deputy Manager of DOE's Brookhaven Site Office; Leah Dever, Acting Chief Operating Officer of DOE's Office of Science; and Fred W. Thiele, Jr., Assemblyman, New York State

District 2, the audience followed the speakers to the building site, slightly southeast of Berkner Hall. There, dignitaries took the first symbolic step to start construction, digging with clean shovels into fresh dirt laid on top of the frozen, snow-covered ground.

Chaudhari called the building project a symbol of change at the Laboratory, not only in appearance, but in spirit as well. Dever said the building would "make scientists' lives' easier," since many support personnel will be moved to one central location, and the support staff will have the opportunity to "cross-communicate" effectively. Thiele expressed pride in the "great work" done by the Laboratory and said that BNL "is a critical institution not only for eastern Long Island, but for all of Long Island."

The new Research Support Building will consolidate frequently visited administrative and support functions in a single location to provide more efficient administrative services to BNL employees and visiting scientists. About 150 employees will be relocated to the new building. Currently, many of these employees work in structures built in the World War II era when Brookhaven Lab was the site of the U.S. Army's Camp Upton.

"The Research Support Building is the first to be constructed under Brookhaven Lab's master plan for its 5,300-acre site, in which we envision Brookhaven (continued on page 2)

Floating Films On Liquid Mercury

New results may lead to advances in nanotechnology and molecular electronics

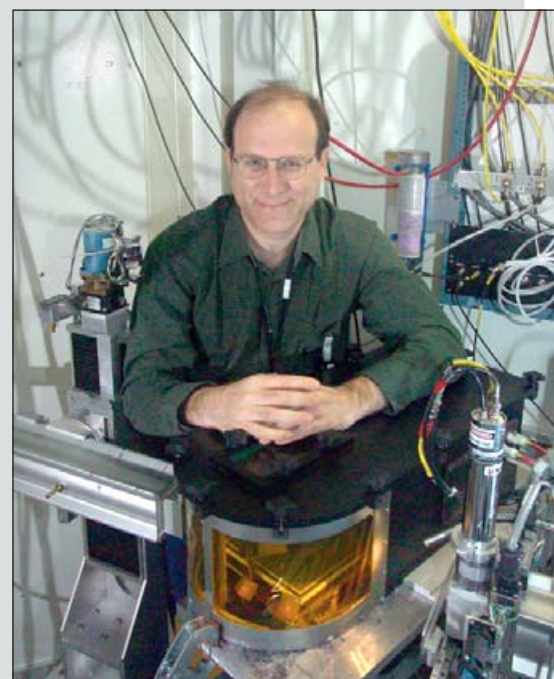
Scientists from BNL, Bar-Ilan University, and Harvard University have grown ultrathin films of organic chain molecules on the surface of liquid mercury and discovered that the molecules form ordered structures. Much as, 60 years ago, fundamental studies of silicon paved the way to the semiconductor-electronics age, these results help to build a foundation for the development of tiny circuits built using organic molecules — called molecular electronics — a field believed to be the future of many electronic applications.

Funded by the Office of Basic Energy Sciences within DOE's Office of Science and the U.S.-Israel Binational Science Foundation, the scientists are participating in an ongoing program at BNL to grow ultrathin organic films on solid and liquid surfaces. They are most interested in films that have controllable properties at a thickness of just a few nanometers, or billionths of a meter, so that they can engineer technologies based on these properties. In addition to being useful for molecular electronics development, ultrathin organic films are becoming increasingly important for many other emerging technologies, such as flexible electronic displays and advanced biotechnological materials that can, for example, mimic cell membrane function.

"We decided to use liquid mercury as a surface, instead of a solid," said Benjamin Ocko of the Physics Department, the lead author of the study, reported in *Physical Review Letters* 94, 017802 (2005). "Liquid surfaces are disordered, hence they do not impose a structure of their own on the film. This makes them important testing grounds for organic thin film growth." Working with Ocko were: Henning Kraack, Eli Sloutskin, Lilach Tamam, and Moshe Deutsch of Bar-Ilan; and Peter Pershan of Harvard.

The researchers filled a small tray with a layer of liquid mercury and deposited a controlled amount of the organic molecules, called alkyl-thiol, onto its surface. "We chose alkyl-thiol because one end of each molecule is terminated by a sulfur atom that bonds strongly to metal surfaces," explained Kraack. "Thiol molecules have been studied extensively on gold surfaces, but the exact nature of the sulfur-gold bond has remained controversial. One of our main goals was to determine the nature of the bond between a similar pair: sulfur and mercury."

