

Mezzanine Level Completed at NSLS-II

See the last concrete poured for the mezzanine floor of the ring building tunnel at NSLS-II in a video, titled "Concrete Pour in NSLS-II Ring," on BNL's YouTube channel: www.youtube.com/user/BrookhavenLab.



Roger Stoutenburgh 02960307

Brookhaven Town Honors BNL Scientist Nelly Alia-Klein

Nelly Alia-Klein, a scientist in BNL's Medical Department, will be honored for her accomplishments in science at Brookhaven Town's 25th Annual Women's Recognition Night on Tuesday, March 22, at 6:30 p.m. at Town Hall in Farmingville. She will be among 13 women honored for their contributions to various fields in a public ceremony to celebrate the significant achieve-

ments of local women during Women's History Month.

Initially trained as a clinical psychologist with expertise in forensic psychology, Alia-Klein has specialized in neuroimaging, together with DNA and behavioral analyses, to study the mechanisms that underlie aggression and violent behavior.

See *Nelly Alia-Klein* on p. 2 and related story below

Brain's Neurons in Drug Addiction Reduced By Genetic Makeup, Duration of Abuse

A study conducted at BNL demonstrated that drug addicted individuals who have a certain genetic makeup have lower gray matter density — and therefore fewer neurons — in areas of the brain that are essential for decision-making, self-control, and learning and memory.

The research, conducted by scientists from BNL, Stony Brook University, Mount Sinai School of Medicine, the National Institute on Alcohol Abuse & Alcoholism, and the National Institute on Drug Abuse, is reported in the March 7, 2011 issue of the *Archives of General Psychiatry*.

Nelly Alia-Klein, a study co-author who is a BNL medical scientist, said, "This research shows that genes can influence the severity of addiction. The results suggest that addicted individuals with low MAOA

[monoamine oxidase A] genotype may need a different kind of treatment than other addicted individuals who carry the high MAOA genotype. More studies need to be conducted before implementing changes in treatment strategies. However, addiction treatment professionals and others who manage addicted individuals, such as probation officers and judges, should be informed of these and other new findings in the neurobiology of drug addiction."

This and previous studies have shown that cocaine-addicted individuals, relative to non-addicted individuals, have lower gray matter density in frontal parts of the brain — which is important for paying attention and organizing one's own behavior — and in the hippocampus, a brain region important for...

See *Drug Addiction* on p. 3

Talk by Princeton's Bassler, 3/24: Cell-to-Cell Communication in Bacteria

Bonnie Bassler, Howard Hughes Medical Institute investigator and Squibb Professor of Molecular Biology at Princeton University, will give a talk, titled "Tiny Conspiracies: Cell-to-Cell Communication in Bacteria," on Thursday, March 24, at 4 p.m. in Berkner Hall. Sponsored by Brookhaven Women in Science, the talk is free, and no pre-registration is required. All visitors to the Lab age 16 and older must carry a photo ID.

Bassler made key insights into how bacteria communicate with



Bonnie Bassler

one another in a process called "quorum sensing." The bacteria use receptors on their surfaces that allow them to detect and respond to the buildup of chemical molecules that travel from cell to cell. Quorum sensing allows bacteria to perform in unison, rather than individually, so that they are more effective in performing functions such as forming spores or spreading infection. Bassler's current research is focused on developing novel anti-bacterial... See *Bassler's Talk* on p. 2

A Message From Laboratory Director Sam Aronson

During the past several days, we have seen the devastating images of the earthquake and tsunami in Japan. Please join me in offering our thoughts and condolences for those affected, including members of the BNL community with loved ones, colleagues, and collaborators in that country.

The Lab has long had close ties with scientists and scientific institutions in Japan. Notably, the major collaborative programs that took place at the High Flux Beam Reactor on neutron scattering experiments through JAERI, the Japan Atomic Energy



R.S. DOT50405

Research Institute (now known as the Japan Atomic Energy Agency, JAEA), and now in programs through ISSP, the Institute of Solid State Physics; as well as at the Alternating Gradient Synchrotron on particle physics, the latter since 1979 through KEK, the High Energy Accelerator Research Organization in Tsukuba, and continuing to date with the PHENIX Collaboration at the Relativistic Heavy Ion Collider (RHIC). RIKEN, the Institute of Physical and Chemical Research in Japan, joined the RHIC spin physics program leading to the establishment in 1997 of the

RIKEN BNL Research Center on site in collaboration with BNL. In addition, BNL has been visited by many hundreds of Japanese scientists, some on a long-term basis, and in turn BNL scientists have also visited Japan regularly, collaborating with colleagues there, lately including those at J-PARC, the Japan Proton Accelerator Research Complex, and at SPring-8, the Japan Synchrotron Radiation Research Institute.

Our great sympathy goes out to all our friends from these institutions and elsewhere in this extreme disaster.

