

## Study Reveals Biochemical Signature of Cocaine Craving in Humans

*Finding suggests new target for treatments aimed at stopping addiction*

Ask anyone who has been addicted to drugs and they will tell you that the mere sight of someone using their drug of choice — or even people, places, or objects associated with drug use — can trigger an intense desire for the drug. Using sophisticated brain-imaging techniques at BNL, scientists from the National Institute

of Health (NIDA), BNL, and the University of Pennsylvania have uncovered the brain chemistry that underlies such “cue-induced” craving in cocaine addicts.

This acute reaction in the brain’s ‘pleasure center’ is believed to underlie the reinforcing effects of addictive drugs, but does not explain the intense desire and compulsive use that occurs when addicted subjects are exposed to drug cues,” said Gene-Jack Wang of the Medical Department, who led BNL’s role in the current research. Other members of the Medical team at BNL involved in the research include: Frank Telang, Joanna Fowler, Millard Jayne, Yeming Ma, and Christopher Wong.

To probe the role of dopamine in cue-induced craving, the scientists measured dopamine levels in various parts of the brain in 18 cocaine addicts as they watched a “cocaine-cues” video (featuring people buying and using cocaine), and the same 18 subjects as they watched a “neutral” video of natural scenery. Dopamine levels were measured indirectly using positron emission tomography (PET) scanning at Brookhaven’s Center for Translational Neuroimaging.

“To make the drug-cues video, we worked with addicts who advised us on how to make it as realistic as possible while simulating scenes involving smoking cocaine,” said Wang. The scientists also asked the subjects to rate their level of craving while watching both videos, and assessed the severity of their addiction using a standard cocaine craving scale. Alex Reben, Media & Communications Office, filmed and helped edit the videos.

Compared with the neutral video, the cocaine-cues video triggered a significant increase in dopamine in the dorsal striatum, a part of the brain involved in experiencing desire or motivation. The changes in dopamine were associated with the level of craving reported by the subjects and were largest in the most severely addicted subjects.

This finding is consistent with previous animal studies that have suggested a role for the dorsal striatum in cue-induced craving. In

those studies, neutral stimuli such as a particular cage environment that had been paired with a drug during “training” sessions later triggered a dopamine increase in both the nucleus accumbens and the dorsal striatum, a response that was correlated with drug-seeking behaviors in the animals.

The finding is also consistent with earlier Brookhaven research documenting dopamine increases in the dorsal striatum induced by exposure to food. In that study, healthy subjects were allowed to observe and smell their favorite

foods, but not eat them; the more the subjects desired the foods, the higher their dopamine levels went.

“Finding this same association between dorsal striatum dopamine levels and cravings for food and drugs suggests

(continued on page 2)

## Six BNL Scientists Awarded Tenure



Brookhaven Science Associates (BSA) granted tenure effective May 1 to six Brookhaven scientists. They are pictured above (from left): Wolfram Fischer, Collider-Accelerator Department; Frithjof Karsch, Physics Department; Lisa Miller, National Synchrotron Light Source Department; Peter Steinberg, Chemistry Department; Daniel van der Lelie, Biology Department; and Vitaly Yakimenko, Physics.

As described in the Scientific Staff Manual, a tenure appointment “constitutes recognition of independent accomplishment of a high order in the performance of original research or of other intellectually creative activity appropriate to the purposes of the Laboratory.

Recognition may be earned through significant contributions to knowledge related to the purposes

of the Laboratory and/or in furtherance of the aims of the Laboratory, through continuing contributions of outstanding significance to productive uses of the facilities, or through outstanding and creative contributions to their design, development, and improvement.”

Tenure appointments are granted by action of the BSA Board after a rigorous selection procedure overseen by the BSA Science & Technology Steering Committee. In making tenure decisions, the BSA Board is advised by members of the Brookhaven Council, an elected body that advises the Director on matters affecting the scientific staff.

A description of the accomplishments of each of the six recent tenured scientists will appear in forthcoming issues of The Bulletin.

### George B. Pegram Lecture Series

## Neal Lane Gives Two Lectures

*Confessions of a President’s Science Advisor, 9/11*

*The End of an Era – Science in a ‘Flat World,’ 9/12*

Neal Lane, the Science Advisor to President Clinton from 1998 to 2001, will give a series of two lectures in Berkner Hall. On Monday, September 11, he will present a talk titled “Confessions of a President’s Science Advisor,” and on Tuesday, September 12, he will discuss “The End of an Era — Science in a ‘Flat World.’” Both lectures will start at 4 p.m. Sponsored by Brookhaven Science Associates through the George B. Pegram Lectureship Series, in which distinguished scholars examine topics of both scientific and general interest, the lectures are free and open to the public. Visitors to the Lab age 16 and over must bring a photo ID.

