

## DOE Nano Summit Hits Heights

It's been an eventful spring — and now summer — for Brookhaven scientists and staff contributing to the Center for Functional Nanomaterials (CFN). The past two months have seen the first CFN Users' Meeting as well as CD-2 approval for in-depth design planning of the facility (stories below, center and right, give more detail). On June 23 and 24, many of these same researchers and staff participated in a DOE "Nanoscience Summit" in Washington D.C. that focused on nanoscale science and the nation's energy future.

Secretary of Energy Spencer Abraham kicked off the summit by talking about the national nanoscience initiative and DOE's role in supporting that initiative through the construction of its five nanocenters. "We are making a substantial, and we think very wise, investment in nanoscale science at DOE," said Abraham. "We see it as having virtually unlimited potential to transform the way we produce, deliver, and use energy, not to mention its likely effect on medical technology and national security."

Abraham said he believed the summit was a "remarkable event" that should be repeated each year to foster dialogue on the range of issues surrounding nanoscience. "It seemed clear that as we entered the 21st century, one of the most important areas for research and development, especially for the energy and security missions of the Energy Department, was going to be nanotechnology," said Abraham. "It makes sense in the early years of this century and in the early years of this science to bring together the best minds from industry, science, and government to help shape the future of this research."

Abraham was followed by U.S. Representative Zach Wamp and former BNL Director John Marburger, now Director of the White House Office of Science and Technology Policy. Marburger said that the national labs should play a leading role in nanoscale research given their

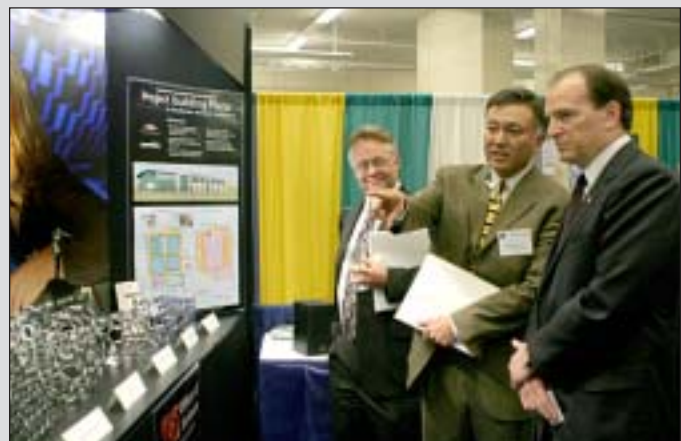
history of conducting basic research. "Science needs technology to advance beyond the frontiers, and DOE labs have excelled in science breakthroughs," he said. "These nanocenters will enhance the value of existing instrumentation at the labs and make the facilities available to a wider range of users."

BNL Director Praveen Chaudhari chaired the next session, and spoke on nanoscale research and the hydrogen economy before introducing Millie Dresselhaus, former Office of Science Director. "We see three basic research questions that need to be answered — how to produce hydrogen, how to store it, and how to use it," said Chaudhari. "Nanoscience may offer solutions for all three."

Chaudhari then gave examples of technologies in each of these research areas (two involving work done at BNL), and talked about the special challenges facing scientists working at such microscopic scales.



BNL's Praveen Chaudhari



At the BNL display at the DOE Nano Summit, Deputy Secretary of Energy Kyle McSlarrow (right) talks about BNL's Center for Functional Nanomaterials with the Lab's Robert Hwang (center) and Doon Gibbs.

Among several other speakers at the summit were Pat Dehmer, Associate Director of DOE's Office of Basic Energy Sciences (BES), and Nobel Prize-winning nano researcher Richard Smalley. During her talk, Dehmer recognized BNL for its role in producing a report, distributed at the meeting, on "Nanoscience Research for Energy Needs," that was based on an interagency workshop sponsored in March by the National Science and Technology Council's Subcommittee on Nanoscale Science, Engineering & Technology and BES. Dehmer referred to the report as "the third leg" of DOE's roadmap for securing the nation's energy future, joining two earlier BES reports, and added thanks to the staff at BNL for successful efforts in producing the report. — Peter Genzer

## Peter Paul Retires as Deputy Director Peter Bond Named Interim Deputy Director



Peter Paul

Roger Stoulenburgh CNZ-203-01

Peter Paul retires from the post of Deputy Director for Science & Technology, effective today, July 2, to return to Stony Brook University as Distinguished Service Professor of Physics, the position he held before joining BNL. He will maintain a presence at the Laboratory as Special Assistant to the Director. Lab Director Praveen Chaudhari has asked Peter Bond, Physics Department, to serve as Interim Deputy Director for Science & Technology, effective July 3.

Peter Paul joined BNL in his current position on March 1, 1998, when BSA took over the Lab's management. He stepped in as BNL's Interim Director when John Marburger was called to Washington, D.C., in October 2001 to become the Director of the Office of Science & Technology Policy. When Chaudhari became Director, April 1, 2003, Paul again became Deputy Director for Science & Technology.

Said Chaudhari, "The one thing that has struck me about Peter Paul is his passionate involvement in the Laboratory and its science. Brookhaven's welfare has always been first in his heart."

Peter Bond came to BNL Physics Department in 1972 as an assistant physicist, becoming Physics Chair in 1987. In 1997, during a transition period for BNL, he served as an Interim Director. In March 1998, Marburger became Director, and Bond was named Special Assistant to the Director. Bond returned to Physics in 2000 after a year at the Office of Science & Technology Policy. In 2002, he became Acting Direc-



Peter Bond

Roger Stoulenburgh CNZ-44-88

tor of the Information Technology Division, returning to Physics as a senior physicist in 2003.

Said Chaudhari, "I have used Peter's help in a variety of ways ranging from issues in science and operations to DOE and DHS relations. His response and actions have always been of the highest quality. He has a very broad knowledge of the Lab, and a firm commitment to its welfare and future success. I am looking forward to working with him."