The scientists used x-rays from the Harvard/BNL liquid spectrometer at beam line X22B at BNL's National Synchrotron (continued on page 3)



Benjamin Ocko

DOE's SLI Program – Building for the Future

Time for a little pop quiz: What do BNL's Firehouse, Central Chilled Water Facility, and Research Support Building all have in common? Besides the fact that they are all on the BNL site, the answer is that they were all funded by DOE's Science Laboratory Infrastructure (SLI) Program, an Office of Science initiative to upgrade general-purpose buildings at DOE laboratories.

The SLI program supports DOE research missions at Office of Science laboratories like BNL by funding line-item construction projects to revitalize the general-purpose infrastructure. SLI funding is used to improve roads, utility systems, and general-purpose buildings, for example electric power and steam distribution systems, and to clean up and remove excess facilities that are not eligible for transfer to the Office of Environmental Management. The program also supports the Office of Science landlord responsibilities for the 36,000-acre Oak Ridge Reservation and provides "Payments in Lieu of Taxes" to local communities around BNL, Argonne National Laboratory, and Oak Ridge National Laboratory.

The SLI program has played a key role at BNL, funding several important construction projects over the past decade, including the Steam Plant boiler replacement, Sewage Treatment Plant upgrades, the Fuel Transfer Facility, and the three projects mentioned above. The program also made possible the demolition and removal of several outdated structures, including Buildings 118, 318, and warehouse buildings.

The Office of Science laboratory complex consists of 10 government-owned, contractor-operated laboratories with over 2,400 buildings (including 650 trailers) totaling 22.7 million square feet of space with an estimated replacement value of over \$10 billion. Total operating funding is over \$3 billion a year and the researcher and support staff workforce is over 22,000.

— Peter Genzer

BNL Site Master Plan: The Roadmap to the Lab's Future Infrastructure

At the groundbreaking ceremony held Thursday, March 10, the Lab celebrated the start of construction of the 65,000-square-foot Research Support Building. (See story above.) On such occasions marking the start of a new construction project, one may wonder:

- Why is this building being built at the chosen location?
- Does the Lab have a plan for what is to be built next? What about after that?
- Is there an overall "game plan" to the Lab's growing infrastructure?
- If so, then where can I find such a plan?

The Lab takes great care in planning for future growth. Each year, the Lab prepares a Strategic Plan (formerly called the Institutional Plan), which is available at www.bnl.gov/bnlweb/Admin/inst

[plan.asp](http://www.bnl.gov/bnlweb/Admin/inst), that establishes the Laboratory baseline plan and vision for the future and guides the development of other Lab plans, such as the Site Master Plan (SMP) — a document that guides the strategic growth of the Lab's physical infrastructure (buildings, utilities, roadways, etc.).

The SMP was originally prepared in 2000, and updated in 2004 to reflect construction of the as-designed Research Support Building, the planned Center for Functional Nanomaterials, and planning for the proposed NSLS-II. The expected implementation of the SMP is defined in the Ten-Year Site Plan, updated each year based on DOE guidance. Both of these plans can be found at http://epweb.pe.bnl.gov/infrastructure/infra_Index.asp. An overview of the SMP and a description of what is envisioned for the BNL site of the future follows.

Plan Overview

The SMP process is intended to create a flexible structure and framework to guide growth and renewal at the Lab. The process considers program and general infrastructure needs, and protection of employees, guests, BNL's neighbors, and the environment. The plan provides a means to communicate these needs with the varied communities in and outside the Lab, including DOE, thereby ensuring that BNL's future plans are aligned with national goals and priorities.

The SMP aims to reshape the current Lab structures into a coherent, efficient community. The plan is driven by several fundamental planning goals, which are:

- Replace or renovate obsolete, inefficient, and inadequate facilities to provide BNL with world-class facilities to achieve its mission. New buildings will be designed as "green buildings" to be environmentally friendly, energy efficient, and compliant with the requirements of the (continued on page 2)

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 Bernhole, Ext. 2027.

*Thursdays: FreshDirect Delivery

3:30-5:30 p.m., Berkner Hall parking lot.

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, 3/18

*Employee Lunch Time Tour — NSLS

Noon, Berkner Hall lobby. Group meets to be taken to the National Synchrotron Light Source to learn about research there. Return to Berkner by 1 p.m.

—WEEK OF 3/21—

Monday, 3/21

*Savings Bond Informational Session

9 a.m.-1:30 p.m. Berkner Hall. Representatives from National Bond & Trust Company will be at BNL to answer employees' questions and to assist BNLees in enrolling in the payroll-deducted savings bond option. For more information, contact the National Bond & Trust Office at 516-797-6970, www.mbtco.com.