In his first lecture on September 11, Lane will briefly review the history of the job of Science Advisor to the President and give some examples of issues he had to deal with when he was in that position, including climate change, stem cell research, the human genome, nanotechnology and research funding. He will also give his opinions about the present and future state of science in the U.S.

In his September 12 lecture, Lane will discuss the changes that have taken place in the world since World War II that have made it “flatter,” referring to Thomas L. Friedman’s book, *The World is Flat* (Farrar, Straus and Giroux, 2005). Friedman’s main premise is that inexpensive telecommunications is

bringing about unhampered international competition, the demise of economic stability, and a trend toward outsourcing services, such as computer programming, engineering and science research.

Lane will also discuss a “flatter” world in terms of leveling the playing field for science vs. ideology, religion and superstition. In particular, he asserts that American attitudes about science and technology, as well as the political winds that affect science, have changed. He will also pose some questions and offer some opinions about the future of American science.

Born in Oklahoma City, Lane earned his B.S., M.S. and Ph.D. degrees in physics from the University of Oklahoma. He joined Rice University in 1966, eventually becoming Professor of Physics and Space Physics and Astronomy. On leave from Rice from 1979 to 1980, he worked at the National Science Foundation as Director of the Division of Physics. He again left Rice in 1984 to serve as Chancellor of the University of Colorado in Colorado Springs, a position he held until 1986, when he became Provost at Rice until 1993.

After serving as Director of the National Science Foundation and member (*ex officio*) of the National Science Board, 1993-1998, Lane became Assistant to the President for Science & Technology and Director of the White House Office of Science & Technology Policy,



August 1998-January 2001. He returned to Rice in 2001. Currently, Lane is the Malcolm Gillis University Professor at Rice University and holds appointments in the Department of Physics & Astronomy and as a Senior Fellow at Rice’s James A. Baker III Institute for Public Policy.

Lane’s writings and presentations include topics in theoretical atomic and molecular physics and science and technology policy. His honors include the American Association for the Advancement of Science (AAAS) Philip Hauge Abelson Award, the AAAS William D. Carey Award, the American Society of Mechanical Engineers President’s Award, the American Chemical Society Public Service Award, the American Astronomical Society/American Mathematical Society/American Physical Society Public Service Award, and many honorary degrees. He is a Fellow of the American Academy of Arts and Sciences, the American Physical Society and the AAAS. — Diane Greenberg



Gene-Jack Wang (left) and Nora Volkow

on Drug Abuse (NIDA), BNL, and the University of Pennsylvania have uncovered the brain chemistry that underlies such “cue-induced” craving in cocaine addicts. The work, which appeared in the June 14, 2006 issue of the *Journal of Neuroscience*, suggests new targets for medications aimed at treating addiction.

This research was funded by the National Institutes of Health Intramural Program (National Institute on Alcohol Abuse and Alcoholism), the Office of Biological and Environmental Research within DOE’s Office of Science, and the National Institute on Drug Abuse.

“Drug craving triggered by cues, such as the sight, smell, and other sensory stimuli associated with a particular drug like cocaine, is central to addiction and poses an obstacle to successful therapy for many individuals,” says NIDA Director Nora Volkow, lead author on the study and former BNL Associate Laboratory Director for Life Sciences. “Today we can actually see increases in specific brain activities that are linked to this experience. If we can understand the mechanisms related to cue-induced craving, we can develop more effective treatment strategies to counteract it.”

Previous research conducted at the Lab and elsewhere has shown that all addictive drugs increase the level of dopamine — a neurotransmitter, or chemical messenger, associated with feelings of reward and pleasure — in a part of the

**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 Christine Carter, Ext. 2873.
- Additional information for Hospitality events may 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, 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.

**Mondays: CIGNA Rep On Site**

10 a.m.-3 p.m. CIGNA's Janice Petgrave is in Bldg. 185, to assist CIGNA medical plan participants with claims issues. Call Linda Rundlett, Ext. 5126, for 30-min. appointment.