## Center for Functional Nanomaterials Holds First Annual Users' Meeting

*CFN planned as a nanoscience environment where techniques interface, scientists interact*



Roger Stoulenburgh DAN0504

Among the speakers at the first CFN Users Meeting were: (from left) Chris Murray, IBM; Robert Hwang, BNL; and Clayton Teague, National Nanotechnology Coordination Office.

Excitement over the research possibilities that the Lab's new Center for Functional Nanomaterials (CFN) will offer scientists dominated the first annual CFN Users' Meeting, held at BNL on Wednesday and Thursday, May 19-20.

Highlights from the main session on Thursday morning included a welcome from BNL

Director Praveen Chaudhari and Interim Associate Laboratory Director for Basic Energy Sciences Doon Gibbs, an overview of the facility by CFN Director Robert Hwang, remarks from Pedro Montano, Program Manager for

X-Ray & Neutron User Facilities in DOE's Basic Energy Sciences in the Office of Science, and a "View From Washington" by Director of the National Nanotechnology Coordination Office Clayton Teague. Other speakers included

Jens Norskov, Technical University of Denmark; Chris Murray, IBM; and Vicki Colvin, Director of the Center for Biological & Environmental Nanotechnology (CBEN) at Rice University.

"What a great day for us," remarked Gibbs as he opened the morning session of the first official CFN users meeting. "We

(continued on page 2)

*The CFN environment "makes things happen and new ideas germinate,"*  
— Robert Hwang

**BSA Distinguished Lecture, 7/12  
Public Radio Host John Lienhard:  
'How Engineers, Scientists See'**

story on page 3

## CFN Construction Planning Advances

The Center for Functional Nanomaterials (CFN) project recently received "Critical Decision (CD) - 2, Approve Performance Baseline" from DOE. Critical decisions identify the exit points from one phase of a project and entry to the succeeding phase. Each decision marks an increase in commitment of resources and is based on a successful and complete preceding phase.

One key activity in this phase is the external independent review, held March 22-26, to assist in the validation of the proposed technical, cost, and schedule baseline and to assess the overall status of the project management and control system. The CFN Project had a successful review, and DOE's review board signed off on the CD-2 on May 21.

CFN construction on the current site of the Teachers Federal Credit Union is planned to start in late spring of 2005, with building occupancy and technical equipment installation to begin in early 2007.

The total CFN project cost is \$81 million, with about \$9 million planned for engineering/design and project management, \$33 million for building construction, \$28 million for technical equipment, and \$11 million for contingency.

— Peter Genzer

To view a CFN video, with a new architectural "fly-through" of the facility, go to the WBNL streaming video page ([www.bnl.gov/video](http://www.bnl.gov/video)) and scroll down to "General BNL Videos."

## Calendar of Laboratory Events

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

### — EACH WEEK —

#### 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](http://www.bnl.gov/esol/schedule.html) for schedule. Jen Lynch, Ext. 4894.

#### Monday: BNL Gospel Choir

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

#### Mon., Tues., & Thurs.: Kickboxing

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

#### Mon., Thurs., & Fri.: Tai Chi

Noon-12:45 p.m., Brookhaven Center North Room. Adam Rusek, Ext. 5830 or [rusek@bnl.gov](mailto:rusek@bnl.gov).

#### Tuesdays: Welcome Coffee

10-11:30 a.m., Apartment area gazebo/playground. The first Tuesday of every month is special for Lab newcomers and leaving guests. Monique de la Beij, 399-7656.

#### 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](http://www.bnl.gov/bera/activities/toastmasters/default.htm).

#### Tues. & Thurs: Upton Nursery School

The school is on summer break. Contact Alison Tilp, Ext. 4465, or [tilp@bnl.gov](mailto:tilp@bnl.gov), for information on Sept. enrollment.

#### Wednesdays: On-Site Play Group

10 a.m.-noon. Apartment area gazebo/playground. An infant/toddler drop-in event. Parents meet while children play. Kati Petreczky, 821-4131.

#### Wednesdays: Farmer's Market

11:30 a.m.-1:30 p.m., Berkner Hall parking lot.

#### Wednesdays: Weight Watchers

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

#### Wednesdays: Yoga Practice

Noon-1 p.m., Brookhaven Center. Free. Ila Campbell, Ext. 2206.

#### Wednesdays: Open Chess Night

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

#### Thursdays: Reiki Healing Class

Noon-1 p.m., Bldg. 211. Nicole Bernholz, 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](mailto:rudy@bnl.gov).

### — NEXT WEEK —

#### Monday, Tuesday, 7/5 & 6

##### Lab Holidays, 7/5 & 6

The Lab will be closed on Monday and Tuesday in observance of the July 4 holiday. No Bulletin will appear on Friday, 7/9.

The cafeteria will be open Saturday July 3 through Tuesday July 6, on weekend hours: 7:30 a.m. to 2 p.m. offering a limited menu. The Brookhaven Center Club will be closed for these days.

The Upton branch of the U.S. Postal Service will be closed on Monday, July 5, and will re-open on Tuesday, July 6.

#### Wednesday, 7/7

##### \*BSA Noon Recital: Pianofest, Part 1

Noon, Berkner Hall. In this, the sixteenth year of Pianofest, the summer workshop in the Hamptons, its director, Paul Schenly, will bring a number of outstanding young pianists to the Berkner Hall stage to demonstrate their talents. Noon recitals are free and open to the public. All visitors to the Lab of 16 and over must bring a photo ID.

## New Lab Policy: Bikers Must Wear a Bicycle Helmet

As part of BNL's policy of "making safety personal," and in view of the ever-mounting number of bicyclists around the site, the BNL Policy Council is issuing a new policy on the use of bicycle helmets. The council believes that the new policy, which requires all on-site bikers to wear helmets, is consistent with good safety practices used at work and at home.

Often, BNLeers who ride bicycles off site, whether to ride to work or just to get the paper from the nearest deli, wear a helmet. Yet, many of those people ride on site without a helmet, thinking that traffic is

slower and accidents unlikely.

