

## Biological Serendipity Molecular Details of Cell Membrane Fusion Revealed

For the first time, scientists have observed the molecular details of biological cells fusing together, a fleeting event never before observed at this scale. This research, which could lead to more efficient drug delivery processes and gene-therapy techniques, was performed at BNL's National Synchrotron Light Source (NSLS) and Rice University. The results appear in the September 13, 2002, issue of *Science*.

Cellular membrane fusion is well known to scientists and is one of the most common ways for molecules to enter or exit cells, in processes for example such as fertilization and viral infection. When two cells fuse together, their membranes come together at one location and create a connection between the cells that allows the exchange of material between them. Eventually, the two membranes form one single, continuous membrane surrounding the contents of both cells.

"We have now confirmed the existence of a temporary structure that occurs during membrane fusion and long postulated by scientists," says Lin Yang, a postdoctoral physicist at the NSLS and the lead author of the study.

Yang and coauthor Huey Huang, professor of physics and astronomy at Rice University, with whom Yang did his doctoral studies, made their observation by serendipity, while studying how certain small proteins kill bacteria by digging holes into bacterial membranes.

"We were trying to understand how changes in humidity and temperature affect the properties of a certain type of cell membrane," Yang says, "when, amid our results, we observed this structure that nobody had ever seen. That was pretty exciting."

To reveal the structure of the fused cell membranes, the scientists used a method called x-ray diffraction. They first produced small crystals composed of stacks of membranes made of phospholipids. Then, they projected x-rays produced by the NSLS toward the crystals. By looking at how the x-rays scattered off the crystals, Yang and Huang measured a pattern of points with varying intensities called a diffraction pattern, which represents a map of the atomic structure of the phospholipid layers in the membranes.

"We noticed that, by changing the humidity, we could significantly alter the structure of the membrane," Yang says. *(continued on page 2)*



Lin Yang

Roger Stoufenburgh D0030902

## BNL Plays Major Role in Air Pollution Studies

As we bid farewell to summer, alerts about poor air quality should become less frequent. But, scientists from BNL's Atmospheric Sciences Division in the Department of Environmental Sciences, won't let that stop their efforts to understand air pollution all around the U.S., so that better efforts may be made to control it.

"We have to understand these pollutants, where they come from, why their concentrations are so high, because they have very significant effects on people, especially older people who have health problems," said atmospheric chemist Peter Daum, who leads the group.

Recently, this group announced results from one of the most comprehensive U.S. air pollution studies ever conducted, in Houston, Texas. They also began another major air-sampling effort in the skies over upstate New York and New England.

### Texas Study Results

In the Texas 2000 Air Quality Study — a collaborative effort involving hundreds of researchers from more than 40 public, private, and academic institutions led by Daum and funded by DOE, the U.S. Environmental Protection Agency, and the Texas Natural Resource Conservation Commission — the scientists identified specific volatile organic compounds (VOCs) as key sources of excess ozone smog in industrial areas of Houston. These pollutants appear to be different from traditional sources of ozone pollution in typical urban areas around the country. The findings appeared in the May 28 on-line issue of *Geophysical Research Letters*.

"A clear understanding of the complex causes of ozone pollution will help to identify cost-effective ways to control smog and protect public health," said BNL's Larry



BNL scientists are working to understand the behavior of atmospheric pollutants. Pictured above (from left) are researchers from BNL's Atmospheric Sciences Division: Gunnar Senum; Peter Daum, Group Leader; Linda Nunnermacker; Stephen Springston; Xiao-Ying Yu; Larry Kleinman; and Yin-Nan Lee. Recently, this group announced results from one of the most comprehensive U.S. air pollution studies ever conducted, in Houston, Texas.

Joseph Rubino D1750902

Brookhaven team conducted air-sampling flights during August and September 2000 over the Houston-Galveston area — which experiences the country's highest ozone levels. The main research tool was a Grumman Gulfstream-1 aircraft operated by Pacific Northwest National Laboratory (PNNL), carrying sophisticated instrumentation developed at BNL.

"We use the plane because it has the ability to sample over a broad range of distances and to look vertically in the atmosphere so we can understand how pollutants are distributed in space and how they relate to relevant sources," said Daum.

The scientists flew over "clean" background areas and over urban and industrial areas with high emission rates of nitrogen oxides and volatile organic compounds, as well as downwind from these sources in regions where ozone is expected to form.

On each flight, the scientists measured levels of ozone, ozone precursors, and photochemical oxidation products. They were then able to calculate the ozone-production rate for each of the flight areas. For the *GRL* paper, they compared the Houston findings with data collected during several previous DOE-sponsored air quality studies *(continued on page 3)*

## Report From the Annual RHIC & AGS Users' Meeting

At the annual RHIC and AGS Users' Meeting, held at BNL September 20 and 21, the focus was the significant results produced by both the Relativistic Heavy Ion Collider (RHIC) and the Alternating Gradient Synchrotron (AGS) over the past year, and a look to the future in times of tight budgets. Ohio State University physicist Mike Lisa, Chair of the annual meeting organizing committee of the Users' Executive Committee (UEC), who opened the meeting, also discussed the broadening community of users beyond an "already rich program in particle, spin, and nuclear physics" with the addition of new programs in radiobiology at the AGS and accelerator physics at the Accelerator Test Facility (ATF).

Highlights of the Friday morning session included presentations by DOE's Dennis Kovar, Director of the Office of Science's Division of Nuclear Physics; Brad Keister, Director of the Nuclear Physics Division of the National Science Foundation (NSF); and BNL Interim Director Peter Paul.

### From the DOE

Kovar pointed out key accomplishments of the DOE nuclear physics program, including the latest results from the Sudbury Neutrino Observatory showing evidence for neutrino oscillations, and the many discoveries coming out of RHIC.



Dennis Kovar, Director of the Office of Science's Division of Nuclear Physics

Roger Stoufenburgh D0070902

"It is a very exciting program, of which RHIC is one of the flagships," he said. As Kovar explained, a recent operational review found RHIC to be well-managed with optimal use of resources in the production of "outstanding science."

The future budget picture is not yet clearly in focus, and there will be many competing issues, including homeland security and the economy, Kovar said. But he emphasized that no facilities will have to be cut, and he anticipates funding for increased operations at RHIC. He also expects to see research and development funding for RHIC II, which will give the collider a two-fold upgrade in luminosity, and eRHIC, an electron-ion collider that will extend the reach of RHIC physics.