**Mondays: BNL Social & Cultural Club**

Noon-1 p.m., Brookhaven Center, South Room, free beginners dance lessons. Rudy Alforque, Ext. 4733, [alforque@bnl.gov](mailto:alforque@bnl.gov).

**Mondays & Thursdays: Kickboxing**

\$5 per class. Noon-1 p.m. in the gym. Registration is required. Christine Carter, Ext. 5090.

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

Noon-1 p.m., Brookhaven Center North Rm. Adam Rusek, Ext. 5830, [rusek@bnl.gov](mailto:rusek@bnl.gov).

**Tues., Thurs. & Fri: Ving Tsun Kung Fu**

Noon-1 p.m., Brookhaven Center, North Room. Taught by Master William Moy. Tuition. Scott Bradley, Ext. 5745 or [bradley@bnl.gov](mailto:bradley@bnl.gov).

**Tue., Thu. & Fri: Upton Nursery School**

On Summer Recess. Call Ext. 5090 for information on Sept. enrollment.

**Tuesdays: Welcome Coffee**

10 a.m.-noon, apartment area gazebo. First Tuesday of every month is special for Lab newcomers and leaving guests. Lisa Yang, 979-3937.

**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/](http://www.bnl.gov/bera/activities/toastmasters/).

**Tues., Wed. & Thurs: Rec Hall Activities**

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

**Wednesdays: On-Site Play Group**

10 a.m.-noon, apartment area gazebo. An infant/toddler drop-in event. Parents meet while children play. Fang Dong, 871-5362.

**Wednesdays: Market Day**

11:30 a.m.-1:30 p.m., Berkner Hall parking lot. Fresh vegetables, plants, arts & crafts, and more. Joanne Rula, Ext. 8481.

**Wednesdays: Ballroom Dance Class**

Brookhaven Center, N. Ballroom. Instructor: Giny Rae. Arup Ghosh, Ext. 3974; Donna Grabowski, Ext. 2720; or Vinita Ghosh, Ext. 6226.

**Wednesdays: Weight Watchers**

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

**Wednesdays: Yoga**

Noon-1 p.m., B'haven Center. Free. Ila Campbell, Ext. 2206, [ila@bnl.gov](mailto:ila@bnl.gov).

**Thursdays: Reiki Healing Class**

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

**Fridays: Family Swim Night**

5-8 p.m. BNL Pool. \$5 per family.

**Fridays: BNL Social & Cultural Club**

Noon-1 p.m., Brookhaven Center, South Room, free beginners dance lessons. Rudy Alforque, Ext. 4733, [alforque@bnl.gov](mailto:alforque@bnl.gov).

**CIGNA Representative On Site, Mondays**

Each Monday, Janice Petgrave of CIGNA Healthcare will be available in Human Resources, Bldg. 185, to assist CIGNA medical plan participants with claims issues, 10 a.m.-3 p.m. Be sure to bring all pertinent documentation. For a 30-minute appointment, call Linda Rundlett, Ext. 5126.

**Literacy Suffolk, Inc. Honors BNLER Higgins As ESOL Tutor of the Year**



ESOL Program Coordinator Jennifer Lynch (third from left) with several of the BNL ESOL students who attended the Literacy Suffolk, Inc. event at the Brookhaven Town Hall.



BNL's Jim Higgins becomes Literary Suffolk, Inc.'s 2006 Tutor of the Year

At the 2006 Recognition Celebration of Literacy Suffolk, Inc., opened by Brookhaven Town Supervisor Hon. Brian X. Foley at the Brookhaven Town Hall, BNLER Jim Higgins was honored with the Tutor of the Year award. Higgins, of the Energy Sciences & Technology Department, was recognized for his three years of dedicated service as a volunteer English for Speakers of Other Languages (ESOL) tutor at BNL.

Higgins, who tutors a group of BNL ESOL students weekly, was nominated by Jennifer Lynch, BNL's ESOL Program Coordinator, for his dedication to his students' language needs

and the program, which offers free on site ESOL conversation groups for employees, visitors, guests, users and their spouses.

"I travel overseas periodically for BNL and am in countries where I don't know the language," said Higgins. "Thus, I have experienced the difficulties that our guests have when they arrive here and are not proficient in English. This provided the motivation to begin tutoring ESOL here." Higgins also thanked his students, "for all their hard work and for sharing their experiences and emotions" and Lynch for her "ongoing encouragement and support."