Information on ways to contribute to relief efforts will be announced, both on the homepage and in an upcoming Bulletin.

Eight BNL Scientists Granted Tenure



Roger Stoutenburgh 01680311

At a reception on March 9 with Lab Director Sam Aronson (left) and Deputy Director for Science & Technology Doon Gibbs (right) are newly tenured BNL scientists: (front, from left) Mary Bishai, Peter Petreczky, Elke Aschenauer, Lin Yang, Vasilis Fthenakis, and Vadim Ptitsyn. Jianwei Qiu and Jian Wang were unable to attend.

Brookhaven Science Associates (BSA) granted tenure to eight BNL scientists, effective December 1, 2010. The scientists are: Elke Aschenauer, Physics Department; Mary Bishai, Physics Department; Vasilis Fthenakis, Sustainable Energy Technologies Department; Peter Petreczky, Physics Department; Vadim Ptitsyn, Collider-Accelerator

Department; Jianwei Qiu, Physics Department; Jian Wang, Environmental Sciences Department; and Lin Yang, Photon Sciences Directorate.

Tenure appointments are made after a rigorous selection procedure culminating in a comprehensive review of each tenure case by the Brookhaven Council, an elected body that

advises the Director on matters of concern to the scientific staff. The BSA Science & Technology Steering Committee oversees the tenure process and makes final recommendations to the BSA board. The newly tenured scientists will be featured in alphabetical order: The contributions of Elke Aschenauer are summarized below.

Elke Aschenauer

Physicist Elke Aschenauer received tenure for her scientific and technical accomplishments in the study of the spin structure of the nucleon in high energy electron-proton collisions, and her demonstrated ability to lead large, international groups of scientists in the design and execution of such experiments. She joined BNL in 2009 to become group leader of the spin program at the Relativistic Heavy Ion Collider, and she is also co-leader of the department's task force to develop the science program for an electron ion collider.

Said Physics Department Chair Tom Ludlam, "Elke was recruited after an extensive search led by scientists from the Physics and Collider-Accelerator Departments and Stony Brook University. She is an internationally known experimental physicist of great ability, and a significant asset for our present and future programs in nuclear physics."

Aschenauer received her Ph.D. in physics at the Federal Institute of Technology (ETH) in Zurich, Switzerland, in 1994.



Roger Stoutenburgh 02240211

At the *Deutsches Elektronen-Synchrotron* (DESY) in Germany, 1997-2006, she helped build the HERMES experiment at DESY's HERA facility, one of the major high energy spin experiments in the world, complementing those at RHIC. She served as spokesperson for the HERMES collaboration and played a key role in achieving results of fundamental importance on the flavor structure of polarized quarks in the proton. She left DESY as a staff

scientist with tenure to join Jefferson National Laboratory as a group leader of the Hall D project to build a large new detector for the CEBAF accelerator. Here she successfully led the scientific and technical staff through the rigorous DOE Critical Decision stages to bring this major project to construction readiness. Her contributions also include many invited scientific talks at workshops and conferences world-wide.

— Liz Seubert

CALENDAR

OF LABORATORY EVENTS

- The BERA Store in Berkner Hall 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.
- Events flagged with an asterisk (*) have an accompanying story in this week's Bulletin.

— REGULARLY —

Weekdays: Free English for Speakers Of Other Languages Classes

Beginner, Intermed., Adv. classes, various times. All welcome. Learn English, make friends. See <http://www.bnl.gov/esol/schedule.asp> for schedule. Jen Lynch, Ext. 4894.

Mondays & Thursdays: Kickboxing

\$5 per class. 12:15–1:15 p.m. in the gym (Bldg. 461). \$5 per class. Ext. 2873.

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

Noon–1 p.m., B'haven Cntr (Bldg. 30), N. Rm. Adam Rusek, Ext. 5830, rusek@bnl.gov.

Tues.: Hospitality Welcome Coffee

10:30 a.m.–noon. Rec Hall (Bldg. 317). Meet over coffee. Children welcome. Ext. 2873.

Tuesdays: Zumba

Noon–1 p.m., in the gym (Bldg. 461). Registration required, Ext. 2873.

Tuesdays: Knitting Class

2–4 p.m. Rec Hall (Bldg. 317). Learn to knit/crochet — all skill levels. Free. Ext. 2873.

Tuesdays: Toastmasters

Two monthly meetings: 1st & 3rd Tuesdays, 5:30 p.m., Bldg. 463, Room 160. Guests and visitors welcome. <http://www.bnl.gov/bera/activities/toastmasters/>.

Tuesdays & Thursdays: Aerobic Fitness

5:15–6:30 p.m. in the Rec. Hall (Bldg. 317). \$5 per class, or 10 classes for \$40. Pat Flood, Ext. 7886 or flood@bnl.gov.