One BNLeer, who always wears a helmet on site or off, knows that wearing a helmet is worth the effort.

"About two years ago," says Nick Gmur of the National Synchrotron Light Source Department, "as I was making a sharp turn on my bicycle on an uneven road surface on site, my inner pedal hit a piece of paving that was higher than the rest of the road at that point.

"The bike lurched and I pitched over the handlebars, landing on my shoulder and hitting my head on the pavement," Gmur continued. "The impact cracked my helmet, but I was fine, although shaken. I am a fairly experienced rider, and this was unexpected for me. I was glad that I was wearing the helmet. Helmets are cheap: heads are not!"

Another lab biker, Trevor Sears of the Chemistry Department, who has competed in bicycle races for over 30 years, wears his helmet at all times. "I have seen and been involved in many high speed spills, and helmets have saved my head from serious injury several times," he said. "Wearing a helmet is a sensible precaution."

"All our family goes bike riding, and we all wear helmets," agreed Susan Sears of Community, Education, Government &



### Wear-a-Helmet Bike Policy: Guidelines

The new bicycle helmet policy is effective immediately, with an initial 30-day "grace" period during which bikers without helmets will be informed of or reminded of the new policy by security personnel, informational posters at Lab mail stops, and an announcement in the Monday Memo.

The policy states that anyone riding a bicycle on BNL property must wear a bicycle helmet that conforms to the Consumer Product Safety Commission (CPSC) standard.

#### Responsibilities:

1. First-line supervisors must issue a helmet to any individual who is assigned a Lab bicycle and ensure that the helmets are worn. Bicycle helmets that conform to the CPSC standard are purchased and maintained in inventory (K-70300 = small bicycle helmet, K-70302 = medium bicycle helmet, K-70304 = large/extra large bicycle helmet)

2. Department Chairs are responsible for enforcing bicycle helmet use. Infractions of this policy will be considered safety violations, and should be noted during an employee's performance appraisal. As with any site safety violation, repeat violations could result in verbal warnings, written warnings, suspensions, salary adjustments, or termination of employment.

3. Bicycle riders are responsible for properly wearing their helmet and for obeying the New York State rules for traffic safety as they apply to bicycles (for example, stopping at stop signs; riding on the right, not the left side of the road). Anyone who is issued a Lab-owned bicycle and helmet is responsible for operating and maintaining this equipment in proper working condition.

Public Affairs, Trevor's wife. "I wear my helmet on site and off — it's like buckling your seat belt. You may never need it, but it's an easy precaution that may save you from a real disaster."

Bicycle-related accidents on site have not been a major problem. But each event represents

a person who might be injured, and a helmet lessens the risk. So, the Policy Council discussed the topic and decided that, on the Lab site, all bicycle riders must wear a helmet that conforms to the Consumer Product Safety Commission standard. — Liz Seubert

## Center for Functional Nanomaterials Holds First Annual Users' Meeting

have made an explicit connection between two main facilities," he said, explaining how a proposal grants researchers access to both the National Synchrotron Light Source (NSLS) and the CFN.

Gibbs credited Richard Osgood, former Associate Laboratory Director for Basic Energy Sciences, for his more than two years of work that began the CFN project. "Rick was responsible for landing us on the beachhead," said Gibbs.

Chaudhari then welcomed meeting participants to the beginning of "a very bright future." He was looking forward to seeing how the CFN user culture will evolve, he said.

"I am curious to learn what your needs will be — from a few hours from now, to a few days, to the future," he said. Chaudhari discussed the Lab's 20-year vision and strategic plan and how the CFN fits in at the "boundary of basic research and applied science.

"Nanoscience is field that is somewhat 'hyped,' but this is the very beginning," Chaudhari concluded. "We will see to it that the hype comes true."

To help achieve this aim, Hwang explained, potential users were expected to contribute ideas on the CFN's scientific program and infrastructure. "We want to give everyone an opportunity to see our plans and to influence them," he said.

Hwang views the CFN as not simply an excellent facility, but as a complete environment for nanoscience — a new concept for user facilities and how they interact with the user community.

He explained that the CFN is designed to plunge scientists specializing in many different techniques and areas of investigation into an environment where their ideas can mutually catalyze one

another, and new concepts will be created. The plans are for five state-of-the-art laboratory facilities, which will include forefront capabilities in a wide range of techniques; a theory and computation center; and a set of advanced end-stations on beam lines at the NSLS. The building is designed to have many labs as close to the others as possible.

"We think that co-location of scientists makes things happen and makes new ideas germinate," said Hwang.

Pedro Montano then spoke of the importance of ensuring that the CFN's plans and program are aligned to conduct research that addresses the DOE mission. "DOE is the steward of national facilities that are open to all scientists to use for peer-reviewed research," explained Montano. "We want to ensure that we get the best results out of the system."

Montano also gave an overview of DOE funding. While there is a 6.2 percent increase in the Basic Energy Sciences' fiscal year 2005 budget, the cost of operations is also increasing. A modest increase barely keeps up with inflation, he said.

Funding considerations aside, Montano described the practical challenge of nanoscience — understanding nature at very small scales, often operating at very fast speeds. He outlined DOE's effort to develop and operate five new nanoscale science research centers at different national labs to support the synthesis, processing, fabrication, and analysis of materials at the nanoscale. To be ahead of other industrial countries is our investment in the scientific future," he concluded.

In Clayton Teague's "View from Washington," nanotechnology has "tremendous potential to improve the national

economy, national security, and quality of life." However, Teague also pointed out that there is a growing concern that appropriate attention be paid to protecting public health and the environment. The Nanotech Environmental and Health Implications Group, with membership from various government agencies, is looking at existing regulations to make sure that nanoscale-materials research is adequately covered, he said. A "best practices" document is due soon.