At the ceremony, Lynch introduced and presented the Full Circle Awards, given to students who become tutors to others. BNL's ESOL student-to-tutors Yang Chen, Vera Tanabe, and Natalia Zelenskaia won these awards. In addition, BNL ESOL students Ying Chang, Yang Chen, Christina Falter, Megumi Nambu, and Shirley Yang had writings published in the Literacy Suffolk annual publication, *Reading for Life*. To close the event, Chen also performed Mariah Carey's Hero, dedicated to all the volunteer teachers from all their students.

Concluded Lynch, "The tremendous recognition of the

BNL ESOL program by the community and local officials was inspirational. This program has proven so worthwhile for both students and tutors at BNL and makes a difference in the lives of non-English-speakers who come to the Lab. All scientists and their spouses are welcome to attend classes. Free testing of spoken English is also offered to anyone interested. Scientific staff can contact me for private consultations on pronunciation."

— Liz Seubert  
For more information contact Jennifer Lynch, ESOL Program Coordinator, Ext. 4894, [lynch@bnl.gov](mailto:lynch@bnl.gov) or see [www.bnl.gov/esol/](http://www.bnl.gov/esol/).



**BSA Noon Recital Synergy Brass Ensemble, 9/6**

The Synergy Quintet Brass Ensemble will give a concert on Wednesday, September 6, at noon in Berkner Hall. Sponsored by Brookhaven Science Associates, the company that manages Brookhaven Lab, the free concert is one of a series of noon concerts open to the public. All visitors to the Laboratory age 16 and over must bring a photo ID.

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

**Signatures of Cocaine Craving**

(cont'd)

that, in the human brain, drug addiction engages the same neurobiological processes that motivate food-seeking behaviors triggered by food-conditioned cues," Volkow said.

This research suggests that compounds that could inhibit cue-induced striatal dopamine increases would be logical targets for medication development to treat cocaine addiction.

Brain-imaging studies such as PET are a direct outgrowth of DOE's long-standing in-

vestment in basic research in chemistry, physics, and nuclear medicine. The ongoing neuroimaging research at BNL is a prime example of how DOE's national laboratories bring together the expertise of chemists, physicists, and medical scientists to address questions of profound significance for society.

— Karen McNulty Walsh  
For more information on this research, see [www.bnl.gov/bnlweb/pubaf/pr/PR\\_display.asp?prID=06-74](http://www.bnl.gov/bnlweb/pubaf/pr/PR_display.asp?prID=06-74).

**Fidelity Investment Counseling, 8/31**

A Fidelity Investment representative will be available on Thursday, August 31, to hold sessions at BNL with individual employees interested in learning more about their retirement-savings and investment options. Schedule one of the 30-minute appointments by calling (800) 642-7131.

**Mary Lamont Sings Country, 9/16**

In concert sponsored by BNL Music Club

Country singer Mary Lamont and her band will give a concert in Berkner Hall on Saturday, September 16, at 8 p.m. Sponsored by the BNL Music Club, the concert is open to the public. All visitors to the Lab age 16 and over must bring a photo ID.

Born in Ontario, Canada, and now Long Island-based, Mary Lamont has been called "Queen of Long Island Country" by *Newsday* and the *Christian Science Monitor*. Lamont and her band have recently completed a tour of China, but they usually perform closer to home, at the Jones Beach Boardwalk Bandshell, the North Fork Theatre,

and the Inter-Media Art Center, among other venues. The New Jersey Country Music Association twice voted Lamont "Female Singer/Songwriter of the Year," and she has received several honors from the American Society of Composers, Authors and Publishers.

Tickets for the show cost \$15, and may be purchased through [www.ticketweb.com](http://www.ticketweb.com); at the BERA Store, weekdays, 9 a.m.-3 p.m.; or at the door on the evening of the performance.



**Larval Tick Season Has Started**

Based on the tick life cycle, adult and nymphal stage ticks will become less present in the environment during August and September, but the larval stage will emerge in large numbers. Field sampling data by the Safety & Health Services Division has confirmed this population shift over the last few weeks in a big way.

Larval ticks are most common in grass near the edge of woods and in leaf litter in shrub areas. Larvae are the first and smallest tick stage, their actual size about the same as the period at the end of a sentence.