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

5:30–9:30 p.m. in Bldg. 317. General activities, TV, ping pong, chess, games, socializing. Christine Carter, Ext. 5090.

Tuesday & Thursday: Aqua Aerobics

5:30–6:30 p.m., Pool (Bldg. 478). Registration required, Ext. 2873.

Wednesdays: Ballroom Dance

5:15 p.m., 6:15 p.m., and 7:15 p.m. N. Ballroom, Brookhaven Center (Bldg. 30). <http://www.bnl.gov/bera/activities/dance/default.asp>.

Wednesdays: Pilates

5:30–6:30 p.m. at the Rec Hall (Bldg. 317). Registration required, Ext. 2873.

Wednesdays: Play Group

10 a.m.–noon. Meet at Rec Hall (Bldg. 317). Parents meet while infants/toddlers play. For events, see <http://www.meetup.com/BNL-Playgroup/>, or call Ext. 2873.

Wednesdays: Yoga

Noon–1 p.m., B'haven Center (Bldg. 30). Free. Ila Campbell, Ext. 2206, ila@bnl.gov.

1st Wednesday of month: LabVIEW

1:30–3 p.m., Bldg. 515, 2nd fl. Seminar Rm. Free technical assistance from LabVIEW consultants. Ext. 5304, or Terry Stratoudakis, (347) 228-7379.

Thursdays: BNL Cycletrons Club

5 p.m., Brookhaven Center. First Thurs. of month. Tim Devine, Ext. 2350.

Thursdays: Reiki Healing Class

Noon–1 p.m., Call for location. Nicole Bernholz, Ext. 2027.

Thursdays: Postdoc Social Night

6:30 p.m. ASAP Lounge (Bldg. 462). www.bnl.gov/asap.

Fridays: Family Swim Night

5–8 p.m. Pool (Bldg. 478). \$5/family. Ext. 2873.

Arrivals & Departures

— Arrivals —

Bryan Marino Photon Scis

Yupang Zhang..... CFN

— Departures —

Jun-Sik Lee..... Photon Scis

Support Troops

The AdoptaPlatoon team is collecting lip balm, baby powder, and instant drink mix in individual stick packages for the Lab's adopted platoon. Drop off gifts in boxes located at Bldg. 490, clinic; Bldg. 400, lobby; Bldg. 488, lobby; and Bldg. 510, library.

Book & Bake Sale: The AdoptaPlatoon team will also host a book and bake sale in Bldg. 400 on Thursday, March 31, from 11 a.m. to 3 p.m. and bakers are needed. To volunteer, call Janet L. Sikora, Ext. 3670.


Tax Assistance Workshop For Visiting Foreign Nationals

A workshop to offer assistance to foreign nationals filing taxes will be sponsored by the Quality of Life/BERA/Recreation Office on Wednesday, March 23, at noon in Berkner, Room C (Bldg. 488). Internal Audit & Oversight Office Director Mark Israel will give a presentation and beverages will be provided. To register, call the Recreation Office (Ext. 2873). For a copy of the 1040NR Form, go to www.irs.gov/pub/irs-pdf/i1040nr.pdf, and additional information can be found online: www.irs.gov/formspubs/lists/0,,id=97817,00.html.

DOE is Pumped Up Over New Energy Innovation

Report on Advanced Research Projects Agency for Energy's second annual Energy Innovation Summit

Written for Monday Memo 3/14, by Paul Kalb, Environmental Research & Technology Division Head, Environmental Sciences Department



R.S. 03120310

Just as President John Kennedy established the ambitious goal in 1961 to land a human on the moon in less than 10 years to assert American leadership in science and technology, President Barack Obama has set the equally tough challenge of generating 80 percent of our electric power by green technologies by the year 2035. If achieved, this goal will decrease our dependence on foreign oil, improve national security, and reduce production of greenhouse gases that threaten our climate. Like the space race did 50 years ago, implementing this goal will require improvements in science and technology education and creation of new industries and jobs to provide the fuel needed to sustain our economy for many years to come.

DOE Secretary Steven Chu understands that the fundamental driver to achieve these goals is new, innovative research and development (R&D). In 2009, DOE took a page from the De-

partment of Defense R&D strategy book and established a new organization known as the Advanced Research Projects Agency for Energy (ARPA E) to stimulate out-of-the-box high-risk/high-payoff energy research. Such efforts are intended to supplement ongoing DOE energy research, not compete or detract from them.

Earlier this month, ARPA E held its second annual Energy Innovation Summit to report on progress and generate support for the program in Congress, which, like much of the federal government, is facing large budget reductions.