On the downside, Kovar said, there is at present no money for the high-energy or medium-energy nuclear physics programs at the AGS — which have produced exciting results from the muon g-2 and rare kaon decay experiments in the last year.

He commented that the funding for nuclear physics is dominated by two of the field's five thrust areas (quark structure and the phases of nuclear matter) to the relative exclusion of the other three (nuclear structure and dynamics, nuclear astrophysics, and fundamental symmetries). He also commented upon a "disturbing trend" in the declining number of doctoral degrees produced by the nuclear physics programs.

Kovar emphasized that, in addition to doing great science, the attendees should convince people outside the field of the value of nuclear physics research.

**Need to Communicate**  
The need for communicating the importance of basic research was echoed in succeeding talks by NSF's Brad Keister and BNL's Peter Paul.

With a budget that is "somewhere between difficult and painful," Keister said, *(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 Lollipop House and the laundry in the apartment area.
- The Recreation Building (Rec. Bldg.) 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.

#### 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. Mary Wood, Ext. 5923, or wood2@bnl.gov.

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

Noon-12:45 p.m., Rec. Bldg. Scott Bradley, Ext. 5745, bradley@bnl.gov.

#### Mondays: BNL Dance Club Ballroom, Latin & Swing Practice

5:30-7 p.m. North Ballroom, Brookhaven Center, except Lab holidays. Jean Logan, [jlogan@bnl.gov](mailto:jlogan@bnl.gov) or Ext. 4391.

#### Tuesdays: Welcome Coffee

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

#### Tuesdays: BNL Music Club

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

#### Tuesdays: Aqua Aerobics

5:15-6:15 p.m. \$2 pool fee per class or use pool pass. Mary Wood, Ext. 5923.

#### Tuesdays: BNL Dance Club Individual & Couples instruction

5-11 p.m. North Ballroom, Brookhaven Center. Ron Ondrovic, [ondrovic@bnl.gov](mailto:ondrovic@bnl.gov) or Ext. 4553.

#### 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).

#### Tuesdays & Thursdays: Aerobics

5:15-6:30 p.m., \$4 per class. Rec. Bldg. Pat Flood, Ext. 7886.

#### Wednesdays: On-Site Play Group

10 a.m.-noon. Rec. Bldg. A infant/toddler drop-in event. Parents meet while children play. Svetlana Agafonova, 205-5065.

#### Wednesdays: Farmer's Market

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

#### Wednesdays: Hispanic Heritage Club

11:30 a.m., Berkner Hall, Room D. All are welcome. Carmen Narvaez, Ext. 3254, or [www.bnl.gov/bera/activities/hispanic](http://www.bnl.gov/bera/activities/hispanic).

#### Wednesdays: Weight Watchers

Noon-1 p.m., Brookhaven Center South Room. Mary Wood, Ext. 5923, wood2@bnl.gov.

#### Wednesdays: Yoga Practice

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

#### Wednesdays: Exercise 101

5:15-6 p.m., Rec. Bldg. \$4 per class or \$35 for 10 classes. Stretching, low-impact aerobics, and other exercises. Pat Flood, Ext. 7886.

#### Wednesdays: Dance Club Group Lessons

5-9 p.m. North Ballroom, Brookhaven Center. Marsha Belford, [belford@bnl.gov](mailto:belford@bnl.gov) or Ext. 5053.

#### Thursdays: Science Discussion Group

12:30-1:30 p.m., Berkner Hall, Room A or D. Patrice Pages, Ext. 3270, [pages@bnl.gov](mailto:pages@bnl.gov).

#### Fridays: BNL Social & Cultural Club

8-11:30 p.m., Brookhaven Ctr., social. Rudy Alforque, Ext. 4733, [rudy@bnl.gov](mailto:rudy@bnl.gov).

#### Saturdays: BNL Dance Club Monthly Ballroom Dance Social

8-11:30 p.m. Ballroom, Latin & swing dancing. North Ballroom, Brookhaven Center. 10/5, 11/9, Tuesday 12/31, 1/25, 2/15, 3/15, 4/12, 5/17. Marsha Belford, [belford@bnl.gov](mailto:belford@bnl.gov) or Ext. 5053.

### — THIS WEEKEND —

#### Friday, 10/4

#### Pine Barrens Research Forum

Berkner Hall. This year, the 7th annual forum will focus on problem species. Paper presentations are scheduled on Thursday from 8 a.m. to 5 p.m. and field trips to the Fire Island National Seashore and the Peconic River pilot projects are planned for Friday. For more information, contact Tim Green, Ext. 3091, [tgreen@bnl.gov](mailto:tgreen@bnl.gov).

#### Saturday, 10/5

#### Bronx Zoo Bus Trip

Bus leaves the Rec. Bldg. at 9 a.m. and departs the zoo at 5 p.m. For more information and reservations, contact Sarah Paul, 776-2349.

#### Defensive Driving

9 a.m. to 3:30 p.m., Berkner Hall, Room B. The course is open to BNL, BSA, and DOE employees, BNL facility-users and guests, and their families.

## Symposium in Memory Of Victor Emery



The Physics Department will hold a reception and day-long series of seminars and reminiscences in memory of the late Victor Emery, who had been a member of the Physics Department since 1964.

Emery made significant contributions to a variety of topics in solid-state physics and was one of the world's leading theorists in superconductivity and the study of phase transitions.

The symposium will be held on Friday, October 11, from 9:30 a.m. to 5 p.m. in the Physics Department Seminar Room, Bldg. 510.

Many distinguished speakers in the field of solid-state physics, including two Nobel laureates — David Lee of Cornell University and Philip Anderson of Princeton University — are scheduled to give talks at the meeting.

A reception and dinner will be held after the meeting in Berkner Hall at 6 p.m. The cost for the dinner is \$30, and reservations are required. For more information, go to [www.bnl.gov/bnlweb/emery.htm](http://www.bnl.gov/bnlweb/emery.htm). For dinner reservations, contact Sharon Smith, Ext. 3995.

## Cell Membrane Fusion (cont'd.)



For certain humidity values, the scientists noticed that, instead of displaying a single line of regularly spaced points, the diffraction pattern revealed many more points at other positions. By studying these diffraction patterns more closely, the scientists realized that these patterns were those of two membranes caught in the act of fusing.