Fortunately, larval ticks do not carry diseases, but they do seek humans as a blood meal. This feeding can leave small marks that easily become infected and itchy. It is not uncommon for a person to contact over 100 larval ticks in a single patch of grass or leaves. The larval ticks typically attach in a small, coin-size cluster, spread rapidly, and soon start feeding. The ankles are the body location most often affected.

The best way to remove larval ticks from a human is to use clear shipping tape pressed to the skin and then slowly lifted off. The larval ticks can penetrate through the openings in the weave of cotton socks, which causes problems when using personal protective techniques that work well for the larger tick stages.

The best methods to prevent larval tick attachment are:

- wear calf-high rubber boots
- wear double socks, the inner pair being close-knit nylon. The outer pair should be white and tucked over the pants' legs
- wear white socks tucked over pants legs that have been sprayed with Permethrin spray (BNL Stock # K70764).



**Arrivals & Departures**

- Arrivals —  
Maryam Tatavosian .....NNS  
Joshua Allen ..... S&H Svcs.  
Jay Packard ..... Physics  
— Departures —  
Yangsoo Kim.....Chemistry

## Audio, Lighting Services for Lab Events Joins Media & Communications Office



Roger Stoutenburg D6070405

Ray Dumont of the Media & Communications Office

If a live Lab “event” requires a microphone or stage lighting, it requires Ray Dumont’s involvement.

Dumont is responsible for audio and lighting support for the Lab’s many lectures, conferences, meetings, concerts, and other events. In this effort, he often works with Ruth Comas, BNL’s Conference Service Manager. Some events require multi-track mixing and lighting effects, so Dumont works with the lecturers and performers to ensure that all the equipment they need is in place and the event is a success.

Recently transferred from the Instrumentation Division, Dumont joins the video, photography and graphic design teams who were already part of the Media & Communications Office in the Community, Education, Government & Public Affairs Directorate.

### For Audio, Graphic Design, Photography, or Video Service

For events that require audio, video, photography or graphic design service, an appropriate request form is available at [www.bnl.gov/pgs](http://www.bnl.gov/pgs). Typically, these services are offered at no charge. For more information about these services, all are invited to contact the people below or call Ext. 2345 for assistance.

- Audio Services: Ray Dumont, Ext. 4263
- Graphic Design: Rick Backofen, Ext. 6183
- Photography: Roger Stoutenburg, Ext. 8400
- Videography: Alex Reben, Ext. 3680.

## In Memoriam

**Francis Mottl**, who joined the Alternating Gradient Synchrotron Department as an intermediate technician on October 8, 1962, retiring as a Relativistic Heavy Ion Collider Project technical specialist on June 30, 1993, died at 75 on July 29, 2005.

**William Swatton**, who, as a machinist, joined the Central Shops Division on September 16, 1957, and retired as a tool & instrument maker on January 21, 1983, died on December 5, 2005. He was 88.

**Anna Sell**, who joined the Alternating Gradient Synchrotron Department as a clerk B on April 12, 1965, and retired as a senior executive secretary on June 30, 1982, died at 80 on March 8, 2006.

**Patricia Oster**, who, on May 24, 1965, joined the Fiscal Division as a clerk B, and retired from the Relativistic Heavy Ion Collider Project as a staff specialist on October 31, 1999, died on March 22, 2006, at age 62.

**Stephen Palermo**, who joined the Lab on March 24, 1947, taking life number 328, and retired as general supervisor of Supply & Materiel on March 25, 1977, died on March 26, 2006. He was 91.

**Herman DeCastro**, who became a Plant Engineering Division painter on May 7, 1956, and retired as a painter A group leader on January 11, 1980, died at 88 on April 5, 2006.

## Water-Main Flushing Week of 8/21-25

To improve the quality of BNL water delivered to consumers’ taps by eliminating “rusty” water, the Lab’s water mains will be flushed Monday through Friday, August 21 through 25, as follows:

- Mon. 8/21: Rutherford & Lawrence Drives
- Tue. 8/22: Upton Road through the apartment area
- Wed. 8/23: Cornell Ave. and its cross streets
- Thu. 8/24: Brookhaven Ave.
- Fri. 8/25: Bell Ave.

Before drinking or using water during and after water-main flushing, run the water in the sink, fountain, or shower to flush any discolored water from the tap. In some places, you may have to run the faucet for 5 to 10 minutes until the water runs clear.

To make sure that discolored water is not used for washing clothes, the laundries in the apartment area and in Curie and Cavendish Houses will close at 8 a.m. on Tuesday, August 22. The laundries will reopen on Wednesday, August 23, at 10 a.m., at which time the washing machines will be ready for use with clean water.