The summit drew more than 2,000 participants from industry and the scientific and technical communities in academia and the national labs, demonstrating the widespread interest in addressing these critical issues. Speakers included representatives from DOE, including Secretary Chu and ARPA E director Arun Majumdar, elected officials, stakeholders, and representatives of the research community. Secretary Chu emphasized that development of “game-changing technologies,” such as the internet and global positioning satellites (GPS), were a direct result of the Defense Research Projects Agency (DARPA) – which has

served as a model for ARPA E.

Strong bi-partisan support was expressed by Senators Mark Udall (D-CO), Lisa Murkowski (R-AK), and Lamar Alexander (R-TN), and Representative Steven Israel (D-NY), as well as Secretary of the Navy Ray Mabus and former California Governor Arnold Schwarzenegger, who gave a humorous but inspired talk that got the crowd “all pumped up” and resulted in a standing ovation. Schwarzenegger pointed to innovative energy policies adopted in California that are leading to real progress, including energy efficiency regulations that have resulted in improvements of 40 percent compared with the rest of the nation, improved fuel efficiency standards for vehicles, and an aggressive renewable energy goal for California of 33 percent by 2020.

Cutting-edge energy innovations were featured at the event, including:

The Makani Airborne Wind Turbine, a wind turbine on a light-weight wing that flies at high altitudes where wind currents are strong and power is transferred to the ground via a conductive tether;

Solar cells that can be cast into molds directly from molten silicon, improving production efficiencies by 50 percent and

significantly reducing production cost compared with traditional methods in which wafers are sawed off a large ingot;

A low-cost catalytic system that uses solar energy to split water into oxygen and hydrogen fuel for storage and use when the sun is not available for direct power;

A passive, optimized wind turbine design inspired by airplane jet engine technology;

A new battery storage technology combining the approach of rechargeable batteries, fuel cells, and flow batteries to enable cost-effective energy storage systems that can be used for transportation and electric grid applications; and

A fuel-free compressed air energy storage technology to enable low-cost storage of energy on the grid and to facilitate use of intermittent renewable power sources such as solar and wind.

DOE's take-home message from the ARPA E Innovation Summit was that energy independence and security and reduction in greenhouse gas emissions through innovative renewable power are attainable goals. Getting there, however, will require a significant investment and a concerted team effort from our nation's science and technology innovators.

Through InSynC, Local Students, Teachers Become Light Source Researchers

Three Long Island science classes used powerful x-rays at the National Synchrotron Light Source (NSLS) in February in experiments that they designed and controlled, without ever leaving the classroom. As the first participants to be allocated beam time through the Introducing Synchrotrons into the Classroom (InSynC) program, students and teachers from Elwood-John Glenn High School, Sachem East High School, and Islip Middle School conducted two environmental experiments: one examines how biofilms from bacteria, algae, and fungi might be used to clean up toxic levels of copper in fresh water (John Glenn and Sachem East), and the other compares the effectiveness of several popular home water filters (Islip).

After sending their samples to NSLS, the students watched via webcast as scientists probed the samples with micrometer-sized x-ray beams. The classes continued to discuss their re-



InSynC founders, counterclockwise from bottom, Tony Lanzirrotti, Scott Bronson, and Lisa Miller, talk via webcast with students from Islip Middle School along with BNL science writer Kendra Snyder (top left) and Newsday reporter Joye Brown (bottom left).

sults with NSLS scientists over the past weeks.

In early March, a second group of applicants was approved for the next round of classes. They will be starting work at the NSLS in two or three weeks. In addition, a teacher

workshop will be held on May 25 and 26, during the National Synchrotron Light Source Users' annual meeting. For more information see the InSynC web page at <http://insync.nsls.bnl.gov/> or contact Scott Bronson, sbronson@bnl.gov. — Kendra Snyder

Nelly Alia-Klein from p. 1

“A clinical term for violent behavior is ‘intermittent explosive disorder,’” said Alia-Klein. “The disorder is described as overwhelming anger that is disproportionate relative to the provocation, which results in damaging behavior, including physical assault, damage to property, and trauma to others. This behavior is relatively rare in the general population, but it tends to be repetitive and long-lasting in people with the diagnosis.”

The legal system is working to ensure accountability for those who act out on their impulses to behave violently. However, treatment to prevent such behavior is limited and underutilized.

While therapies and certain medications have been tested to control the propensity to act out violently to perceived provocation, Alia-Klein says they are not readily available or frequently sought by those affected.

“The disorder is both understudied and undertreated,” Alia-Klein said. “I advocate more infrastructure support and funding for researchers to study violence in our society. While there are organizations that are funded to study mental health illnesses such as schizophrenia and drug addiction, there is no organization devoted to the study of those prone to violence. I am thankful that Brookhaven Town has recognized my work

in this area, and I hope that more scientists will become interested in this field.”