The diffraction pattern showed that, when the two membranes fuse, they form an hour-glass-shaped structure called a stalk, confirming theoretical predictions. When the stalk stretches further, it creates a connecting bridge between the membranes. This connection then enlarges, and the two membranes ultimately become one single membrane.

Huang comments that the membrane considered in this study is relatively simple and does not reflect the complexity of more common natural membranes, which are made of phospholipids and proteins. "What is truly exciting is that we now have, for the first time, a model system that can provide clues about how more complicated membranes work," he says.

Understanding cell fusion may be key to preventing viral infection or designing new drug delivery methods, the scientists say. "Understanding the details of membrane fusion may help scientists find the appropriate conditions for preventing viruses such as HIV from fusing to and thereby infecting human cells," Yang says. "This knowledge could also lead to the design of systems in which a drug or a piece of DNA is enclosed in a membrane known to fuse with specific cells in our body, thus facilitating drug delivery or improving gene therapy." — Patrice Pages

## Healthline Lecture

### Prostate Cancer: What Men Should Know, 10/11

Prostate cancer is the most commonly diagnosed type of cancer in men, according to *Cancer Facts & Figures 2002*. It is estimated that there will be 189,000 new cases discovered in 2002.

To learn about the signs and symptoms, risk factors, and the benefits of early detection of prostate cancer, join Howard Adler, M.D., who is an assistant professor of clinical urology and director of Stony Brook University Hospital's Prostate Care Program, on Friday, October 11, from noon to 1 p.m. in Berkner Hall where he presents the Healthline lecture, "Prostate Cancer: What Every Man Should Know."

Adler will answer questions and his talk will be audiotaped and available in the BNL Research Library. Registration is required. Check your mailbox for registration forms. For more information, contact Health Promotion Coordinator Mary Wood, Ext. 5923.

## Report From the RHIC & AGS Users' Meeting (cont'd.)



Brad Keister, Director of the Nuclear Physics Division of the National Science Foundation

more than ever, by "broader impacts," including how the research project will help educate and train future scientists, contribute to diversity, and benefit national security and/or society in general.

While describing the successes of the past year — including three BNL research papers recently featured on the cover of *Physical Review Letters* — Paul stated that the scientists have to "go the extra mile and make these results understandable" to a broader community, including those who are positioned to help make the case for basic research to Congress. "Bring out the excitement of the discoveries that you are after," he urged.

Paul commended RHIC physicists for making the most of the past "rather dismal year," with only 14 weeks of running, citing several results including early observations of jet quenching and J/Psi particles — both of which will be important in the search for quark-gluon plasma.

But Paul added that "we cannot sustain on a regular basis the extraordinary efforts people went to to keep the machine running this year." A full RHIC program, he said, would need more money and more support people.

The plan for the coming year's run is more optimistic, with 29 weeks of cryogenics operation scheduled with cool-down to begin on November 1.

In response to cuts in the AGS programs, Paul said that, "The community has responded with lots of lobbying efforts," but he acknowledged that these had not yet come to fruition. Refusing to give up hope and remarking upon the "spectacular" results produced by these programs were even featured in *The New York Times*, he said, "Maybe someone high up — and I mean high up — will realize their value."

With a look to the future, Paul indicated that the RHIC II and the eRHIC concepts are both moving forward. The KOPIO and MECO experiments have both been approved by NSF and might get funding in fiscal year 2003 or 2004. And the interest in once again turning the Homestake mine in South Dakota into an underground neutrino laboratory might make BNL the perfect place for launching very-long-baseline neutrino beams that would allow the study of their oscillations.

#### New for Users, Students

Mike Lisa of the UEC thanked BNL's Quality of Life Committee for continu-

ously improving life in the dorms. BNL Physicist Jeff Mitchell described several new programs designed to improve the quality of life for students, including the new Association of Students and Postdocs (ASAP) to foster communication between students, Lab scientists, and BNL management. All were grateful to the many BNLers involved in these efforts, especially Susan White-DePace, who oversees the RHIC & AGS Users' Center.

In acknowledgment of the vital role students play in RHIC and AGS research, the very first RHIC & AGS BSA Thesis Awards — issued jointly by Bat-

telle Memorial Institute and Stony Brook University — were presented at the meeting this year. The recipients were Jane Burward-Hoy, who prepared her doctoral thesis at Stony Brook University under Barbara Jacak, on the transverse momentum distribution of hadrons observed with the PHENIX Detector at RHIC; and Long Duong, who earned his Ph.D. from the University of Minnesota under Priscilla Cushman, with a thesis on the g-2 experiment at the AGS.

Back on the student front, Brian Murfin, Manager of BNL's Office of Educational Programs, gave RHIC users a preview of the "RHIC Adventure" online science classroom, which is designed to get high school students excited about RHIC via the World Wide Web. And attendees viewed an impressive array of college student posters.

Between the science and the socializing during breaks and meals, "The meeting was a huge success," said Peter Paul. "We look forward to even more exciting results from this impressively active community." — Karen McNulty Walsh



Jane Burward-Hoy (above) and Long Duong (below) receive Thesis Awards from Interim Laboratory Director Peter Paul at this year's RHIC & AGS Users' Meeting.



Long Duong (below) receives a thesis award from Peter Paul.

#### Physics and More Physics

For the rest of Friday afternoon and at Saturday's sessions, representatives from the various research groups presented: evidence for rare kaon decays; recent results using proton radiography; findings from the four RHIC collaborations, PHOBOS, STAR, BRAHMS, and PHENIX; spin-physics results; proton-proton elastic scattering update; and an overview and specifics of the new programs in radiobiology. Theorists presented interpretations of the RHIC results, and presentations were made on projects for the future, including the ATE, BAF, RSVP, RHIC II, and eRHIC.

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## Adult Swim Lessons Begin, 10/16

All BNLers are invited to register for the six-class series of adult swim lessons to be held from 6:30 to 7:30 p.m. at the BNL pool on Wednesday evenings, starting October 16, at a cost of \$40 per person. American Red Cross certificates will be awarded to those who qualify. Registration forms must be submitted by the end of the day today, Friday, October 4. Registration forms are available at the BERA Store and at the pool. For more information, contact Susan Dwyer, Ext. 3147, or Christine Carter, Ext. 5090.