For more information, contact Bill Chaloupka, voice pager 0552.

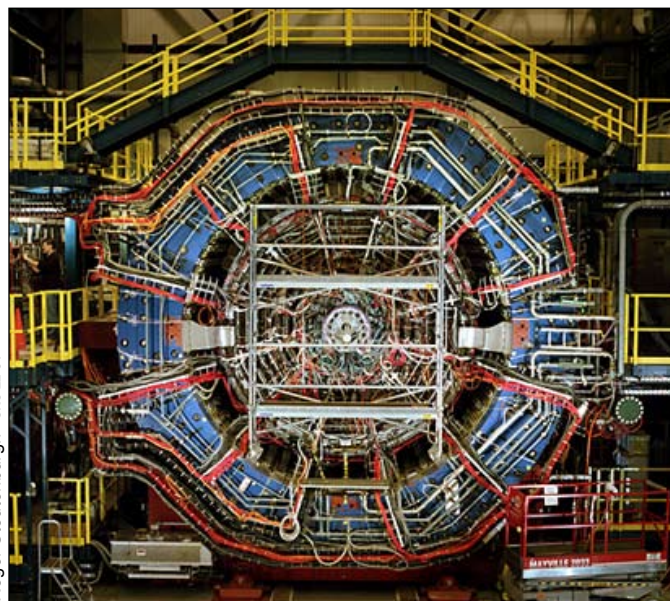
## BREA-Sponsored Talk, 9/12

### Identity Theft — Awareness, Prevention

Identity theft is a serious issue that affects all ages, but, especially among seniors, many been falling victim to identity theft predators. At noon on Tuesday, September 12, the Brookhaven Retired Employees Association (BREA) is hosting a talk, “Identity Theft — Awareness and Prevention,” to be presented by Detective Sergeant Stephen Jensen of the Identify Theft Unit of the Suffolk County Police.

This free talk will be held in Berkner Hall. All are welcome and encouraged to attend.

## Employee Lunchtime Tour Today See BNL’s STAR Detector



Roger Stoutenburg CN3-22-01

Today, Friday, August 18, take the employee lunchtime tour to see STAR, one of the huge detectors at the Relativistic Heavy Ion Collider. The group will explore “inner space” at STAR with Bill Christie of the STAR experiment. Meet the group at noon in the lobby of Berkner Hall for transportation to STAR; you will be returned to Berkner by 1 p.m.

## Ballroom Dance Lessons Begin 9/6

Two new six-week sessions of weekly ballroom dance lessons, sponsored by the BNL Ballroom Dance Club and given by instructor Giny Rae at a cost of \$30 per person for each session will start on Wednesday, September 6.

Beginner swing lessons will be held from 6 to 7 p.m. and intermediate bolero will be held from 7 to 8 p.m. at the North Ballroom of the Brookhaven Center. Lessons are open to all BNLers, and each BNLer may bring one guest.

Prospective new members may attend the first two weeks on a trial basis for free and will be required to pay \$30 per person to continue through the rest of the series.

For more information, contact Arup Ghosh, Ext. 3974; Donna Grabowski, Ext. 2720; or Vinita Ghosh, Ext. 6226.

## BERA Luxury Coach Trips

- Tuesday, 9/5 - U.S. Tennis Open, 8:30 a.m. start, \$66.
  - Saturday, 9/9 - West Point Army Football Game vs. Kent State, 9 a.m. start, \$25.
  - Saturday, 9/23 - Belmont Race Track, 10:30 a.m. start, \$40.
  - Saturday, 10/7 - Bear Mountain Oktoberfest, 8:30 a.m. start, \$10.
- Buy tickets at the BERA Store, Ext. 3347, weekdays, 9 a.m.-3 p.m.