Alia-Klein earned a B.A. in psychology and English literature from Adelphi University in 1997 and a Ph.D. in clinical psychology from Columbia University in 2002. She participated in a one-year internship in clinical psychology at Long Island Jewish Medical Center in 2001 and received her New York State clinical psychology license in 2003. After working as a postdoctoral research associate at BNL from 2002 to 2005, she joined the Lab staff as an assistant scientist in 2005 and became a medical scientist in 2010.

— Diane Greenberg

Brookhaven Lab Joins DOE Boulevard At AAAS Meeting, Talks Nano, Accelerators

Armed with nanopants, memory wire, handouts, and giveaways, members of the Community, Education, Government, and Public Affairs (CEGPA) Directorate and the Office of Technology Commercialization and Partnerships spread the word about Brookhaven Lab throughout Washington, D.C. in February. BNL was one of 10 Office of Science-funded national labs that showcased their work at the 177th annual meeting of the American Association for the Advancement of Science (AAAS), held February 17-21.

In the AAAS exhibit hall, BNL joined “DOE Boulevard,” a row filled with hands-on activities and displays highlighting everything from the everyday benefits of accelerator technology to the value of fusion energy. BNL was well represented at the Office of Science exhibit, where liquid nitrogen ice cream was served up as

part of a special DOE reception on Friday afternoon.

At BNL’s booth, CEPGA employees talked with educators, scientists, policy makers, journalists, students, and families about the Lab’s science, focusing on the user facilities: the Center for Functional Nanomaterials (CFN), the Relativistic Heavy Ion Collider (RHIC), the National Synchrotron Light Source (NSLS), and the upcoming NSLS-II. Employees from the CFN and the RHIC & AGS Users’ Center also helped staff booths for the Nanoscale Science Research Centers and the National User Facility Organization.

As part of the meeting’s Family Science Days, Office of Educational Programs set up a second, educational, booth. There, children played with memory wire — a bendy material that goes back to its original shape when put in warm water — as well as



The Office of Science’s AAAS booth featured 10 national laboratories.

with ferroliquid, a suspension of nanoscale magnetic particles that create beautiful, field-induced patterns when a stand-alone magnet is nearby. They also learned about the influence of nanoparticles on common materials like clothing. The kids dropped water on swatches from two types of pants — one containing nanoparticles and one without — and

watched what happened.

In addition, Brookhaven physicist Zhangbu Xu participated in AAAS symposia about “recent adventures in antimatter.” Xu, one of five speakers from around the country, told the audience about the discovery of the heaviest known antimatter, which was announced at RHIC last spring.

— Kendra Snyder

Blizzard Brings New NSLS Microscope: A 2010-11 Winter Snow Story

This March, as Long Islanders cautiously listen to weather forecasts that seem set for sun or rain, **not** snow — many look back over this winter and recall at least one “snow story” in which great efforts prevented undesirable outcomes. BNL is no exception. Here is the story of how one important microscope made it safely through whiteout conditions to safe haven at the Lab.

As snow fell fast and furious from a winter blizzard sweeping over Long Island, a microscope arrived by truck at the Main Gate on the evening of December 26, 2010. At the time, Brookhaven Lab was officially closed because of the storm and would remain closed until noon, December 28.

So began a three-day saga of clearing snow to move the expensive and delicate instrument to a staging area on site and then to the National Synchrotron Light Source (NSLS), its final destination.

Compacting the tale into only three sentences, the delivery truck parked at the gate under the watchful eyes of Laboratory Protection staff for a day and a half, with the driver “camping out” in the sleeper unit of his tractor. Site Resources personnel coordinated snow removal and rigging, con-



The new TXM at NSLS beamline X8C

sulting with Procurement & Property Management staff about contractual terms of the delivery. Site Resources also opened its doors at Central Fabrication, Bldg. 479, to hold the instrument safely until the west roll-up door at the NSLS was ready for delivery.

Setting aside for a moment the microscope’s dramatic arrival at the Lab, the story of the instrument began in 2009. With support from NSLS management, Light Source scientists and resident users Jun Wang, Yong Chu, Ken Evans-Lutterodt, and Tony Lanzrotti proposed acquiring a transmission x-ray microscope (TXM) for three research themes: x-ray imaging of energy storage materi-

als, microelectronics structural studies, and nanotomography of biofuels. Industrial and academic users will benefit significantly from this new imaging capability. The application energy range of this hard x-ray microscope is 5 to 11 thousand electron volts, and its target imaging resolution is 30 nanometers, ideal for these studies. (One nanometer is one billionth of a meter.)

Led by Wang, the team obtained \$2 million of American Recovery and Reinvestment Act (ARRA) funding and ordered the instrument — called the nano-XCT-S200 — from Xradia, Inc., headquartered in California.

According to Wang, the TXM

is a critical element of a 2010 NSLS-II beamline development proposal that had a successful review last year. With future funding anticipated, said Wang, “The microscope will be moved to a superconducting wiggler source at NSLS-II, where we will target video-speed imaging with resolution better than 30 nanometers.”