**Dosimetry badges will be exchanged today, Friday, October 4. Remember to place your badge in its assigned rack space before leaving work today.**

## Arrivals & Departures

### Arrivals

Hua Hou ..... Chemistry  
Stefan Kretzer ..... Physics  
Robert La Morte ..... Env. Sci.  
Celine Lesaulnier ..... Biology  
Cedomir Petrovic ..... Physics  
Peter Petreczky ..... Physics

### Departures

Lawrence Bachman ..... S&S  
Mary Sue Davis ..... Director's Office  
Richard Davis ..... ES&T  
Hideaki Hotchi ..... Physics  
Cenap Ozben ..... Physics  
Barbara Panessa-Warren ..... Biology  
Laura Praissman ..... Biology  
Ivan Sirakov ..... ES&T  
Opal Thomas ..... Medical

## Yoga Sessions: Banishing Stress

Now relax your ankles, relax your calves, relax your thighs, relax your back, your arms, your mind. . .," Ila Campbell, Collider-Accelerator Department (C-A), bids of the dozen or so members of the Wednesday yoga session at BNL.

Sponsored by the BERA Indo-American Club, the class meets every Wednesday from 12:10 to 12:50 p.m. at the Brookhaven Center. The aim of yoga is to promote both mental and physical health and well-being. The asanas, or steady poses, that take discipline and practice to master, include deep breathing, relaxed movements that stretch muscles and build strength, and mental concentration.

Campbell is preparing the class for the corpse pose, in which the participants lie flat on their backs with arms and feet apart and eyes closed. After they are fully relaxed, Campbell instructs them to focus their minds on their breathing. They are then transported away from their workday worries to a more peaceful state of mind.

Campbell learned yoga while she was a junior high school student in India. Yoga was a required course, held twice a week. For two years, Campbell practiced yoga rigorously for three hours every day because she was chosen to perform in a two-hour BBC television documentary film on yoga, to demonstrate beginner and advanced yoga positions. She continued practicing yoga in college in India.

Campbell came to the U.S. in 1983, and she joined BNL in August 2000. As a customer-support administrator in C-A, she does web designing and programming. But almost every Wednesday at lunchtime since January 2001, she has been leading the yoga group.

Benefits of yoga include boosted metabolism, increased blood circulation, the building of healthy and flexible joints, restorative energy, greater concentration, emotional stability, and relaxation.

Beginners, intermediate and advanced yoga students are invited to join the free class each Wednesday. For more information, contact

Campbell, Ext. 2206, or [ila@bnl.gov](mailto:ila@bnl.gov).  
— Diane Greenberg



Weather permitting, the following five areas on site will be repaved during the week of October 7-11:

1. ATF/Vacuum Group Bldg. 820 south parking lot
2. intersection of East Fifth Avenue and Railroad Street
3. Railroad Street from the intersection with Brookhaven Avenue to the intersection with Cornell Avenue
4. Bell Avenue from the Plant Engineering Division's shops Bldg. 452 east across Grove Street to Railroad Street
5. Director's Office Bldg. 460 west parking lot

While paving is underway, roads and intersections will be temporarily closed, and traffic will be rerouted. Work on the intersection of East Fifth Avenue and Railroad Street will also require opening the new RHIC access road after the morning rush hour.

The Plant Engineering Division apologizes in advance for any inconvenience that this repaving work may cause. For more information, contact Mel Bonanno, [mbonanno@bnl.gov](mailto:mbonanno@bnl.gov) or Ext. 8232, or Tom Roza, [roza@bnl.gov](mailto:roza@bnl.gov) or Ext. 3085.

## Flu Shots Next Week

Flu vaccine will be offered to all eligible employees at the Occupational Medicine Clinic, Bldg. 490, during the week of October 14, as follows:

| Time            | Last Name |
|-----------------|-----------|
| 9:30-10:45 a.m. | A to G    |
| 11 a.m.-noon    | H to M    |
| 1- 2:15 p.m.    | N to S    |
| 2:30-4:30 p.m.  | T to Z    |

For more information about the flu vaccine, call Ext. 3670, and ask to speak with a nurse.

## BNL's Role in Air Pollution Studies

(cont'd.)

over Nashville, Tennessee; New York, New York; Phoenix, Arizona; and Philadelphia, Pennsylvania.

"We found that most of Houston resembles other urban areas in its concentration of ozone precursors and ozone production rates," said Daum. "The industrial Houston Ship Channel region, however, the location of one of the largest petrochemical complexes in the world, has a distinctive chemistry," he said. There, very high concentrations of VOCs neither seen in the other cities, nor in the other parts of Houston — specifically ethene, propene, and butenes — lead to excessive production of ozone.

"Calculations based on the aircraft measurements show that the ozone production rate in the Houston Ship Channel region can be as much as five times higher than occurs in the other four cities or in nonindustrial parts of Houston," said Kleinman. "This extra kick in the photochemistry is a direct result of the high concentrations of VOCs emitted by industrial facilities."

### New England Study

In the new study over the Northeastern United States, known as the New England Air Quality Study, the Brookhaven team again used the G-1 aircraft in collaboration with PNNL, a ship operated by the National Oceanic and Atmospheric Administration (NOAA), and several universities to monitor air pollutants and their transport through the region. Sampling flights began in early July and ran through August.

"In addition to the usual air-quality sampling instruments carried aboard the G-1, this study included special instruments to measure aero-

sols, the tiny particles in the atmosphere that we perceive as haze," said Daum. "Together, this array of aerosol instrumentation will provide a characterization of ambient aerosol composition with unprecedented detail."

The team says the sampling flights were very successful and the data are now being analyzed.

In addition to Daum and Kleinman, Stephen Springston and Yin-Nan Lee of Atmospheric Sciences participated in both studies, along with Fred Brechtel who holds a guest appointment at the Lab. Atmospheric Sciences' Linda Nunnermacker, Dan Imre, Alla Zelenyuk, and Zhiguang Song, who was a guest from China, also participated in the Texas study, along with postdoc Gintas Buzorius, Stony Brook University student Jun Zheng, Judy Weinstein-Lloyd, a guest appointee from The State University of New York at Old Westbury, and former guest appointees Barbara Hillery and Ali Alaouie, also from SUNY Old Westbury. Gunar Senum of Atmospheric Sciences and postdoc Xiao-Ying Yu took part in the New England study.