Making BNL More Accessible for People With Disabilities

Since it was formed in October 1999, BNL's Americans with Disabilities (ADA) Committee has been resolving concerns about access to buildings and facilities on site by individuals with disabilities. Chaired by Shirley Kendall, Diversity Office Manager, the committee is composed of twelve employees from the Plant Engineering Division (PE); Community Involvement, Education, Government & Public Affairs; the Emergency Services Division; and the Quality Management Office.

"Our funds are limited, so we have to prioritize requests for improvements," said Kendall. "Our primary goal is to provide accessibility and other ADA requirements to Lab employees with disabilities in order for them to perform their jobs. We prioritize the various projects undertaken by the committee according to available funding, needs of employees, and the general public, in that order. The committee has made some significant strides in improving accessibility to BNL facilities over the last five years."

The improvements include installing wheelchair lifts in Bldg. 510 and by the swimming pool; installing automatic door openers in Bldg. 185, Human Resources Office; Bldg. 703, Training & Qualifications Office; Bldg. 902C, Superconducting Magnet Division; and Bldg. 911, Collider-Accelerator Department; making hardware modifications to doors in Bldgs. 703 and 902C; and installing a handrail in Bldg. 120, Environmental and Waste Management Services Division.

In FY 2004, the entire ADA annual budget was spent to im-



Roger Stoutenburgh D0603205

(From left) BNL Americans with Disabilities (ADA) committee member Stasia Scocca, Quality Management Office, ADA committee chair Shirley Kendall, Diversity Office, and former ADA chair and current member Ove Dyling, Plant Engineering Division, look over the modifications to Bldg. 911 that make it more accessible for people with disabilities.

prove accessibility to Bldg. 911. The improvement project consisted of constructing concrete steps, a ramp and handrails to the building's service entrance, providing one handicap parking space with a curb cut, another curb cut at Lawrence Drive, and two automatic door openers and appropriate signage at the service entrance in the building.

In addition, during general renovation projects, improvements for people with disabilities are being made on a regular basis. For example, to help alert the hearing-impaired, over 500 combination bell/strobe-type fire alarms were installed in various buildings around site, and over 20 dormitory rooms

have been set up to accommodate the hearing-impaired.

This year, the committee is evaluating installing automatic door openers in Bldgs. 179, which is home to the U.S. Post Office and Staff Services, among other offices; the Teachers Federal Credit Union; Bldg. 355, which houses the Relativistic Heavy Ion Collider & Alternating Gradient Synchrotron Users Reception Office and the Procurement & Property Management Division; and in the back of Bldg. 134, by the cashier's office.

"We are making these improvements voluntarily, since the law does not require that existing buildings be modified," said Ove Dyling, Senior Project

Engineer, PE, who chaired the ADA Committee from FY 2000 to FY 2003. "But all new buildings, including the soon-to-be-built Research Support Building and the Center for Functional Nanomaterials, will be ADA-compliant, as specified by law."

The Americans with Disabilities Act of 1990 and the Architectural Barriers Act of 1968 govern requirements for accessibility to public buildings by individuals with disabilities.

If anyone has suggestions for improvements to provide better access for individuals with disabilities in any BNL building or facility, contact your building manager, or Shirley Kendall, Ext. 3318, or kendall@bnl.gov. — Diane Greenberg

BNL Site Master Plan

(cont'd.)

Americans With Disabilities Act (ADA).

- Reorganize the BNL site into functional and efficient zones for research activity, support services, and residential functions
- Stimulate intercommunication and a sense of community among BNL personnel by concentrating daily activities into a central area that is easily accessible by pedestrian traffic. The intent is to consolidate the current diffuse facilities into already developed central areas rather than expanding into wooded areas.
- Redevelop user housing
- Reorganize primary vehicular traffic systems, create an adequate parking system, and reorganize primary pedestrian traffic circulation systems

Existing Site

The existing site has a roughly defined core area that currently includes many of the community facilities, administration, and high population density buildings with Brookhaven Avenue acting as the central spine. Dead-end roads and poor roadway alignments weaken the grid pattern of the existing roadways in the core area.

Proposed Land Use & Future Development

To help address these concerns in the future, the SMP works within the existing structure of the site to form a well

defined Lab center. The community facilities within the Lab center will be located to improve access for visitors and staff. Many dilapidated structures in this area will be demolished, creating an opportunity for redevelopment in the Lab center. The support facilities will be positioned ancillary to the research machines, research departments, and the Lab center. Family housing will be located away from the Lab center and short-term housing will be located close to the Lab center. The Plan's open space framework creates avenues for pedestrian circulation that are separated from vehicular circulation.

The Plan Implemented

The SMP creates a flexible framework for growth and renewal at BNL by incorporating existing permanent development and new building initiatives into a cohesive organizational structure. The first building initiatives to be implemented support the organizational structure of the Master Plan. The Research Support Center strengthens the axis between Berkner Hall and the Physics building, as well as between the Chemistry building and the Medical Research Center. Other buildings included in the SMP include the future User Research Center, Energy Science Center, and the future phases of the Research Support Center which will define the streetscape along Brookhaven Avenue.