## Weight Watchers

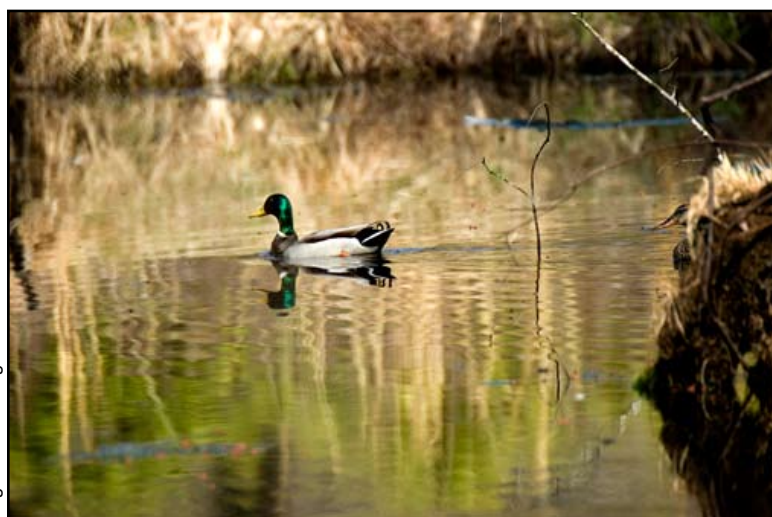
BNLers can register for the next Weight Watchers session on Wednesday, August 30, from noon to 1 p.m. in the Brookhaven Center. The cost will be \$89 for 10 weeks, payable to Weight Watchers. For more information, contact Michael Thorn, Ext. 8612 or [mthorn@bnl.gov](mailto:mthorn@bnl.gov).

## Roll Up Your Sleeve: Blood Drive, 9/7

To replenish Long Island’s blood supply, BNL is holding a blood drive on Thursday, September 7, 9:30 a.m.-3 p.m. in the Brookhaven Center. Donors must be from 16 to 75 years of age, in good health, and weighing over 110 lbs. Restrictions may apply to individuals from the United Kingdom and Europe. Donors should have photo identification and know their social security number.

To make an appointment, contact Susan Foster, Ext. 2888; Liz Gilbert, Ext. 2315.

## Tranquility Is a Mallard on the Peconic



Roger Stoutenburg D0770506

## CALENDAR

### — THIS WEEKEND —

#### Today, Friday, 8/18

**\*Employee Lunchtime Tour: STAR**  
Noon. Meet the group in Berkner Hall lobby. See and learn about STAR, a giant detector at the Relativistic Heavy Ion Collider. No registration needed. Return to Berkner by 1 p.m. See below, left.

### — WEEK OF 8/21 —

#### Friday, 8/25

**Science Learning Center Open**  
Noon-1:30 p.m. Explore interactive exhibits at BNL’s Science Learning Center, Bldg. 935. Children under 14 must be accompanied by an adult.

### — WEEK OF 8/28 —

#### Monday, 8/28

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

#### Thursday, 8/31

**TFCU Trust & Financial Services**  
11 a.m.-2 p.m., TFCU, Bldg. 129. Terry D’Amico, Financial Representative from TFCU Trust & Financial Services will be at the Upton branch of TFCU to speak about products and services offered through the TFCU Trust & Financial Services Program. For more information, call 698-7035.

### — WEEK OF 9/4 —

#### Monday, 9/4

**Labor Day Holiday. Lab Closed.**  
No Bulletin this week.

#### Tuesday, 9/5

**\*Coach Trip to U.S. Tennis Open**  
8:30 a.m. Leave BNL for the National Tennis Center. \$66 covers coach fare, \$46 ticket for day session. Buy tickets at BERA Store, Berkner Hall.

#### Wednesday, 9/6

**\*BSA Noon Recital**  
Noon. Berkner Hall. The Synergy Brass Ensemble will perform. All are welcome to this free concert, sponsored by BSA. Visitors to the Lab of 16 and over must carry a photo ID.

#### Saturday, 9/9

**\*West Point Army Football Trip**  
BERA trip. \$25 includes coach and ticket to game vs. Kent State. Coach leaves BNL at 9 a.m., returns after the game. Buy tickets at the BERA Store.

### — WEEK OF 9/11 —

#### Monday, 9/11

**\*Pegram Lecture - First of Two**  
4 p.m. Berkner Hall. Neal Lane, Rice University, will give the first Pegram Lecture on “Confessions of a President’s Science Advisor.” All are welcome. Sponsored by BSA, this free talk is open to the public. Visitors of 16 and over must carry a photo ID. See story, page 1.

#### Tuesday, 9/12

**\*Pegram Lecture - Second of Two**  
4 p.m. Berkner Hall. Neal Lane, will give the next Pegram Lecture on “The End of an Era — Science in a ‘Flat World.’” Sponsored by BSA, free and open to the public. Visitors of 16 and over must carry photo ID. See story, page 1.

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.