The instrument arrived in three crates, the biggest weighing 8,300 pounds and measuring 10 x 4 x 7 feet, large enough to walk into.

With the size and weight of that one crate, the final leg of the microscope’s journey was the most worrisome. Rigging supervisor Jim O’Malley said that the NSLS loading area has an incline, which made the move into the building tricky even with the snow cleared. In the end, with a bit of skillful maneuvering, the job was done successfully and safely.

Installation by Xradia engineers on beamline X8C — with help from NSLS staff members Lonny Berman, Joe Dvorak, Edwin Haas, Rodger Hubbard, Sorin Pop, and Zhijian Yin — took place January 24-28, and commissioning began at the end of February.

— Mona S. Rowe

Drug Addiction from p. 1

...learning and memory. The current study found that cocaine-addicted individuals with a low MAOA genotype had lower gray matter density in the brain’s orbitofrontal cortex than addicted individuals with a high MAOA genotype or non-addicted individuals. MAOA is an enzyme that regulates neurotransmitters in the brain, such as serotonin and dopamine, which control mood and behavior.

In addition, the current study found that the pattern of low gray matter was correlated with the number of years of alcohol, cocaine and cigarette use in the addicted group. The longer cocaine, alcohol, and cigarettes were abused, the lower gray matter was found in the hippocampus and frontal regions of the brain. This result means that curtailing drug use may be protective against such brain changes.

The scientists recruited 82 men — 40 addicted to cocaine and 42 controls — for the study using advertisements in local newspapers and from local treatment centers. All the participants provided informed consent in accordance with the local institutional review board. They were given physical/neurological, psychiatric and neuropsychological examinations, including tests of intellectual functioning, and the researchers determined that all the men were healthy and not taking medication.

To determine the genotype of each participant, the scientists took DNA samples and analyzed them for the presence of high or low MAOA. The researchers also scanned the subjects’ brains using magnetic resonance imaging, and a method called voxel-based morphometry enabled the researchers to determine the proportion/density of gray mat-

ter (as an estimation of neuron density) in the whole brain. The gray matter volume was then compared between the groups and correlated with genetic type and duration of drug use.

“Only males were part of this study and therefore it is important for future studies to examine these genetic and brain effects in females as well,” Klein explained. “Also, further studies will have to be done to track these gene-brain-behavior patterns throughout a lifespan that influence the volume of the brain’s neurons.”

The National Institute on Drug Abuse, the National Institute on Alcohol Abuse and Alcoholism, and the National Association for Research on Schizophrenia and Depression supported this research using infrastructure supported at Brookhaven Lab by the DOE Office of Science.

— Diane Greenberg

CALENDAR

— WEEK OF 3/21 —

Wednesday, 3/23

Books-Are-Fun Fair

10 a.m.-2 p.m. Berkner Hall lobby. New books and gifts at discounted prices.

BSA Noon-Recital

Noon. Berkner Hall. Stony Brook Opera, directed by David Lawton, will perform Sheila Silver’s *The Wooden Sword*, and Peter Winkler’s *Fox Fables*, which is based on Aesop’s Fables. All are welcome to this free concert, sponsored by Brookhaven Science Associates and open to the public. Visitors to the Lab of 16 and older must carry a photo I.D.

*Tax Assistance for Visitors

Noon. Berkner Hall, Room C. Workshop to offer help to foreign nationals filing taxes. To register, call the Recreation Office, Ext. 2873. See notice p.2.

Thursday, 3/24

Books-Are Fun Fair

10 a.m.-2 p.m. Berkner Hall lobby. New books and gifts at discounted prices.

*Talk: Communication in Bacteria

4 p.m. Berkner Hall. Bonnie Bassler, Howard Hughes Medical Institute investigator and Squibb Professor of Molecular Biology at Princeton University, will talk on “Tiny Conspiracies: Cell-to-Cell Communication in Bacteria.” Sponsored by BWIS, the talk is free. All visitors to the Lab age 16 and older must carry a photo ID. See p.1.

— WEEK OF 3/28 —

Monday, 3/28

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.

Friday, 4/1

Sam’s Club Membership Drive

11 a.m.-2 p.m. Berkner Hall lobby. A Business Membership is \$35 with a \$10 gift card. A Business Plus Membership is \$100, with a \$10 gift card, extended hours, and more savings on services and eValues program.

New BERA Fitness Class Sessions Begin Next Week

Several discounted BERA fitness class sessions will begin next week. A list of classes — Aqua Aerobics, Pilates, Yoga-Pilates, and Zumba— times, and prices can be found at <http://www.bnl.gov/bera/recreation/fitness.asp>.