Get to Know Your Lab! Visit the NSLS Today, 3/18

On Friday, March 18, the Employee Lunchtime Tour will be visiting the National Synchrotron Light Source (NSLS) to hear Lisa Miller give an overview of research at several beam lines and describe the proposed NSLS II. Meet in the upper lobby of Berkner Hall at noon to travel by shuttle to the NSLS and return by 1 p.m. For more information, call Elaine Lowenstein, Ext. 2400.

Research Support Bldg. Groundbreaking (cont'd.)

Avenue as the 'Main Street' of the Lab," said Project Manager Gregory Flett. "We expect the building to be completed in the fall of 2006. In the future, we plan to build two additional buildings on Brookhaven Avenue that will house mainly administrative support personnel. The World War II buildings will eventually be demolished to create a central green area on the north side of Brookhaven Avenue, opposite the new buildings, for the enjoyment of all employees and visitors."

Ehasz Giacalone Architects P.C., of Farmingdale, NY, designed the two-story Research Support Building, which will feature a glass atrium-style lobby connecting two wings of offices covered by a metal panel facade. STV Incorporated, Manhattan, provided engineering services. E. W. Howell Co., Inc., of Woodbury, NY, will construct the building, and Horizon Engineering Associates, LLP, Manhattan, will provide commissioning services to verify that all equipment and systems are operating properly prior to occupancy. The Science Laboratory

Infrastructure Program of DOE's Office of Science will fund the total cost of the \$12.6 million building.

The Research Support Building tops New York State requirements for energy efficiency by 15 percent, and the structure will be considered "green," or environmentally friendly, based on the U.S. Green Building Council's Leadership in Energy & Environmental Design, also known as LEED, rating system. Also, the building complies with National Environmental Policy Act requirements.

The new building will house BNL's Human Resources personnel; the Relativistic Heavy Ion Collider & Alternating Gradient Synchrotron User Reception Office, which welcomes visiting researchers from around the world to these two scientific facilities; the Housing, Transportation & Travel Office; the Identification Badging Office; the Community, Education, Government & Public Affairs Office; the Business Systems Division; and a branch of the Teachers Federal Credit Union.

— Diane Greenberg

What Do You Do At Work?
Tom Seda: Bringing Bright Ideas to the Light Source

“When I first came to BNL in 1992, I was told that I’d be working on everything from plumbing to programming,” said Tom Seda, then a principal technician for the Power Systems Group at the National Synchrotron Light Source (NSLS), specializing in the Linac, the linear accelerator that supplies the initial high energy electrons for the NSLS.

While Seda has not yet worked on plumbing on the job, he has constructed and programmed a single-chip programmable logic device (PLD) to handle the timing that controls the Linac’s electron gun. The PLD replaces three logic chassis that control the release of electrons from the electron gun, the origin of electron bunches for x-rays, infrared light and ultraviolet light for experiments at the NSLS.

Seda is now a senior technical specialist assigned to the Operations Group at the NSLS and his primary task is to work on a new design for the extraction magnets of the NSLS Booster Ring. The current magnets — which kick electron bunches at an energy of 800 MeV into the NSLS storage rings, where the energy is ramped up to 2.8 billion eV — are encased in a vacuum chamber.

“The problem with the current design is the short power pulse has to be fed through long conductors to get into the vacuum-encased pulse magnet, known as a kicker. That’s not an efficient way to bump the beam,” Seda said. “I’m going to try to redesign the system with the pulse magnet outside the vacuum chamber. That would make storing the beam much less troublesome.”

The kicker magnets date back

This story is the first in a series entitled “What Do You Do at Work?” featuring BNL employees and their jobs at the Lab. More stories will appear in The Bulletin as space permits. Send or call in ideas for the series to Liz Seubert, lseubert@bnl.gov or Ext. 2346.

to 1983, when the Booster was built, and they are constructed with the standard ferrites that were available at the time. Seda is now investigating newer ferrites for these magnets — specific ferrite alloys currently manufactured for the next generation high energy accelerators. “We may be able to reconfigure our current bunch patterns with the faster kicker magnets,” he said.

“I’m researching the current papers on kicker designs as well as speaking with the scientist and design engineers at other national laboratories,” said Seda. “They have been very helpful in identifying vendors who may have the materials and manufacturing skills needed for the new design.”

In the past, Seda had constructed and tested a new modulator for the Deep Ultraviolet Free Electron Laser energy upgrade, and he worked on two klystron units in the Accelerator Test Facility, which supply RF power to a linear accelerator for advanced laser experiments. Among his suggestions was to replace the PCB-contaminated oil in the klystrons with biodegradable oil.

