A sk anyone who has been addicted to drugs and they will tell you that the desire for a drug increases when using their drug of choice—or even people, places, or objects that might remind them of drug use—can trigger an intense desire for the drug. Using sophisticated brain-imaging techniques at BNL, scientists from the National Institute on Drug Abuse (NIDA), BNL, and the University of Pennsylva
nia (UPenn) have now seen the brain chemistry that underlies these “cue-induced” cravings actually see desires. The work, which appeared in the June 14, 2006 issue of the Journal of Neuroscience, suggests new targets for medications aimed at treat- ing addiction.

This research was funded by the National Institutes of Health Intramural Program (National Institute on Alcoho
l Abuse and Alcoholism), the Office of Biological and Environmental Research within DOE’s Office of Sci-
ence, and the National Insti-
tute 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 indi-
viduals,” says NIDA Director Nora Volkow, lead author on the paper and former BNL Associate Laboratory Direc-
tor for Life Sciences. “Today we can see the same craving in specific brain activities that are linked to this experi- ence. If we can understand the mechanisms related to cue-induced craving, we can develop more effective treatment strategies to coun-
ter them.”

Previous research con-
ducted at the Lab and elsewhere has shown that all drugs increase the level of dopamine—a neurotransmitter, or chemi-
cal messenger, associated with feelings of reward and pleasure—in a part of the brain known as the nucleus accumbens. “This acute reaction in the brain’s ‘pleasure’ center is believed to underlie the reinforcing effects of addic-
tion,” said Nora Volkow. “The nucleus accumbens
plain the intense desire and compulsive use that occurs when addicted subjects are exposed to drug cues,” said Gene-Jack Wang of the Med-
ical Depart-
ment, who led BNL’s role in the curent re-
search. Oth-
er members of the Medical Depart-
ment at BNL involved in the research in- clude: Frank Telang, Jo-
anna Fowl-
er, Millard Jayne, Ye-
none Ma, and Christopher Wong.

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

“To make the drug-cues video, we worked with ad-
dicts 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 & Com-
munications Office, filmed and helped edit the videos. Compared to the neutral video, the cocaine-cues video triggered a significant increase in dopamine in the dorsal striatum, a part of the brain involved in experienc-
ing 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 stud-
ies that have suggested a role for the dorsal striatum in cue-induced craving. In those studies, neutral stimuli such as a particular cage envi-
ronment that had been paired with a drug injection resulted in lower dopamine increases in the dorsal striatum, a result that was correlated with drug-seeking behavior in the animals. The finding is also consist-
ent with earlier Brookhaven research that led to the use of cue-induced craving in the future of American science.

George B. Pregam 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 Advi-

sor 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 Tues-
daoy, 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 Sci-
tie April 20, 2006

cence Associates through the Science & Technology Policy, of the White House Office of 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 at 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, 1993-98, Lane became Assis-
tant to the President for Science & Technology and Director of the White House Office of Science & Technology Policy, bringing about unhampered international competition, the demise of economic stability, and a trend toward outsourcing serv-
ices, such as computer programming, engineering and scientific research. Lane will also discuss a “flat-
ter world in terms of leveling the playing field between developed and under-developed countries, and the implications for American science.”

This finding is consistent with earlier Brookhaven research that led to the use of cue-induced craving in the future of American science.

rently, Lane is the Malcolm Gillis Professor at Rice University and holds ap-
pointments 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 presen-
tations include topics in theo-
retical atomic and molecular physics and science and tech-
nology policy. His honors in- clude the American Association for the Advancement of Science (AAAS) Philip Hausho Abelmoss Award, the AAAS William D. Carey Award, the American So-
 ciety of Mechanical Engineers’ President’s Award, the Ameri-
can Chemical Society Public Service Award, the American Astronomical Society/Ameri-
can Mathematical Society/Ameri-
can Physical Society Public Service Award, and many hon-
orary degrees. He is a Fellow of the American Academy of Arts and Sciences, the Ameri-
can Physical Society and the AAAS. — Diane Greenberg
The Bulletin
August 18, 2006

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 Literacy Suffolk, Inc.'s 2006 Tutor of the Year

Signatures of Cocaine Craving

that, in the human brain, drug addiction engages some 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 dopaminergic activity could 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 investment 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 expertise from 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/pub/pr/pr/display.asp?prID=06-74.