BSA Noon Recital, Stony Brook Opera, 3/23

On Wednesday, March 23, at noon, Stony Brook Opera brings to Berkner Hall the first performance of Stony Brook University Professor Peter Winkler’s new opera *Fox Fables*. This is an operatic retelling of three animal fables: “The Fox and the Grapes,” “The Fox and the Hen” and “The Lion and the Fox.” Four singers portray a fox, a lion, a lamb, a dove, a hen, and even a bunch of grapes. In the first two fables, the wily fox attempts to entice his prey through flattery, threats, and the false promise of peace in the animal kingdom; in the final fable, “The Lion and the Fox,” he confronts the self-proclaimed king of beasts. These diverting animal tales have their serious side, as they touch on such perpetual human themes as manipulation, victimization, and empowerment.

Excerpts will also be presented from Sheila Silver’s *The Wooden Sword*: winner of the 2007 Raymond and Beverly Sackler Prize in Composition. With origins in Afghan and Jewish cultures, this folk tale relates how the humility and cleverness of Hazim, the simple cobbler, provide insight for the mighty King Zamani.

Sponsored by Brookhaven Science Associates, the concert is free and open to the public. Visitors of 16 and older must carry photo ID.

Aqua-Therapy For Active Seniors

A low-impact, aerobics-based class for active seniors will be held at the pool, Bldg. 478, on Wednesdays, from 9 to 10 a.m., from April 6 through June 22. The fee is \$60, and advanced registration is required. Please make checks payable to BERA and mail to: Recreation Office, Bldg. 400A, BNL, Upton, NY 11973.

Employee Survey and Focus Groups on Flexible Work Arrangements

Message from Bob Lincoln, Interim Chief Human Resources Officer, in Monday Memo of March 14, 2011

In 2008, the Laboratory implemented three forms of flexible work arrangements for non-bargaining unit staff. The arrangements are FlexMonth, CoreHours, and Telework. Procedures for each arrangement are documented in SBMS. The goal has been to provide eligible employees in suitable positions the flexibility to balance their workloads and personal demands/commitments.

FlexMonth enables exempt employees to arrange with their supervisors permission to work a varying number of hours each day while adhering to a total number of worked hours in a payroll month. The CoreHours plan permits employees to shift their start and end times for the regular eight-hour workday around a core work period. TeleWork enables exempt employees to work part of their normal work week at an alternate location, typically their homes.

While the provisions of these plans provide a substantial amount of flexibility in scheduling work, the use of these arrangements at BNL appears to be quite limited. Human Resources wishes to understand the obstacles to more widespread use of the programs. We plan to do this in two ways.

First, we invite all non-bargaining unit employees to respond to a brief web-based survey* on their experience and opinions regarding flexible work arrangements. The survey will close on Wednesday, March 23. (Terms of employment for bargaining unit members are governed by their collective bargaining agreement.)

Second, we will schedule focus groups of employees, supervisors, and management to gain more in-depth feedback relative to obstacles. The end of the survey will invite you to submit your name for possible participation in one of the focus groups. We hope many employees, regardless of whether they work a flexible arrangement, will complete the survey and be willing to participate in the focus groups.

Of course, when reviewing our flexible work arrangement options, it is important to consider whether they are appropriate for an employee's particular role. Some employee positions are more naturally suited for such an arrangement while some employee's roles and responsibilities are not a good match for some or all of the flexible work arrangements.

For positions where these make sense, flexible work arrangements are considered an attractive feature of employment, making BNL a desirable place to work.

*To take the survey, go to <http://intranet.bnl.gov/memo/> and select the Monday Memo of March 14, 2011. Then select the Employee Survey article from "This Issue's Contents," top right.

Classified Advertisements

Current job openings and a statement of job placement policy at Brookhaven National Laboratory are available on the homepage at www.bnl.gov/HR/careers/. To apply for a position, go to www.bnl.gov and select "Search Job List." For more information, call Ext. 2882.

Motor Vehicles & Supplies

06 CADILLAC CTS/BLACK – 49K mi. excel cond. \$14,000 neg. John, 345-0731.
05 HARLEY D RD KING CLASSIC – 19.7K mi. excel, Vance&Hines exh, elctnic c/c, rider/passgr backrsts. \$10,950. 627-9248.
02 NISSAN ALTIMA – 122K mi. Impeccable, 4dr blk, 4cyl, a/t, a/c, c/c, p/w, p/l, p/s, cd, new brakes/batt.\$5,900 neg. Ext. 2947.
00 DODGE NEON HG/HES – 125K mi. 4 dr, a/t,a/c,am/fm, new: plugs, wires, air filtr, PCV, cam position sensor. \$1,000 neg. 775-0476.
00 NISSAN ALTIMA GXE – 176K mi. white a/t, 4dr, gd cond, needs timing. \$1,200 neg. Carol, Ext. 2587.
99 SATURN SL-1 – 134K mi. 4 dr, red, black int, am/fm, a/t, 1.9L eng, a/c, p/s, p/b, \$1,200 neg. Ext. 2574, 928-5684.
78 ALFA ROMEO – 115K mi. Spider Veloce, Pininfarina, see <http://tinyurl.com/6dgu5c2>. \$2,500. giordano@bnl.gov.
70 DODGE CHALLENGER – 0 mi. Plum Crazy, 340 4/spd combo, body grt cond, new rims/tires, more, \$29,000 neg. Ext. 3252.
'04 DODGE RAM – pick-up w/plow, crew cab, 4 wd, 4 new tires, excel cond, pics avail, \$18,500/neg. 869-4518.