Seda also helped to test the Marx generator section of the Sandia Pulser Terra Watt Laser, which BNL tested for DOE’s Sandia National Laboratory. For his exceptional job performance on this project coupled with helping recover the NSLS after only one week of downtime due to an equipment fire, he is a two-time winner of the

BNL Spotlight Award.

“Working as a technician at the NSLS brings opportunities to be involved in all aspects of electronics, with the added benefit of being involved in interesting and ever-changing projects,” Seda commented. “I love working first-hand with these amazing machines along with dedicated, talented employees who often go beyond what is expected of them on the job.”

Born in the Philippines, Seda, who is of Puerto Rican and Filipino descent, immigrated to the Bronx, NY, with his family when he was an infant. The first in his family to earn a college degree,

he received a B.S. in electronic engineering technology from the DeVry Institute of Technology, Chicago, Illinois, in 1988. He then worked as a technician at Magnetico of Holtsville, NY, where his responsibilities included designing custom military-grade transformers and inductors, before he joined BNL in February, 1992.

Seda is married to Anna Seda, an administrative assistant in the Energy Sciences & Technology Department. The couple has an 8-year-old son and a 2-year-old daughter. Tom Seda is the president of the BERA Camping Club, and both Anna and Tom Seda are participants in the BERA kickboxing class offered on site. In addition, he and his wife enjoy traveling abroad and going on cruises.

— Diane Greenberg



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 and to help BNLers to:

- Understand the importance of protecting assets against inflation
- Find the right allocation mix for each individual
- Learn about TIAA-CREF retirement income flexibility
- Compare lifetime income vs. cash withdrawal options.

For an appointment, call Kathy Murphy, 866-842-2053, Ext. 4625. (Not the on-site Ext. 4625.)

Floating Films on Liquid Mercury (cont’d.)

Light Source for their research. They discovered that three distinct patterns emerged as the alkyl-thiol density was increased on the mercury surface, with each pattern corresponding to a different degree of molecular order. At the lowest density, the molecules lay flat on the mercury’s surface. At an intermediate density, the molecules tilt so that the sulfur end is in contact with the mercury. Finally, at the highest density, the molecules stand up straight.

The x-ray analysis of the lying-down phase showed that the alkyl-thiol molecules are disordered, pointing in all different directions. However, the standing-up and tilted phases are very ordered, with the molecules arranged in crystalline patterns, despite the disordered liquid nature of the underlying mercury. Additionally, the tilted phase contains an unusual structural feature: The alkyl-thiol chain portions and sulfur atoms line up differently so that the chains form one pattern while the sulfur atoms form another.

“The x-ray analysis indicates that the sulfur atoms from two neighboring chains chemically bond to one underlying mercury atom,” explained Ocko. “In the tilted phase, the sulfur-mercury bonds exhibit crystalline order. These bonds also form in the standing-up phase, but, surprisingly, they appear disordered.

“These specific structural and chemical details are important for understanding the electronic properties of the film, which is necessary for determining how to use them in new technologies,” Ocko concluded.

Currently, Ocko and his colleagues are investigating the structure of molecular layers sandwiched between two conducting surfaces, a configuration directly relevant to molecular electronics.

— Laura Mgrdichian

Jack’s Waterfall in Concert, 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.

Tickets for the concert cost \$10 each in advance and \$15 each at the door on the day of the show. They may be purchased at the BERA Sales Office, weekdays, 9 a.m.-3 p.m., cash or check only, or via credit card through Ticketweb.com.

New Home for SBMS

Last spring, BNL decided to move the Standards-Based Management System web site to a different software platform and physically relocate the system to Brookhaven from Pacific Northwest National Laboratory (PNNL). These changes will result in a system that is easier to use and maintain. The project to accomplish this move has been under way since July 2004, and March 31, 2005, is the planned launch of the new system.

A major benefit of the new system is that it will be located at BNL. This greatly enhances BNL’s ability to respond to customer needs regarding tool functionality, data integration, and content change. Many parts of the current SBMS, including the home page and underlying database structures, can only be changed by PNNL’s information technology (IT) staff, and BNL must pay for these changes. Under the new system, IT resources will no longer be needed to manage content. In addition, security issues will be reduced because all hardware and software will be part of BNL’s IT structure.

Another positive result of the move is that BNL’s SBMS will assume a BNL corporate identity – the SBMS web site will use the standard BNL web template. It will also incorporate the Lab’s Google search feature, so users should locate the information they need more easily. More information about the new website will be provided as the Lab get closer to the launch date. Contact Jessie Wilke at Ext. 6135, or Peggy Sutherland at Ext. 3131, with any questions.