— Karen McNulty Walsh

For more information on the Texas study, see: <http://www.bnl.gov/bnlweb/pubaf/pr/2002/bnlpr060302.htm>, <http://www.utexas.edu/research/ceer/txaqs/>, and <http://www.bnl.gov/bnlweb/pubaf/pr/2000/bnlpr082400.html>.

For more information on the New England Air Quality Study, see: <http://www.bnl.gov/bnlweb/pubaf/pr/2002/bnlpr070802.htm> and <http://www.al.noaa.gov/neaqs/>

## Matthew Fallon: Bamboo Flutist, Flute Maker, Flute Collector

The flute music pierces the silence as yoga students concentrate on their asanas at the Wednesday yoga class in the Brookhaven Center — but it's a welcome sound, a slice of serenity in a stressful workday, a mixture of Native American music and relaxing New-Age sounds.

The flutist featured on the self-produced CD called "Tribal Wind" is Matthew Fallon, a guest drafter who holds a temporary position in the Plant Engineering (PE) Division. Fallon arrived at BNL on July 10 and expects to spend the next month or more helping the infrastructure management group to review trailers on site, to be sure they are labeled and placed correctly. In addition, he is updating PE's utilities maps of the BNL site.

But in his spare time, Fallon not only plays the flute — he makes and collects flutes. He purchased his first flute about four years ago at the Renaissance Festival in Tuxedo, New York, and since then, he has accumulated about 25 flutes of various styles, such as Native American, Arabian, Indian, Irish, Japanese, and Peruvian.

Fallon says he never took flute lessons, and he doesn't read music well. He is entirely self-taught, and he plays by ear in many styles of music, from 60s and 70s popular folk music to meditative music, as well as jazz and blues. His favorite flute music genre is meditative world/New-Age because it is very calming.

Fallon also learned carving on his own, and he fashions his own flutes out of bamboo. In fact, he recently made a flute that is a replica of the 9,000-year-old flute found at the early Neolithic site of Jiahu, China, by a research team that included BNL's Garman Harbottle, Chemistry Department.

"Of course, it sounds different from the original because my replica is made of bamboo. The original was made of the wing bones of the red-crowned crane," Fallon said.

He added, "My flute collection is like a wardrobe. I tend to use some flutes much more than others, but they all have their purpose, and each is suitable for a different mood or occasion."

A resident of Baldwin, Fallon likes to play the flute in the tunnel by parking field 5 — near the "pencil" tower — at Jones Beach. Because he enjoys the sound of echoes made by the music in the tunnel, he plays there with several flutists, and sometimes drummers and singers.

Additionally, he has per-



Matthew Fallon

Roger Stoulenburgh 04090902

formed at several different yoga and Tai Chi classes, Kirtan chanting groups, at the Kripalu Center for Yoga and Health in the Berkshires of Massachusetts, and at poetry readings.

Fallon also plays the flute at Starbucks in Long Beach every Wednesday evening from 7:30 to 10 p.m. After 10 at night on Wednesdays, you can find him at the open blues jam at Backstreet Blues in Rockville Center. On Thursdays after 10 p.m., Fallon performs at the Munchaba Lounge in Levittown.

— Diane Greenberg  
To hear Fallon's flute-playing, go to [www.mp3.com/tribal\\_wind](http://www.mp3.com/tribal_wind).

## Calendar

### Saturday, 10/5 (cont'd.)

**BNL Dance Club Monthly Dance Social**  
8-11:30 p.m. Ballroom, Latin & swing dancing, North Ballroom, Brookhaven Center. Marsha Belford, [belford@bnl.gov](mailto:belford@bnl.gov) or Ext. 5053.

### — WEEK OF 10/7 —

#### Wednesday, 10/9

**Rifle & Pistol Club Meeting**  
Noon, Conference Room, Bldg. 535. The availability of on-site ranges and membership will be discussed. Jim Durman, Ext. 5993, Rich Conte, Ext. 5741, or [www.bnl.gov/bera/activities/rpc/](http://www.bnl.gov/bera/activities/rpc/).

#### Friday, 10/11

**\*Healthline Lecture**  
Noon, Berkner Hall. "Prostate Cancer: What Every Man Should Know." See story, page 2. Check your mailbox for registration forms. Mary Wood, Ext. 5923.

**GLOBE Meeting**  
The Gay, Lesbian, and Bisexual Employee Club at BNL will hold its monthly meeting. For the meeting's time and location, contact Debbie Bauer, Ext. 5664, or Mike Loftus, Ext. 2960. For more information about the GLOBE club, see [www.bnl.gov/bera/activities/globe](http://www.bnl.gov/bera/activities/globe).

### — WEEK OF 10/14 —

#### Wednesday, 10/16

**Retirement-Planning Sessions**  
The Vanguard Group invites you to spend 30 minutes individually with a licensed Vanguard representative at the Lab to talk about financial issues. Meet with a representative between 9 a.m. and 5 p.m. on Wednesday, October 16. You may learn about: investing for long-term goals such as retirement; selecting funds for your savings; and making the most of the services and investment tools available to you. Schedule your 30-minute session by calling Vanguard at 1-800-662-0106, Ext. 69000.

**BSA Noon Music Recital**  
Noon, Berkner Hall. The Daedalus String Quartet. For more information, see <http://music.bnl.gov>.

**377th Brookhaven Lecture**  
4 p.m., Berkner Hall. Elio Vescovo, National Synchrotron Light Source Department, will give the next lecture on the topic of magnetism in ultra-thin films.

#### Thursday, 10/17

**BERA Bridge Club**  
7 p.m., Brookhaven Ctr., South Rm. Morris Strongson, Ext. 4192, [mms@bnl.gov](mailto:mms@bnl.gov).

### — WEEK OF 10/21 —

#### Thursday, 10/24

**BERA Bridge Club**  
7 p.m., Brookhaven Ctr., South Rm. Morris Strongson, Ext. 4192, [mms@bnl.gov](mailto:mms@bnl.gov).

### — WEEK OF 10/28 —

#### Monday, 10/28

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

### — WEEK OF 11/4 —

#### Thursday, 11/7

**BERA Bridge Club**  
7 p.m., Brookhaven Ctr., South Rm. Morris Strongson, Ext. 4192, [mms@bnl.gov](mailto:mms@bnl.gov).