Teague also described growing competition in the nanotechnology field from other nations, which use the U.S. as a "funding benchmark." Looking ahead, he saw "very exciting prospects," when nanoscale research may improve environmental remediation technologies, lead to inexpensive solar cells, and quite possibly be used in advanced cancer diagnosis and treatment.

Two scientific presentations followed: Jens Norskov, Technical University of Denmark, talked about "Catalytic Hydrogen Production," and Chris Murray of IBM discussed "Nanocrystals and Nanocrystal Assemblies: Building With Artificial Atoms."

Another speaker, Vicki Colvin, described some of CBEN's research at the "wet/dry" interface between nanomaterials and aqueous systems at multiple length scales.

Colvin, who in April 2003 had testified before the U.S. House of Representatives Committee on Science in regard to the "Nanotechnology Research and Development Act of 2003," recommended responsible research to resolve potential concerns involving investigations in this new field of the very small. She pointed out that natural nanomaterials such as

volcano dust already exist in the environment, and that earth scientists are now studying these materials.

The potential impact of nanomaterials and their development was also the subject of the banquet speaker, Davis Baird, Associate Director of the South Carolina Nanocenter.

To conclude the morning session, Hwang explained the broad outlines of the CFN structure. The CFN is to be operated as a national user facility accessible to researchers through peer-reviewed proposals with the goal of achieving basic understanding of how functional materials in nanoscale form respond physically or chemically to external stimuli.

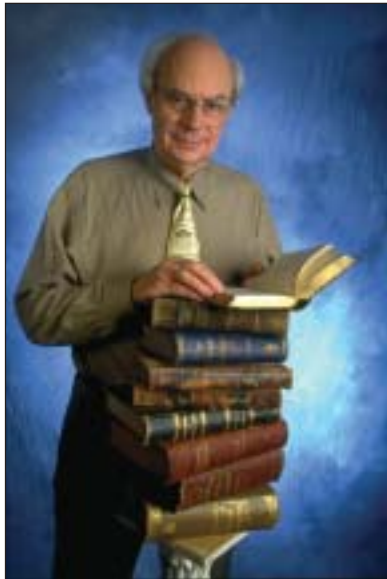
Innovative tools to help in developing these future ideas will include a low energy electron microscope which can be operated in a very wide range of environments, Hwang said. Also, five DOE labs are collaborating to build a transmission electron ab



Doon Gibbs (right), Interim Associate Laboratory Director, presents an architect's vision of the future CFN to Richard Osgood, former Associate Laboratory Director, in recognition of Osgood's significant contribution to the CFN.

**BSA Distinguished Lecture  
Public Radio Host John Lienhard:  
How Engineers, Scientists See, 7/12**

John Lienhard, public radio host, will give a talk titled "Eye of the Forehead and Eye of the Mind: How Engineers and Scientists See," on Monday, July 12, at noon in Berkner Hall. The free lecture is open to the public. All visitors to the Lab age 16 and over must bring a photo ID.



Lienhard contends that spatial visualization is the subtlest of abilities. In his talk, he will trace its evolution and texture through the past five centuries and will explain an unanticipated phenomenon that he discovered: As remarkable aids to seeing — all the way from mechanical perspective to magnetic resonance imaging — have been developed, they may have been placing mental visualization under threat.

John Lienhard received a B.S. degree in 1951 and went on to receive M.S. and Ph.D. degrees in mechanical engineering from the University of Washington and the University of California, Berkeley, respectively.

He has held faculty positions at several universities, where he has worked in the area of thermal and fluid systems. Since 1980, he has been on the faculty of the University of Houston, and, since 1989, he has been the M.D. Anderson Professor of both mechanical engineering and history there.

Lienhard is a member of the National Academy of Engineering and an honorary member of the American Society of Mechanical Engineers. Since 1988, he has written and hosted nearly 2,000 episodes of "The Engines of Our Ingenuity," a program heard nationally on public radio in the U.S. and also in Great Britain.

Note: Lienhard is giving a talk titled "The Savage Boy Inventor: How We Reinvented Childhood in the Early Twentieth Century," in Berkner Hall on Sunday, July 11, at 1:30 p.m. See Summer Sunday, page 4.

(cont'd.)

erration-corrected microscope (TEAM). TEAM will make possible all sorts of *in-situ* possibilities: heating, cooling, and much more, in a one-centimeter-small "laboratory."

"To jumpstart the program, we started in September 2003 with 71 proposals, and we've accepted 42 of these," said Hwang. "We hope to accommodate about 300 users a year at full operation."

Talks from three users, Pat Woodward, Ohio State University; Marek Malac, University of Alberta; and Donna Chen, University of South Carolina, started off the afternoon program, which continued with breakout sessions followed by an open forum for user feedback, a reception and poster/vendor session. The meeting concluded with a banquet followed by a meeting of the Science Advisory Committee. — John Galvin and Liz Seubert



Roger Stoutenburgh 04062004

Laboratory Director for Basic Energy Sciences, Center for Functional Nanomaterials (CFN) Laboratory Director for Basic Energy Sciences contributions to the CFN's inception.

**BWIS Lecture, 7/15  
Brunner on Gender, Technological Desire**

Cornelia Brunner, who has 30 years of experience in research, production, and teaching of educational technology, will give a talk on "Gender and Technological Desire," on Thursday, July 15, at noon in Berkner Hall, Room B. Sponsored by Brookhaven Women in Science, the talk is open to all. Visitors to the Laboratory age 16 and over must bring a photo ID.

Brunner maintains that there are "important gender differences in our most essential relationship with technology." In her talk, she will sketch out the meaning and implications of these differences for how we use technology, how we teach with and about it, and how we participate in larger social discourse about technological development.

In addition to conducting research projects about the relationships among learning, teaching, and technology, she has designed and implemented educational materials incorporating technologies to support inquiry-based learning and teaching in such subjects as science, social studies, and the arts.

Brunner has taught experimental courses at Bank Street College and the Media Workshop New York, in which teachers are introduced to new technologies, learn how to integrate technology into their curriculum, and learn how to use multimedia tools to design their own educational programs. Brunner is also a consultant for industry in designing educational and entertainment products.