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 Berkeley 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 Chenango County 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 other venues.

Larval Tick Season Has Started

Based on the tick life cycle, adult and nymphal stage ticks will become less present in the environment by late September, but the larval stage will emerge in large numbers. Field sampling data by the Safety & Health Services Division has confirmed this population has been much lower this season 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 stage of ticks, yet in their larval form they are actually about the same size at the period as the end of a sentence.

Fortunately, larval ticks do not carry diseases, but they do seek human and animal blood meals. This feeding can leave small marks that easily become infected and itchy. It is not uncommon for a person to have a dozen or more ticks in their skin at any one time. Fortunately, larval ticks do not carry diseases, but they do seek human and animal blood meals. This feeding can leave small marks that easily become infected and itchy. It is not uncommon for a person to have a dozen or more ticks in their skin at any one time. Fortunately, larval ticks do not carry diseases, but they do seek human and animal blood meals. This feeding can leave small marks that easily become infected and itchy. It is not uncommon for a person to have a dozen or more ticks in their skin at any one time. Fortunately, larval ticks do not carry diseases, but they do seek human and animal blood meals. This feeding can leave small marks that easily become infected and itchy. It is not uncommon for a person to have a dozen or more ticks in their skin at any one time.
Audio, Lighting Services for Lab Events Join 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, 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 joined 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/pga. 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. 6400

Video Production: Alex Reben, Ext. 3680.

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, Prevention,” to be presented by Detective Sergeant Stephen Jenson of the Identity 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

To replenish Long Island’s blood supply, BNL is holding a blood drive on Thursday, September 7, 9:30 a.m.-1 p.m. in the Brookhaven Center. Donors must be from 16 to 75 years of age, in good health, and weigh at least 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

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 Drive
• Tue. 8/22: Upton Road through the apartment area and Wind. 8252-Comoll Ave. and its cross streets
• Thu. 8/24: Brookhaven Ave. Fe. 8252: 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 laundry in the area area and in Cans and Caverness Houses will close at 8 a.m. on Tuesday, August 22. The laundry will reopen on Wednesday, August 23, at 10 am, at which time the washing machines will be ready for use with clean water.

For more information, contact Bill Chalojukpa, voice page 0552.

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.-1 p.m. in the Brookhaven Center. Donors must be from 16 to 75 years of age, in good health, and weigh at least 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

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 Ginny 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 Grabowsky, Ext. 2729; or Vinata 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, 9/9 - Belmont Race Track, 10:30 a.m. start, $40.
Saturday, 10/7 - Bear Mountain Oktoberfestival, 8:30 a.m. start, $10.
Buy tickets at the BERA Store, Ext. 3347, weekdays, 9 a.m.-3 p.m.

Weight Watches

BNLers can register for the next Weight Watches 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.

CALENDAR

— THIS WEEKEND —

Today, Friday, 8/18

*Employee Lunchtime Tour: STAR Noon. Meet the group in Berkner Hall at 12:45. BREA’s premiere talk about STAR, a giant detector for exploring heavy ion Colliders. No registration needed. Meet in Berkner by 1 p.m. See below, left.

— WEEK OF 8/21 —

Friday, 8/25

Science Learning Center Open

9:30-10 a.m. Explore interactive exhibits at the Science Learning Center, Bldg. 953. Children under 14 must be accompanied by an adult.

— WEEK OF 8/28 —

Monday, 8/28

— WEEK OF 9/4 —

Monday, 9/4

Labor Day Holiday, Lab Closed. No B&B 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 in Berkner Hall. The Syn- ergy Brass Ensemble will perform. All are welcome. Free and open to requests 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 tickets for the Kent State game. Coach leaves BNL at 9 a.m. and return to BNL at 1 p.m. Buy tickets at the BERA Store.

— WEEK OF 9/11 —

Monday, 9/11

*Pegram Lecture - First of Two

4 p.m. Berkner Hall. Guest speaker, John H. Rice, University will give the first of two Pegram Lectures. The Pegram Lectures of a President’s Science Advisor. All Pegram Lectures are 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. Guest speaker, John H. Rice, University will give the second Pegram Lecture. The Pegram Lectures of a President’s Science Advisor. All Pegram Lectures are 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.