#### Saturday, 11/9

**BNL Dance Club Monthly Dance Social**  
8-11:30 p.m. Ballroom, Latin & swing dancing, North Ballroom, Brookhaven Center. Marsha Belford, [belford@bnl.gov](mailto:belford@bnl.gov) or Ext. 5053.

### — WEEK OF 11/11 —

#### Wednesday, 11/13

**BNL Dance Club Ballroom Dance Lessons: start of 2nd 8-week series**

*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.*

## Classified Advertisements

### Placement Notices

The Lab's placement policy is to select the best-qualified candidate for an available position. Candidates are considered in the following order: (1) present employees within the department/division and/or appropriate bargaining unit, with preference for those within the immediate work group; (2) present employees within the Laboratory; and (3) outside applicants. In keeping with the Affirmative Action Plan, selections are made without regard to age, race, color, religion, national origin, sex, disability or veteran status. Each week, the Human Resources Division lists new placement notices, first, so employees may request consideration for themselves, and, second, for open recruitment. Because of the priority policy stated above, each listing does not necessarily represent an opportunity for all people. Except when operational needs require otherwise, positions will be open for one week after publication. For more information, contact the Employment Manager, Ext. 2882; call the JOBLINE, Ext. 7744 (344-7744), for a list of all job openings; use a TDD system to access job information by calling (631) 344-6018; or access current job openings on the World Wide Web at [www.bnl.gov/HR/jobs/default.htm](http://www.bnl.gov/HR/jobs/default.htm).

### LABORATORY RECRUITMENT - Opportunities for Laboratory Employees

**TB2470. TECHNICAL SECRETARY (A-2)** - Requires an AAS in secretarial science or equivalent and several years' relevant experience, as well as excellent communications skills, a knowledge of Laboratory policies and procedures and familiarity with scientific word processing. TeX experience desirable. Will provide varied secretarial support for the High Energy Theory Group. Duties will include preparing technical manuscripts, correspondence and reports, as well as coordinating travel and an active visitors' program. Physics Department.

**TB3867. CUSTOMER SUPPORT ADMINISTRATOR (I-3)** - Requires a high school education, a minimum of 5 years experience in BNL environment and knowledge of BNL administrative policies. In addition, a proven record of independent work and experience in interacting with scientific staff, experience with data entry and library procedures as well as solid technical background in the use of computers also required. Organizational skills, ability to search for scientific references, retrieve information from the web, and prepare data input in specific formats are necessary as is dedication to data entry activity, patience and thorough work habits to assure high quality of the database and customer satisfaction. Will provide support for NSR database and NNDC library and assist in the maintenance and dissemination of the Nuclear Science References database. This includes data entry, retrieval of references and journal content information from scientific articles and web-based sources, and the distribution of information to customers of the international data network. Will also help administer the National Nuclear Data Center library, including cataloging and shelving and assist in providing administrative support to National Nuclear Data Center. Energy Sciences & Technology Department.

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

**MK2352. POSTDOCTORAL RESEARCH ASSOCIATE** - Requires a Ph.D. in physics or materials science with a strong background in electron beam lithography and other phases of nanofabrication. Experience in designing x-ray optical devices such as Fresnel zone plates is also essential. The

ability to work and collaborate with other potential users of electron-beam lithography is expected; this work will include guiding these users through the needed steps to layout an instruction set for an advanced electron beam writing machine and explaining to them the needed steps in fabricating nanostructures using electron beam lithography. Research group in under the Chair's Office in the Department. Will coordinate activities with an industrial laboratory working in electron-beam lithographic research with strong interaction with scientists in the Instrumentation Division and the National Synchrotron Light Source Department. Under the direction of D. Welch and J. Warren, Material Science Department.

**MK2729. POSTDOCTORAL RESEARCH ASSOCIATE** - Requires a Ph.D. in organic chemistry/medicinal chemistry or radiochemistry. Experience in the development of new radiotracers labeled with short-lived positron emitters is desirable as is the ability to work with multidisciplinary research groups, ability to conduct animal bio-distribution studies and to automate PET radiopharmaceutical syntheses. Under the direction of Y.-S. Ding, Chemistry Department.

**MK3061. POSTDOCTORAL RESEARCH ASSOCIATE** - Requires a Ph.D. in high-energy/nuclear physics, astrophysics or electrical engineering, experience with instrumentation development for high energy physics or radio-astronomy and data acquisition, and knowledge of computer network and C programming language. Experience with electronics circuits design is desirable. Will work in the Omega Group with detector development of high energy physics. Will work with an interdisciplinary group of scientists in the development of an exploratory experiment to detect ultra high energy cosmic rays using radio wave scattering. This will involve setting up a muon shower array and radio antennas for their detection. May share time in the development of the readout of ATLAS liquid argon calorimeter. Under the direction of H. Takai, Physics Department.

**NS8059. - CYBER SECURITY STRATEGIC PLANNER (I-10, reposting)** - Requires a BS in a technical area, ten years of related technical experience; MS preferred. BNL will be faced with a much more hostile and sophisticated threat environment which will drive paradigm shifts in our cyber security program. The discontinuous change will cause current countermeasures to become overwhelmed and ineffective. This position will focus on identifying and evaluating technologies/suppliers and formulating countermeasures and strategies to address these shifts. The successful candidate will be able to analyze complex problems requiring diagnosis, testing and judgment regarding which technical options are most appropriate to support BNL's cyber security strategic plan. Experience developing and professionally documenting computer security strategies; knowledge of hardware/software options for security systems/applications required. Will act as strategic planner, pulling together various technical projects into one congruent and interoperable cyber security architecture, incorporating the understanding and management of key technical and implementation risks. Develops and presents to management benefits of technology strategy to the mission of the Laboratory - and develops business cases (e.g., organizational systems, feasibility and cost/benefit studies and implementation plans). Can plan and manage projects with broad support for the science mission of the Lab, specifically addressing cross-technology and cross-platform issues. Requires excellent communication and customer service skills, utilizing those skills to develop strong working relationships with peers, customer groups, and senior Lab management. Communication of tactical and

strategic plans to the Lab's technical and management communities, ensuring that plans meet cyber security requirements for the DOE and for BNL, and that plans integrate needs of the BNL user community. Information Technology Division.

**TB3031. OFFICE SERVICES ASSISTANT (CW-2)** - Requires an AAS degree or equivalent related experience. A working knowledge of personal computers and exposure to computerized business systems are required as well as knowledge of Excel, Word and accounts payable processing. Fiscal Services Division.