A luncheon reception for the speaker will follow the talk. If you would like to attend the luncheon, contact Stephanie LaMontagne at Ext. 7141, or stephi@bnl.gov, by Friday, July 9.

— Diane Greenberg

**Recital**

**BSA Noon Recitals  
Pianofest: 7/7, 7/14**

Two BSA noon recitals are coming up on the Wednesdays of July 7 and 14. Three talented young pianists being featured in the annual "Pianofest in the Hamptons" musical celebration will perform at each event, with introductions being made by faculty director Paul Schenly.

BSA Noon Recitals are free and open to the public. Visitors of 16 and over must carry a photo ID.

**Safety Glass Office**

The Safety Glass Office will be closed on Wednesday, July 7, and will reopen on Wednesday, July 14. For more information, call Deborah Botts, Ext. 3888.

**Bus to NYC, 7/11**

The BNL Hospitality Committee is sponsoring a bus trip to New York City on Sunday, July 11. For details, see Calendar on this page, above, right.

**Road Closures, 7/12-16**

From July 12 to 16, the Plant Engineering Division will close several roads on site for maintenance work. Exact details of the roads involved will be on the BNL homepage and sent by Lab-wide e-mail a few days beforehand.

**Arrivals & Departures**

**Arrivals**

Tam Nguyen ..... Biology  
Angela Wefer ..... Chemistry  
Alexander Withers ..... Physics

**Departures**

James Folk ..... Plant Eng.  
David Peter ..... SSD  
Joseph Summers ..... Plant Eng.

**Retirement Counseling**

A TIAA-CREF representative will visit BNL on Monday, July 12 and Wednesday, July 14, to answer employees' questions regarding the TIAA-CREF retirement plan, such as TIAA and CREF differences, allocating funds between TIAA and CREF, options, flexibilities with TIAA-CREF, and retirement options. For a 45-minute appointment, call Valerie James, (800) 842-2733, Ext. 7980.

**Join BERA Trips!**

For more information, ask at the BERA Store in Berkner Hall, Ext. 3347. Some examples are:

- The Spirit Cruise around New York City: dinner buffet & dancing, Sat., 8/7. Leave BNL 4:30 p.m., dockside cocktail reception, 7:30 p.m.; sail, 8:30 p.m. \$82 per person, plus cash bar.
- *The Producers* Broadway show, Sat., 7/10, St. James Theatre, New York City, \$110/person for luxury coach bus, orchestra seats. Depart the Brookhaven Center at 10:30 a.m., leave the city at 6:30 p.m.

**Summer Pool  
Hours, Prices**

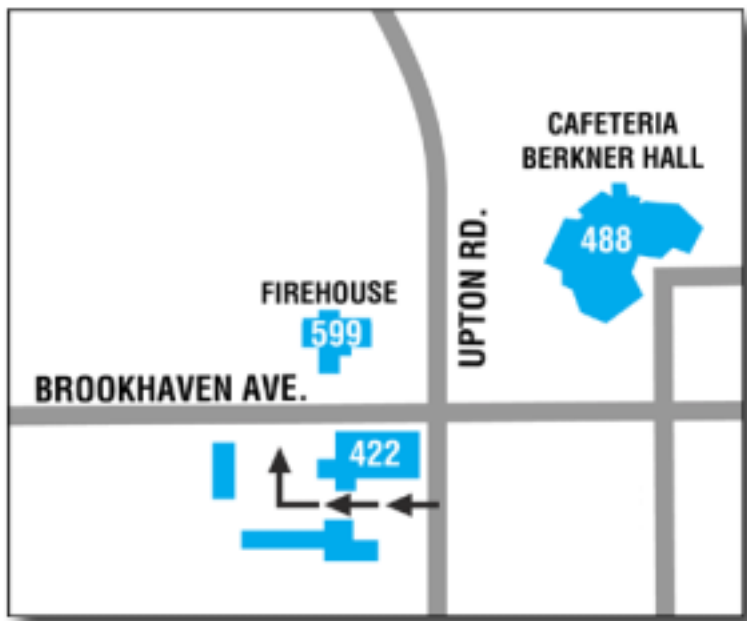
The BNL swimming pool is open Monday-Friday, 11 a.m.-2 p.m. and 5:30-8 p.m.; and on Saturdays, noon -4 p.m., for employees, facility users, visitors, and retirees. Family members and guests may use the pool 5:30-8 p.m. and on Saturdays.

Admission is \$2 for employees, facility users, visitors, retirees, and family members; \$3 for guests. Three-month season tickets are \$50 for an individual, \$60 for families; and monthly tickets are \$20 for individuals, \$30 for families.

Swim lessons for children of employees are offered during the summer, and lessons for employees and adult dependents can be arranged if there are enough requests. For information on lockers, call the BERA Sales office, Ext. 3347. For more information on the pool, go to the BERA web page at [www.bnl.gov/bera/](http://www.bnl.gov/bera/) and click on "Facilities," or call Ext. 2873.

**One-Way Access Into Bldg. Maintenance Shop Area**

On Monday, July 5, vehicle access to the Plant Engineering Building Maintenance Shops, located on the corner of Upton Road and Brookhaven Avenue, will change. Access to this area will be from the Upton Road driveway and vehicles leaving this area will must exit onto Brookhaven Avenue. Signs will be posted in this area to indicate the correct traffic pattern. For more information, contact Tom Roza, Ext. 3085 or [roza@bnl.gov](mailto:roza@bnl.gov).



**Calendar**

(continued)

**Sunday, 7/11**

**\*Start of Summer Sunday Tours**

10 a.m.-3 p.m. Sundays, 7/11 through 8/22. All are welcome to visit the Lab, see the Whiz-Bang Science Show and much more, and tour the featured facility of the day: this week, BNL's Homeland Security technologies and Instrumentation Division. Special guest John Lienhard, radio host, will talk on "The Savage Boy Inventor: How We Reinvented Childhood in the Early 20th Century," at 1:30 p.m. in Berkner Hall. See page 4 also.