Note: This calendar is updated continu- ously and will appear in the Bulletin whenever possible. The next deadline for entries must be the preceding Friday at 12 noon to appear in the following week’s Bulletin. Enter information for each event in the order listed above, event name, description, and cost and send it to bulletin@bnl.gov. Write “Bul- letin Calendar” in the subject line.
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SC517. TECHNICAL WRITER
quire an A degree in electronic
tro study of materials science. Must have a
working knowledge of digital
electronics, circuit design and
experience with AutoCAD LT or other
is open to any discipline. No experi
level, basic electronics, basic circuits
port to boards to the component level.
le, how to read printed circuit drawings,
and assemble chassis using manual and
must be available to work overtime
to respond to any emergency/ operations as required. CoolCen

2 VOLKSWAGEN GOLF - ecol, cond. a

2 TOYOTA SOLARA - SE, orin

5 MERCURY MARQUIS C-30 - 75,350,

4,55, 80, 89-101, 26.:

2 MERCURY MARQUIS C-30 - 75,350,

VENDABLE FOODS - $2,500. Ext. 4229.

MAY 19 - Yard & Garage Sales

ROGER STOUTENBURGH


time, no Scan 3000F (9600 dpi) like new in

369-9720.

25' MORGAN M24 SAILBOAT - 1968 M24,

23' PROLINE WALKAROUND - 1981

2000 trailer incl. $8,000/neg. 286-7291.

2000 HP Evinrude, fresh rebuild, Cox

trailer, all safety equipment, tripod for

7 min. to Lab. $775/mo. neg. 747-3455.

RENEWABLE RENT - 2bed, 2-bath, 2-car

SHIRLEY - room, microwave kitchenette,

n tying or pets. $1,000/mo. Susan, Ext. 8232.

369-9720.

Palm Beach Shores, FL - Marriott Vac.

CEN MACHINES - 3-bd, 2-bath condemned

Palm Beach Shores, FL - Marriott Vac.

On-Site Services

On-Site Services - We can install or service your plumbing and heating needs and repairs. Full service plumbing, air conditioning, and heating systems. Our team of experienced plumbers and technicians is available 24 hours a day, 7 days a week. We specialize in water heater replacements, pipe repair, and drain cleaning. We also offer 24/7 emergency services for burst pipes, clogged drains, and other plumbing emergencies. We pride ourselves on providing fast, reliable service with competitive pricing. Please call us today at 561-745-1111 or visit our website at timesonite.com for more information.

In Appreciation

I would like to thank everyone who has supported our family over the years. Your generosity and kindness have greatly contributed to our family's growth and success. Without your support, many things would not have been possible. We are humbled and grateful for all your contributions. We will always remember the good times we shared with you.

Ann Marie Luhrs

Classified Advertisements

Placement Notices

The Lab’s placement policy is to select the best qualified candidate for the position. Candidates are considered in the following order: BNL employees within the department/area in which the position is open, BNL employees with ESH experience for those within the immediate work group, then BNL employees outside the Laboratory, and (3) outside applicants.

LABORATORY RECRUITMENT – Opportunities for Laboratory employees

NR-5707: PROGRAM ENGINEER (P-9) - Requires a BS in mechanical engineering with 5 years of experience, or equivalent combination of experience and education. 10 years of experience with a successful track record in the area of design and construction of experimental apparatus. Excellent communication skills and ability to develop effective technical procedures is also required. Applicant must have experience in the use of CAD, engineering drawing standards, detail design, purchasing and drafting. Familiar with engineering analysis and Fabrication Drawings. Knowledge of relevant specifications and experience with project management tools such as Primavera. Will be responsible for generating long term project schedules that reflect tasks, durations, milestones and other key project management tools. Candidate’s role will be to plan, design, develop, install and maintain equipment, facilities, and systems that facilitate the completion of project tasks. Will work with the Vendor Project Office, and other BNL Divisions, to ensure systems and policies. Responsibilities will be to plan and coordinate project work for the STAR Priority projects and the STAR Accelerator Upgrade. Supervise a group of design engineers and support staff to meet planned goals and objectives. Applicant must have strong technical and effective management and maintenance skills, knowledge of autoCAD-12000 and other vector components. Will be responsible for the overall design and implementation of SBX and must provide the necessary work planning and oversight to meet established safety policies and goals. Will work with the STA Accelerator Upgrade design reviews of new collaborative projects to ensure that the required design reviews of new collaborative projects to ensure that the required

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