Calendar
(continued)

Tues. & Wed., 3/22-23

***Books Are Fun’ Book Fair**
10 a.m.-2 p.m., Berkner Hall Lobby. Save 20 to 70 percent off the retail price of a large selection of books at the “Books Are Fun” Book Fair.

Wednesday, 3/23

***BSA Noon Recital**
Noon, Berkner Hall. The Synergy Quintet Brass Ensemble will perform at the next BSA Noon Recital. All are welcome to attend this free concert.

— WEEK OF 3/28 —

Monday, 3/28

Basic Vacuum Technology Seminar
Free. 8:30 a.m.-12:30 p.m., Brookhaven Center, South Room, sponsored by Varian Vacuum Technologies. Basic course on vacuum science: skilled practitioners will gain insights and pointers; those with minimal vacuum experience will receive a comprehensive education on high and ultra-high vacuum. Continental breakfast and lunch will be provided. To register in advance, contact Jim Primm, jim.primm@varianinc.com, 516-795-3320.

IBEW Meeting
6 p.m., Centereach Knights of Columbus Hall, 41 Horseblock Rd., Centereach. A meeting for shift workers will be held at 3 p.m. in the Union Office. The agenda includes regular business, committee reports, and the president’s report.

Tuesday, 3/29

Advanced Vacuum Technology Seminar
Free. 8:30 a.m.-12:30 p.m., Brookhaven Center, South Room, sponsored by Varian Vacuum Technologies. This seminar is for anyone with a basic understanding of vacuum technology who is interested in learning more about the detailed concepts of vacuum systems. Continental breakfast and lunch will be provided. Register in advance by contacting Jim Primm, jim.primm@varianinc.com, 516-795-3320.

Friday, 4/1

***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 at left. Buy ticket in advance at the BERA Store in Berkner Hall at \$10 or for \$15 at the door.

— WEEK OF 4/4 —

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 also notice on page 2.

— WEEK OF 4/11 —

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.

— 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 sponsored by BSA. Visitors to the Lab or 16 and over must carry a photo ID.

Wednesday, 4/20

403rd. Brookhaven Lecture
Saskia Mioduszewski, Physics Department, will talk on the Relativistic Heavy Ion Collider.

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

Motor Vehicles & Supplies

03 JEEP LIBERTY - Ltd. ed., 4X4, fully loaded, dk. blue w/gray leather, excel. cond, 42K mi. \$19,750. Donna, Ext. 2826.

02 FOREST RIVER FLAGSTAFF - Travel Trailer, 25 ft, warr. good to 2007, canopy, a/c, excel. cond., sleeps 4. \$11,500. Gina, 208-3959.

00 FORD WINDSTAR SEL - fully loaded, warr., 55K mi. \$11,500/neg. Ext. 3271 or 395-3168.

98 PONTIAC BONNEVILLE - c/c, remote start, cd, 6-cyl, 4dr, sunroof, all pwr, abs, tan leather int., burgundy. \$5,000/neg. Donna, Ext. 2380.

95 FORD AEROSTAR - Mini van extended model, a/c, p/l, p/w, good running cond. 119K mi. \$2,600/neg. 585-4734.

94 GMC SIERRA 1500 SLE - gd. cond., V6 4.3L, a/t, 2wd, a/c p/w, p/l, a/c, cass, FG cap, bd. Inr., Yakima kayak rack, class III/IV hitch. 210K mi. \$3,600 662-2239.

94 NISSAN MAXIMA - V-6, auto, loaded, new tires, struts, CV shafts, good cond, 134K mi. \$3,000/neg. Ken, Ext. 4514 or 289-8212.

89 CHEVY S-10 TAHOE PICKUP - 6-cyl, runs well, body okay, new tires and exhaust. 150K mi. \$700/neg. Joseph, Ext. 7316 or 929-0668.

88 JEEP CHEROKEE - Limited, 4x4, a/c, p/w, p/l, p/s, leather, reliable, great on beach and snow. \$2,500/neg. Leonard, Ext. 4479 or 513-6067.

87 CHEVROLET CORVETTE - excel. cond., new paint, red/red. \$9,100. 654-0714.

Furnishings & Appliances

CHANGING TABLE - excel. cond., \$15. John, Ext. 4028.

BED - king size w/mattress, box springs, frame. 3 years old, very comfortable, must sell. \$400/obo. You pick up. Nick, Ext. 7139 or 974-0818.

MATTRESS - full size, \$200. Mary, Ext. 3670.

MOTORIZED SKYLITES (4) - brand new 27" x 21" with flashing, terra-cotta color. \$175/ea. Chris, 325-1472.