**\*Hospitality Bus Trip to NYC**

\$10 per adult, \$5 per child of age 2 to 12. Bus departs from the Recreation Hall at 9 a.m., and returns at about 7:30 p.m. To make reservations, contact Hanna Herman, 849-2249, or [haniaherman@yahoo.com](mailto:haniaherman@yahoo.com). Pay on Wednesday, July 7, 10:30-11:30 a.m. in the Rec. Bldg.

**— WEEK OF 7/12 —**

**Monday, July 12**

**\*BSA Distinguished Lecture**

Noon. Berkner Hall. Public Radio Host John Lienhard will talk on "Eye of the Forehead and Eye of the Mind: How Engineers and Scientists See." This free lecture is open to the public. All visitors age 16 and over must bring a photo ID.

**Wednesday, 7/14**

**Cingular Wireless Demo**

11 a.m.-2 p.m., Berkner Hall. Representatives from Cingular Wireless will present BNLers with special rates on cellular phones and calling plans. Brian, 361-6800.

**\*BSA Noon Recital: Pianofest, Part 2**

Noon, Berkner Hall. In this, the sixteenth year of Pianofest, the summer workshop in the Hamptons, its director, Paul Schenly, will bring a number of outstanding young pianists to the Berkner Hall stage to demonstrate their talents. Noon recitals are free and open to the public. All visitors to the Lab of 16 and over must bring a photo ID.

**Sunday, 7/18**

**Summer Sunday Tour of BNL**

10 a.m.-3 p.m. Free Summer Sunday tours are open to all the Lab community and the general public. Attractions include the Whiz-Bang Science Show, a hands-on Light and Color Exhibit, and more. This week features BNL's research in the Life Sciences, including how scientists study the brain to understand addiction.

**— WEEK OF 7/19**

**Tuesday, 7/20**

**Talk on Eating Disorders**

Noon-1 p.m., Berkner Hall, Room C. Join Mather Hospital's Kathleen Jochen for a talk and videotape presentation on "Real Talk About Real People With Eating Disorders." Participants will learn about anorexia, bulimia, binge eating disorders, and Mather Hospital's Eating Disorders Program. Preregistration is required for this free talk. Check your mailbox for registration forms. For more information, contact Linda DiPierro, Ext. 2733.

**Please help others  
in Brookhaven  
Town who have  
not enough to eat  
— donate to the  
BNL Food Drive**



**Remember, give!**

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](mailto:bulletin@bnl.gov). Write "Bulletin Calendar" in the subject line.

# Summer Sundays

## BNL's July 11 Tour Features Homeland Security



Homeland Security scientist Art Sedlacek works on a laser system.



In Berkner Hall, at 1:30 p.m. on 7/11, special guest John Lienhard (left), radio host of "Engines of Our Ingenuity," will talk on "The Savage Boy Inventor: How We Reinvented Childhood in the Early 20th Century." All are welcome to this free talk.

On Sunday, July 11, BNL's Summer Sunday Tours will start. Tours are free and no reservations are needed. Visitors may arrive any time between 10 a.m. to 3 p.m. All visitors of age 16 and over must bring a photo ID.

On Sunday, July 11, visitors will learn about BNL's innovative technology in the field of homeland security, and, at the Instrumentation Division, see how printed circuits are fabricated and manufactured.

Additional attractions are: a new hands-on "Light & Color" exhibit, produced by the Oregon Museum of Science & Industry; an exhibit on the 2003 Nobel Prize in Chemistry, researched in part at BNL; a demo by high-school students of a robot they built; and the ever popular "Whiz Bang Science Show," with new special effects, to be given at 10:30 a.m., noon, and 3 p.m.

## Classified Advertisements

### LABORATORY RECRUITMENT - Opportunities for Laboratory Employees.

TB4035. SR. OFFICE SERVICES ASSISTANT (CW-3, term appointment) - Requires working knowledge of Microsoft Word, WordPerfect, and Excel, demonstrated skills and thorough knowledge of specialized field of office procedures, as well as knowledge of Laboratory practices, policies and procedures and several years of relevant work experience. Must also be flexible and willing to perform a variety of more complex clerical support tasks within two to three offices of the Division. Duties include both routine and non-routine office tasks such as data entry into multiple databases, accurate and efficient transcription of security information, and filing, as well as customer service response where good communication and interpersonal skills are essential. Safeguards and Security Division.

### OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

MK2822. POSTDOCTORAL RESEARCH ASSOCIATE (reposting) - Requires a Ph.D. in organic chemistry or biochemistry with experience in synthetic organic chemistry. In this position, focus will be on organic synthesis of surface ligands for gold nanoparticles. The functionalized gold nanoparticles will be used to target specific sites on proteins for structural studies by high resolution electron microscopy. Knowledge of nanoparticles and biological molecules desirable. Under the direction of J. Hainfeld, Biology Department.