### Motor Vehicles & Supplies

**02 BMW 325i** - black, sports package, 11K mi., take over lease (\$512/mo.) or purchase, avail. by Christmas. Boris, Ext. 2684.

**01 MANCO MINI BIKE** - 3.5 h.p. eng., new carb nobby tires, shocks like new, \$75. Greg, 369-1086 after 5 p.m.

**00 FORD E250** - 36K mi., remote start, tinted windows, set up for work, well maint., \$17,000. Mike, 281-5160.

**99 BUICK LESABRE LTD** - all power, 27K mi., leather seats, mint cond., \$15,000 neg. Frank, 821-3368.

**97 BUICK LESABRE** - a/c, all power, 48K mi., excel. cond., loaded, warranty transferable, \$9,200. Patricia, 331-1572.

**95 SATURN SL2** - 5-spd. manual, 4-dr., 4-cyl., all power, 128K mi., excel. cond., blue book value, \$3,175, ask. \$3,000. 744-0026.

**95 YAMAHA BLASTER QUAD** - runs well, FMF pipes, new grab bar, ITP rims on rear. Kevin, 369-1977.

**95 TOYOTA CAMRY** - a/c, all power, 73K mi., fully loaded, Lojack, moonroof, am/fm/CD player, extras, \$6,750. Doreen, Ext. 2457.

**94 HARLEY SPORTSTER 1200** - 5-spd., 28K mi., fully chromed highly modified motor, all Harley parts, 4K mi. on motor, many extras, must see, \$8,500. Lou, 399-6128.

**94 MERCURY COUGAR XR-7** - 80K mi., very clean, \$3,500. Joe, 744-7069.

**94 PONTIAC SUNBIRD** - a/t, a/c, p/s, p/b, 4-dr., 80K mi., clean, runs well, ABS brakes, am/fm cass. Denis, Ext. 4612 or 929-0767.

**94 SATURN** - 4-dr., a/c, all power, 100K mi., runs well, Jennifer, 589-2946.

**94 VOLVO 940** - burgundy/tan, orig. own., garaged, 107K mi., excel. cond., \$5,800. Diane, Ext. 2347, Leave message.

**93 DODGE GRAND CARAVAN** - a/c, all power, 148K mi., 7 pass., bucket seats, 2 rear removable benches, front & rear a/c, runs well, reliable, \$1,500 obo. 580-1432.

**93 FORD ESCORT SW** - 5-spd., a/c, p/s, p/b, cruise, 105K mi., economical, runs well, looks good, blue book value \$2,155, make offer. Tom, 286-2505.

**92 CHEVY CONVERSION VAN** - gray, runs well, 189K mi., 350 V8, a/t, p/w, p/l, front & rear, heat & a/c, TV, VCP, rear stereo, \$1,000. Dave, Ext. 5789.

**91 HONDA ACCORD EX** - fully equipped, auto., sunroof, orig. own., new tires, very good cond., 120K mi., \$3,950. 325-0447 after 5 p.m.

**91 PONTIAC FIREBIRD** - red/black, 5-spd., 129K mi., orig. own., spoiler, all power, \$2,200. Rosemary, Ext. 3251.

**90 JEEP CHEROKEE** - a/t, a/c, p/s, p/b, 110K mi., 20 mpg, option of full time 4wd, \$3,000. Bill, 395-4746.

**90 NISSAN SENTRA** - 4-spd., am/fm/CD player, good cond., 147K mi., \$700. Yongbin, Ext. 2835.

**89 MAZDA 323** - orig. own., 4-dr., 5-spd. manual, a/c, sunroof, new tires & battery, high mi., \$550. 878-4246.

**89 VOLVO 740 Wagon** - a/c, all power, 146K mi., good cond., no rot, reliable trans., sunroof, third seat, 146K mi., \$3,400. Chris, Ext. 2024 or 395-6112.

**87 HONDA ACCORD** - all power, 118K hwy. mi., runs well, looks good, good commuter car, moonroof, CD player, clean, \$1,800. Jimmy, 334-9671.

**87 MERCEDES 560 SEL** - Burlwood int. package, 155K mi., \$8,000. Al, Ext. 3999.

**85 CHEVY S-10 4X4** - a/t, p/s, p/b, 85K mi., am/fm, alloy wheels, recent brakes & exhaust, good tires, \$1,600. Tirre, Ext. 3288 or 281-0360.

**77 PONTIAC FIREBIRD** - 63K mi., good cond., \$3,000. Joe, 744-7069.

**72 CHEVY SS NOVA** - a/t, p/s, p/b, 12,800 mi., LT1 350, Turbo 400 trans., 343 limited slip rear, super clean, has been restored, \$9,000. Lou, Ext. 2238 or 399-6128.

**ROOFTOP CARRIER** - Sears X-cargo, excel. cond., orig. cost \$100, ask. \$25. Ken, 281-5565.

### Wanted

**GLASS CARBOYS** - 5 gallon or larger, water bottle type. Mike, Ext. 7034 or 475-3724.

**INFORMATION** - I'm looking for my mother, Mattie E. Jappe, age 85, and my brother, James W. Jappe, age 60, both missing from East Patchogue since 1997. For more information, see [www.wjappe.com](http://www.wjappe.com).

**PET LOVER** - to adopt a 3 year old neutered male German Shepherd mixed breed dog, very friendly, good watchdog. Rita, Ext. 3320.

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

### Tools, House & Garden

**LAWNMOWER** - Sears, 8 h.p. ride-on golf cart style, works well, w/attachments, \$300. Frank, 277-0464.

**MITER SAW** - Sears 8" radial & compound, \$95, assorted well & irrigation pumps; sink, oval white, good cond., \$25; water treatment system, Mermaid pH unit & water softener, install avail., \$500; printer, HP Deskjet 842C, brand new in sealed box, \$150. Ron, 298-5625.

**SAW** - Craftsman, 10" radial arm saw model 113.23111 w/table, like new, \$300. Pat, Ext. 3438.

**TREES** - White Pines, to 5', \$3/ft, Alberta Spruces, to 4', \$5/ft, all items nursery grown. John, 744-5867.

### Yard & Garage Sales

**SETAUKET** - 39 Huyler Ct. off Quaker Path, 10/5 only. Ext. 5475.

### Free

**WOOD** - you cut the trees you keep the wood. Walter, 698-0576.

### Furnishings & Appliances

**ADJUSTABLE BEDS** - Simmons, extra long twin, motorized head, foot & massage, with remote control, excel. cond., \$400. Peter, Ext. 3535 or 689-2372.