COMPUTER DESK/HUTCH - O'Sullivan, pics avail. from kanecomp@optonline.net Buyer pickup from Holbrook home. Karen, 868-0786.

PIANO - Kawai upright, excel. cond. \$2000. Carol, 727-7227.

SLEEP SOFA & LOVESEAT - Dark green brushed leather. Very good cond. \$400 for both. 744-1706.

SOFA, LOVESEAT, CHAIR, OTTOMAN - Hunter green. Send request for pictures to kanecomp@optonline.net. Buyer picks up from Holbrook \$175. Karen, 868-0786.

Audio, Video & Computers

PRINTERS - Two Dell color 720 inkjet printers. One new in unopened box \$40. One used for three months \$25. Rich, Ext. 5741.

DJ EQUIPMENT - 2 Numark TT 1625 turntables, 1 Numark DM-950 DJ mixer, 1 pair HF-125 headphones. All like new, \$200. John, 365-6863.

SPEAKERS - Infinity IL60 speakers, paid \$1,500, ask \$900. Mary, Ext. 3670.

Sports, Hobbies & Pets

JIGSAW PUZZLES - (2) 1,000 pieces ea., Th. Kinkade, 69cm x 51cm & Suns Out 27 x 35. \$5 neg. Barbara, Ext. 3431.

ANIMAL CAGE - Large dog cage, black, used for golden retriever 28" w X 46" l X 35.5" h, \$50. Warren, Ext. 2080 or 631-751-5245.

BALL PYTHON - 55 gal. tank w/ stand. about 6 yrs. old and 4' long. Extremely tame. Liz, 727-7227.

CHINCHILLA - male, special muted color - beige, very friendly, cage incl. \$300. Katie, 727-7227.

CORN SNAKE - 1-yr. old. w/20-gal. tank, wire mesh cover, heater, lamp, water dish, complete setup. \$50. Deirdre, 543-5282.

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

Miscellaneous

BABY FURNITURE - Crib, juvenile bed, high chair, toys. Hugh, 849-2908.

BABY THINGS - Exersaucer, swing (bat. op.), highchair, push/rider, extra carseat base, crib mobiles, more. Price neg. Eva, Ext. 2295 or 821-1325.

EVENING GOWNS - Pictures at Daymor site, www.daymor.com. Style Nos. 2109 & 2105, \$200/ea. 581-7656.

PEN - Mont Blanc Meisterstuck pen, Classique, burgundy, stamped with serial number, needs new cartridge, \$35/obo. 803-0506.

POSTER - Signed and framed - Back Street Boys. \$75. Liz, 727-7227.

TYPEWRITERS: - 1 Brother, 1 Olivetti, both electronic and w/hard carrying cases, excel. cond. \$10 each. Peter, Ext. 2913.

Wanted

HOUSESITTER - Brookhaven Hamlet, ~4/12 to 5/20; must live in lovely home and care for 3 cats, 5 chickens, 1 duck, indoor plants, in exchange for room & \$100/wk. 286-5897.

Free

BUNNY RABBIT - 1-yr.-old female, grey w/white on right arm, sm., friendly, loves people, fairly lg. cage incl. Monique Gilbert, 399-4072.

Lost & Found

LOST BLACK CAT - Black cat, neutered male, very friendly, missing since 3/8 from Aquebogue. Reward. Bob, Ext. 3417 or 722-8460.

For Rent

SHOREHAM - 1-bdrm. studio apt., sep. ent., kitch. & bath, big yard, sep. therm, cable TV, util. inc., Avail. 6/1, 1 mo. sec. No smoking/pets; 7 min to Lab. \$750/mo./neg. 821-4318.

SOUND BEACH - Cute and cozy 1-bdrm., 1-bath house, new paint and carpets. 15 min. to Lab. Pets OK. Utilities not incl. \$1,125/mo. John, Ext. 4028.

STONY BROOK - 3-bdrm., 2-bath house, walk to Stony Brook Village, harbor, LIRR train station & University. Gt. school district. 1 yr. available summer. \$2,900/mo./neg. 689-5374.

ALEXANDRIA, NH - Newfound Lake view fr. all rooms, priv. beach w/swim raft + pool, tennis, clubhouse, hiking, etc, sleeps 6, have pictures. \$1,000/mo. Ed, Ext. 4188 or 806-3598.

FT. LAUDERDALE, FL - Christmas week, 2-bdrm. condo, sleeps 8. Gold Crown Resort/spa/golf course, full amenities, \$700/mo. 729-3399.

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 - \$1200/mo. Chris, 472-4994.

For Sale

RIVERHEAD - 3-bdrm. house, lg. l/r, lg. eik, 1 bath, full bsmt., flag lot, 3/4 acre, beautifully landscaped, alarm & irrigation system, \$360,000/neg. 369-9397.