### Motor Vehicle & Supplies

99 CHRYSLER CONCORDE - a/t, a/c, p/s, p/b, p/w, V6, 2.7L, low mi., Lo-Jack sec., more, gar., new tires, excel. \$7,500. 924-4147.  
99 FORD ESCORT ZX2 - a/c, 5spd, 2dr., moonroof, excel. cond., 57K mi., \$4,400. John, 648-3927.  
99 GMC SAVANA VAN - 49K mi., 1-yr. warr., new brakes & tires, excel. cond., \$15,000. Robert, 929-3092.  
99 JEEP WRANGLER - soft top, inter. rims, tires, etc. Ken, 289-4818.  
99 SATURN SL2 - a/t, a/c/p/b, p/s, p/w, sunroof, new brakes & batt., alarm, gd. cond., 102K hwy. mi., \$4,100. Lisa, Ext. 7524.  
98 HYUNDAI ACCENT - a/t, a/c, p/s, p/b, excel. cond., ask \$1,600. Ext. 8603, 671-9781.  
95 FORD TAURUS GL SEDAN - all pwr. 6cyl., abs, 4dr., orig. owner, runs well, maint., \$2,600/neg. Mike, 929-4716, eves.  
94 FORD MUSTANG GT - 5spd, a/c, p/s, p/b, alum. wheels, new wide tires, 90K mi., runs well, \$3,000. Cynthia, 924-6475.  
94 MITSUBISHI MIRAGE S - a/t, a/c, p/l, p/s, new tires, muffler & brakes, 124K mi., Henry, Ext. 3413 or 399-6947.  
92 CHEVY BLAZER S-10 - excel. cond., ask \$2,500/obo. Tom, Ext. 3085 or 744-4535.  
91 ISUZU RODEO - new tires & exhaust, runs well, looks great, needs windshield, orig. owner, \$1,100 Rich, Ext. 5319, 472-4377.  
88 PROWLER 24P - bunk beds, sleeps 7, full bath, air, 2 dining areas, rebuilt reffrig., excel. cond., \$3,800. Norman, 399-1125.  
BED LINER - for 8' full-size '73 & newer Ford pick up, gd. cond., \$25. Shea, Ext. 3260 or 653-4125.  
TOOL BOX - Weather Guard steel cross-bed, 2 wing-type locking drs. for stepside or mini pick-up, ask \$100. 878-8302.

### Boats & Marine Supplies

20' IMPERIAL CUDDY CABIN - '85, trailer, mint, ready to go, make offer. Tony, 298-1932.  
19' GRADY WHITE - '84, Tournament w/130 hp Yamaha, trailer, full encl. VHF swim platform, more, ask \$11,000. 878-8302.  
15' VANGUARD SAILBOAT - '98, vg. cond., galv. trlr., Seitech dolly, deck cvr., blade bag, new lines, \$3,700. Marita, Ext. 3060, 689-3853.  
14' AMF SUNFISH - Hull & sail in gd. cond., perf. beginner, not a racer, \$225. 734-7342.  
OUTBOARD ENGINE - '94 40hp force w/1 cul. low comp. easy fix or gd. parts, many new, \$500/neg. Ken, 289-4818.

### Furnishings & Appliances

AIR CONDITIONER - GE, 6,000 Btu, \$50. Jag, Ext. 5080 or 751-1884.  
AIR CONDITIONER - 7,000 Btu, portable, used 1 season, \$200. Norman, 399-1125.  
BEDROOM SET - Lexington, girl's white, 5pc., more, orig. \$2,000, ask \$900; Feather bed, full size. Michelle, 821-3762.  
DINING ROOM SET - walnut table w/ leaves & pads, china closet & 6 chairs, gd. cond., \$200. Lou, 277-2671.  
DRYER - Roper, elec., xl capacity, gd. cond., \$125. Greg, Ext. 7810.  
KITCHEN SET - wood table & 4 upholstered chairs, leaf stores in table, \$150/obo. Patricia, Ext. 2939.  
LIVING ROOM - like new, wood end tables, lamps, kit. set, slipcovers for sofa & love seat, Lay-z-boy chair, futon. Angela, Ext. 5944.  
MICROWAVE OVEN - Emerson, 1,000w, small turntable, perfect for office, ask \$20. Patrick, 696-9139.  
REFRIGERATOR - GE, s-by-s, 22 cu. ft., almond, v.gd. cond., \$300. Randy, 736-5259.  
REFRIGERATOR - Magic Chef, s-by-s, excel., bone, blemish free, ask \$300. 744-8087.  
SOFA - 2 pieces, wooden, high back, gd. cond., \$200. Jan, Ext. 7212.  
WINDOW - white replacmnt., 32"x38" dbl. hung, clr. Thmopane glass, full screen, brand new, \$100. Richard, Ext. 3239, 472-9034.

### Tools, House & Garden

LAWN TRACTOR - Toro Wheel Horse, 15 hp, 44" deck, 2 sets blades, incl. mulching, runs well, \$850. Joann, Ext. 7459 or 929-1981.  
SHRUBS - 1' & 2' high fig trees, potted, \$5 & \$10/ea.; potted hydrangeas, 2 yrs. old, \$5/ea. 744-5867.  
VACUUM - Hoover, self-prop., upright, all attachmts., orig. \$350, \$150/obo. 447-5377.

### Sports, Hobbies & Pets

BICYCLES - women's Murray, 26", 15spd. Mtn. bike, \$40; 1 men's Ross, 27", 10spd., \$30, both bikes gd. cond., Walter, 567-9025.  
FISH TANK - 150 gal. oceanic saltwater setup, wet/dry filter, extras, washed oak cabinet, \$800. Marcia, Ext. 4120, 399-5189.  
SOLOFLEX MACHINE - like new, all attachmts., from legs to lats, over 250lbs. of resistance, \$165/obo. Gary, 864-8119.  
TICKETS - 2 for Prince, Musicology Tour at MSG, Mon., 7/12, 7:30 p.m., \$70/ea. Bob, Ext. 7859.  
TICKETS - 2 for *Othello*, Mon., 9/27, 7:30 p.m., Metropolitan Opera, 2nd. row balc. center, \$60/ea. Carmen, Ext. 4135.

### Audio, Video & Computers

COMPUTER - Pentium 266 Mhz, 64Mb ram, 9Gb, 15" mon., floppy, cdrom, spkrs., kybrd., nic, mouse, \$75/neg. Tony, Ext. 8450.  
DELL - 1Ghz CPU, 256Mb ram, 20Gb hd, cdw, 17" mon., Win2K, MS Off., \$300; w/o mon., \$250. Don, Ext. 7237 or 929-6571.

PRINTER - Okidata 800 Laser, 3 ltr. size trays or legal size trays avail., \$5/ea. Debbie, Ext. 8276, 286-0654.