**AIR CONDITIONER** - electric heaters, patio chairs, large mirror cabinet, small electrical appliances, moving. 516-909-3234.

**CAPTAIN'S BED** - twin sized, 4 drawer, 1 door, great condition, paid \$350, ask. \$150, no mattress. Mike, Ext. 3255 or 744-4847.

**DRYER** - Whirlpool, electric, extra large, 3 years old, v.g. cond, will demonstrate, \$100. Mike, Ext. 7034 or 475-3724.

**REFRIGERATOR** - Amana, 20 cu. ft., bottom freezer, bisque color, excel. cond., \$150; dishwasher, limited edition, Kenmore, v.g. cond., needs bottom rack, \$50. 924-7476.

*Ads left out of the Bulletin will appear next week. Service ads are on the Web (see address below) or call Tiffany Minter, Ext. 2345.*

## Healthfest 2002: October 21-25 A Week of Health, Fitness & Safety

From Monday, October 21, through Friday, October 25, BNL employees, retirees, facility-users, and other guests are again invited to participate in Healthfest — the Lab's tenth annual celebration of personal health, fitness, and safety.

The five-day festival has the following activity schedule:

### MONDAY, OCTOBER 21 —

- aerobic stretch** - rain or shine, 11:45 a.m.-noon, led by a certified instructor, at the Science Education Center, Bldg. 438, registration required.

- fitness walk** - 2 miles, rain or shine, with your co-workers, at your own pace, noon-1 p.m., starting at the Science Education Center, Bldg. 438, registration required.

### TUESDAY, OCTOBER 22 —

- fitness run** - 5 kilometers (3.1 miles), rain or shine, your choice to race or jog around the on-site course, 12:05-1 p.m., start at the Biology Department, Bldg. 463, registration required.

### WEDNESDAY, OCTOBER 23 —

- health, fitness & safety fair** - 11 a.m.-2 p.m., featuring displays, screenings, and demonstrations, door prizes awarded, free refreshments available, at Berkner Hall, Bldg. 488.

- drinking-water taste-test & sample testing** - 11 a.m.-2 p.m., taste and compare different local water, bring in water from home for testing, at Berkner Hall, Bldg. 488.

- hearing screening** - 11 a.m.-2 p.m., conducted by McGuire's Hearing Aid Service, at Berkner Hall, Bldg. 488, registration required.

- massage & Reiki healing demonstrations** - 11 a.m.-2 p.m., at Berkner Hall, Bldg. 488, registration required.

- podiatry screening** - 11 a.m.-2 p.m., conducted by Comprehensive Podiatry Associates, at Berkner Hall, Bldg. 488, registration required.

- Jazzercise** - noon-1 p.m., at the Brookhaven Center, Bldg. 30, registration required.

- cardio-kickboxing for beginners** - noon-1 p.m., in the gym, Bldg. 461, registration required.

### THURSDAY, OCTOBER 24 —

- health, fitness & safety fair** - 11 a.m.-2 p.m., featuring displays, screenings and demonstrations, door prizes awarded, free refreshments, at Berkner Hall, Bldg. 488.

- drinking-water taste-test & sample testing** - 11 a.m.-2 p.m., taste and compare different local water, bring in water from home for testing, at Berkner Hall, Bldg. 488.

- hearing screening** - 11 a.m.-2 p.m., conducted by McGuire's Hearing Aid Service, at Berkner Hall, Bldg. 488, registration required.

- massage & Reiki healing demonstrations** - 11 a.m.-2 p.m., at Berkner Hall, Bldg. 488, registration required.

- podiatry screening** - 11 a.m.-2 p.m., conducted by Comprehensive Podiatry Associates, at Berkner Hall, Bldg. 488, registration required.

- cardio-kickboxing for intermediates** - noon-1 p.m., in the gym, Bldg. 461, registration required.

- prostate cancer screening for male employees** - 1-4 p.m., PSA blood test and digital exam for male employees age 50 and older, conducted by the Department of Urology of Stony Brook University Hospital, at BNL's Occupational Medicine Clinic, Bldg. 490, by appointment (call 800-862-2215 to register).

### FRIDAY, OCTOBER 25 —

- mountain-bike ride** - 8 miles with 5-mile bail-out, bike the course through the woods on the firebreaks, starting at the gazebo next to the ballfields, helmets and registration required.

For more information and to register for the stretch, walk, run, health screenings, and/or mountain-bike ride, look for the gray-colored Healthfest flyers delivered to each mail stop or the Healthfest brochures found around site.

## Wanted: BNL Art and Crafts for Fall Show

BNL artists, sculptors, and crafters: Your most beautiful, eye-catching work is needed for the BNL Art Society's upcoming Art and Crafts Exhibit, to be held at Berkner Hall from Monday to Wednesday, November 25-27, from 11:30 a.m. to 1 p.m. An evening reception with refreshments will also be held on Monday, November 25, from 5 to 7 p.m.

BNL employees, retirees, facility-users, guests, and their family members 15 years of age and older may all contribute. More than one piece may be entered by an exhibitor, to be shown as space permits. This is the first year that art and crafts will be displayed in the same show, so make it a great occasion — enter your finest skilled and creative works for the Lab community to enjoy.

Exhibits for the show must be brought to Room D, Berkner Hall, the afternoon of Friday, November 22. To be included in the catalog, complete two forms for each work entered and return them by Tuesday, November 12, to Robert Chrien, Bldg. 510A. Copies are acceptable.

### Entry Form

## BNL Art & Craft Exhibit, November 25-27, 2002

Name: \_\_\_\_\_ Home phone: \_\_\_\_\_

Name of BNL contact: \_\_\_\_\_ BNL extension: \_\_\_\_\_

Type of art/craft: (painting, sculpture, photo, pottery, quilting, etc.) \_\_\_\_\_

Title of work, if there is one: \_\_\_\_\_

Description: (medium/material, size) \_\_\_\_\_

**PLEASE PRINT CLEARLY AND RETURN TO ROBERT CHRIEN, BLDG. 510A, BY NOVEMBER 12TH**