SELDEN - Spacious 3 bdrm., 2 bath, move in cond., eik, lg l/r w/berber, formal d/r, new windows, roof, finished bsmt, 1.5 car garage w/elec., taxes w/ STAR 5,492. \$387,000 584-7000x410.

Easter Egg Hunt, 3/26

All children are invited to join the Hospitality Committee's annual Easter Egg Hunt on Saturday, March 26, at 11 a.m. in the Recreation Bldg. Children should each bring 15 plastic eggs filled with soft candy or small toys, and their own Easter basket. Children will hunt for eggs and participate in springtime games and crafts. Parents are asked to bring a healthy snack to share. For more information, contact Cindy Ottemann at cjottabb@optonline.net or 849-2646.



Parent Volunteers

Parent volunteers are needed to help prepare for "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.

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."

More Defensive Driving

The six-hour defensive driving course on Saturday, April 2, 9 a.m.-3:30 p.m., in Berkner Hall, Room B, is now full. More classes are scheduled for April 30, June 11, and August 20. The course is open to BNL, BSA and DOE employees; BNL facility-users; and their families, at \$30 per person. To register, send a check payable to NYSTA to: NYSTA, in care of Don Kelley, P.O. Box 185, Selden, NY 11784. Write the course date on the check and include your phone number in case you need to be contacted.

On-Site Service Station At Your Service

When did you last change the oil in your vehicle? The on-site station, Upton Industries, Inc., will be glad to change oil, check the battery, provide NYS vehicle inspections, and perform all mechanical repairs, while you are at work. For more information, call Ext. 4034.

Book Fair, 3/22 & 23

Save 20 to 70 percent off the retail price of a large selection of books at the "Books Are Fun" Book Fair on Tuesday & Wednesday, March 22 & 23, in Berkner Hall lobby, 10 a.m.-2 p.m. All are welcome.



BSA Noon Recital

Synergy Brass Ensemble, 3/23

The Synergy Quintet Brass Ensemble will give a concert on Wednesday, March 23, at noon in Berkner Hall. Sponsored by BSA, the company that manages the Lab, the free concert is one of a series of noon concerts open to the public. All visitors to the Lab age 16 and over must bring a photo ID.

Formed in 1996, the Synergy Quintet plays a wide variety of brass ensemble music, including early Renaissance, jazz, and rock. Synergy has toured the U.S. and performed at such major music festivals as Ravinia and Tanglewood. The ensemble has also served as quintet in residence at the Boston University Tanglewood Institute. In addition to presenting workshops for young performers, Synergy strives, through varied and entertaining programming, to heighten listener appreciation of music for brass.

Women's History Month Events at BNL

March celebrates National Women's History Month. This year's theme is "Women Change America." A Women's History Month display in Berkner Hall lobby during March, celebrating the role of women in transforming culture, history and politics in the U.S.

In addition, the Lab community is invited to the following events in Berkner Hall, from noon to 1 p.m. on the date stated:

Fridays, 3/18, 3/25, lobby - Book Raffle

Thursday, 3/31, auditorium - Kathy Martinez, a disability management consultant who has been blind from birth, will talk on how leading edge corporations successfully accommodate customers with disabilities and give case histories of her work in this field.

For more information, call Sol Rosario, Ext. 6253.



Spring Into Color, 3/21

Sign up today

All the Lab community is invited to join a new, 10-week healthy eating and exercise plan called Spring into Color, organized by Michael Thorn of the Human Resources & Occupational Medicine Division's Health Promotion program. Spring into Color focuses on two goals:

- Eating five or more servings of colorful fruits and vegetables each day
- Increasing participants' current activity level to 30 minutes of moderate activity on at least five days a week. Those who are already active may prefer to set their own personal goals for participation in the program.

Those who register will receive a log sheet to record progress during the program. If you join in, at the midpoint and at the end, you will submit your point totals. If you complete the program, submit totals and fill in the post-program evaluation, you will be entered into a raffle.

Throughout the 10 weeks, articles will be posted online with information on the healthful benefits of colorful fruits and vegetables and moderate activity.

To register, complete the form sent to each employee and return it to Michael Thorn, Bldg. 490/OMC, or e-mail mthorn@bnl.gov.



BERA Board Election: Candidates Selected

The BERA Nominating Committee has selected four candidates for the 2005 BERA Board Elections: Frank Dusek, Joann Giambalvo, Benny Hooda, and Jody Mitchell.

During the week of March 28-April 1, all eligible employees of BNL, DOE, and all other permanent on-site employers, may cast their ballots to elect two of the four candidates to serve on the BERA Executive Board, beginning May 1.

More information on the candidates and the election will be published in next week's Bulletin.