TV/VCR - 20" Panasonic, color, remote control, 1 1/2 yrs. old, excel. cond., \$75. Fred, Ext. 5319, 369-9720.

### Miscellaneous

BABY ITEMS/WEDDING DRESS - never worn, \$200/obo; baby cradle & changing table matching set, \$100. Hollis, 949-1132.  
JACKET - leather, motor cycle type, size 46, \$45. Bob, Ext. 7238.  
WHEEL CHAIR - Pronto, elec., 1 yr. old, \$1,200; Nordic Rider exerc. mach., \$100; AB-Doer exerc. mach. w/video, \$50. 298-0148.

### Lost & Found

LOST - sunglasses & toolkit, size & shape of a credit card, reads, "Toologic". Chris, Ext. 5472.

### Free

FIREWOOD - 2 large oak trees downed, cut in big pieces. You pick up. Joe, Ext. 2384.

### Wanted

BICYCLE TRAILER - cheap, John, Ext. 7120.  
GARDEN ASSISTANCE - for retiree, southeast Patchogue Vill., 12-1 p.m. Alyce, 447-5377.  
POOL STEPS - for above ground pool, reasonable. Bob, Ext. 7238.

### In Appreciation

My sincere thanks for the kindness and thoughtfulness shown by all my friends at BNL following the recent loss of my mother. — Kevin Brown

### For Rent

EAST MORICHES - share fum. 2-bdrm. house, own bdrm., ac/cbl/phone, 300' to beach, 10 mi. to Lab, single, non smkr. 744-8386.  
FARMINGVILLE - lg. studio apt., use of backyd. and pool, priv. ent., no smkg./pets, \$800/incl. util. John, 732-2472.  
SHIRLEY - 3-bdrm. ranch, priv. area, 1 bath, eik, great rm. w/tp, glass drs. to deck, attach. gar., fenced back yd., \$1,500/mo. 281-6551.  
SHOREHAM - 1 bdrm. in 2-story house, full fum., sep. bath, priv. prkg., \$520/util. incl. cable, wireless network. Zhangbu, 821-1183.  
STONY BROOK - 2 - 3-bdrm. house, 1 bath, close to SB Village, north of 25A, \$1,800/mo. Yako, 474-1243.  
ALEXANDRA, NH - on Newfound lake, 2 bdrm., 2 bath, sleeps 6, 50s decor., \$1,000/wk., Ed, Ext. 4188 or 750-3169.  
CATSKILLS - nr. Windham, Hunter, 3 bdrm., chalet w/sleep loft, fully fum., hike, swim, golf, game farm. Kay, Ext. 4501, Bea, Ext. 3642.  
KISSIMMEE FL - 5-bdrm., 4 bath, priv. pool/8 pers. spa, tennis, soccer, playgrd, 3 mi. to Disney, \$875-\$1,225/wk. Carrie, 878-6968.

### For Sale

MILLER PLACE - 3-bdrm. ranch, N. 25A, Rustic St., shy 1/2 acre, park-like setting, \$379,000. Will, 379-5115.  
SOUND BEACH - 3-bdrm., eik, l/r, d/r, bsmt., 2-car gar., deck, Miller Pl. SD, low taxes, \$319,900. Louis, Ext. 4323 or 744-1645.

### On-Site Service Station

AIR-CONDITIONING SPECIAL, \$59.95 - From July 2-15, Upton Industries Inc., the on-site service station offers savings of \$30 off regular the air-conditioning service price. The \$59.95 includes: evacuating the system, testing under vacuum & pressure, installing tracer dye and filling the system with freon. Note: Old freon will be reused, but oil, any new freon, & parts cost extra. Ext. 4304.  
*Ads omitted for lack of space will run July 16.*

## Creative Corner

The Bulletin welcomes photos, descriptions, drawings, or other examples of BNLers' creativity to publish as space permits. Venus's transit of the Sun inspired photos by Rick Jackimowicz, Superconducting Magnet Division, and a photo-account by Phil Harrington, Training & Qualifications Program Office. To see the photos in color, go to [www.bnl.gov/bnlweb/pubaf/bulletin.html](http://www.bnl.gov/bnlweb/pubaf/bulletin.html).

### Venus Transits the Sun, June 8

Astronomical history was made well before dawn on Tuesday, June 8. That morning, as North America slept, the planet Venus began a slow transit across the face of the sun as seen from earth. Half a world away, eyes were glued to telescopes and cameras as our sister planet slowly crept across the solar disk. By the time the sun rose here several hours later, Venus had nearly completed its transit. Astronomers in the eastern United States and Canada had to make do with watching Venus exit the sun some two hours after dawn.

Unfortunately, on Long Island, an impenetrable layer of clouds blocked the moment of sunrise. For those who had looked forward to witnessing this event, it was a heartbreaking sight. But, just as forecast, clouds slowly began to break some 45 minutes after sunrise, affording those who persevered a chance to glimpse an event that no one alive had ever seen firsthand. The last transits of Venus took place in 1878 and 1882.

Transits of Venus occur in pairs separated by eight years, with more than a century in between successive pairs. The next will occur on June 6, 2012. From Long Island, we will see the beginning of the transit, but the sun will have set before its conclusion. After that, the next transit of Venus will take place on December 11, 2117. — Phil Harrington



To get this photograph, Phil Harrington set up his specially filtered telescope and camera at Makamah Beach in Northport. His photo reveals the sun slowly emerging from the clouds, blemished by the silhouette of Venus. Thirty minutes after this photo was taken, Harrington reports that the clouds had completely dissipated, giving an unobstructed view of the event's conclusion.



Rick Jackimowicz, BNL Astronomical Society's Vice President, was also up rather early on June 8. Venus emerged from the morning haze at about 6:50 a.m., he said, but there were still lingering clouds. Jackimowicz took the two photos above with a Nikon D100 digital camera, at 7:05 a.m. and 7:13 a.m., using a 4-inch refractor telescope with a Hershel wedge and solar filter.