Boats

25' TANZER SAILBOAT – Shoal draft 2'11", aft cabin, encl head, roller furling, 4 winches, outbd, GPS, more. \$5,500 neg. 905-8808.
15' MCKEE BROS HENRY O – Stable fishing craft, 75 hp merc, oil injctd, new prop, windshlds, trailer. \$3,650 neg. 905-8808.

Furnishings & Appliances

ELLIPTICAL – Horizon Fitness brand elliptical, ~3 yrs old, lightly used, \$150/neg. Lisa, Ext. 5325 or lwwhitehead@bnl.gov.
ENTERTAINMENT CENTER – 57" h x 25" d x 58" w, maple, excel cond, photo avail, \$100. hughes@bnl.gov.

FREEZER CHEST – lg Kenmore, \$150/neg, Glider Rocker maple chair, \$200, Laurie, 516-740-8418 or lcade@uspsports.com.

KENMORE WASHER/DRYER COMBO – stackable, great for an apt, hardly used great cond ask/\$300. Chris, 344-7148.

RANGE – GE 30" self-cleaning freestanding elec, coil burners, beige, v/gd cond, \$75. Ext. 5128.

Audio, Video & Computers

19 – AOC 19" w screen LCD Display, used only 3/mos, gd cond, \$90/neg. Peter, Ext. 8477, 917-832-3926, sxin@bnl.gov.

APPLE MACBOOK – Mac OS X Snow Leopard, 2.4 GHz Intel Core 2 Duo, 2GB SDRAM, 13" disply, protectn til 8/11, \$600. Ext. 7570.

DELL INSPIRON 5100 LAPTOP 15 – Pentium 4, 768mb Ram, 30gb hd, fresh windows install w/updates \$100. Jesse, Ext. 2122.

HOYA LENS FILTER – SuperHMC Pro1 UV filter, 77mm, new in sealed pkg, \$65. Mark, Ext. 3970 or mwahlert@bnl.gov.

IPHONE 3GS – 32gb phone, gd cond, w/ orig box, cable & charger, \$150. Renee, Ext. 8278.

IPOD TOUCH 16GB – 1st gen iPod touch, 16gb, excel cond, new Apple headphone, latest firmware, w/usb cable/\$100. Ext. 2122.

IPOD TOUCH 32GB – 2ND GEN – 2nd gen iPod touch 32gb, grt cond, built in spkr, comes w/sync cable, \$150. Ext. 2122.

LCD MONITOR – ProView, 15" wide-screen, great cond, \$40. Janine, Ext. 2431 or jtruitt@bnl.gov.

LEXMARK 3200 PRINTER – \$20, Memorex CD Micro Syst, radio and single CD player w/sm spkrs & remote, \$25. 878-2425.

MAGNAVOX TV, 27"; Sony Dual Tpe Deck, Zenith 5 Disc DVD/CD Chngr, Technics HiFi Stereo Recvr, Sony HiFi VCR, b/o. Russ, Ext. 2132.

NIKON D300 DSLR – incl Tokina 11-16mm f/2.8 w/Hoya filter, like new cond, \$1700. Ext. 3970 or mwahlert@bnl.gov.

TELEVISION – RCA 26" color TV w/remote, will deliver at Lab, photo avail. \$20. hughes@bnl.gov.

Sports, Hobbies & Pets

G.I. JOES – authentic dolls, excel cond, 1964; some w/tags; access also avail, Ext. 4931, 775-8160, signorel@bnl.gov.

MEN'S WET SUIT SET – sm-med, barely used, never in saltwater, 7mm, 2-pc suit, mask, boots, fins, \$100. hughes@bnl.gov.

Lab Vehicles Get an Energy Boost

You have probably heard the phrase "reducing our carbon footprint." But at the Lab, this isn't just an expression, it's a mission.

As part of DOE initiative, BNL has started using alternative fuels in some Lab vehicles. The fuels are more environmentally friendly and provide an alternative to regular gasoline, which may decrease U.S. dependence on foreign oil.

"In 2002, we started using compressed natural gas to fuel vehicles," said Jeffrey Swenson, Manager of Staff Services (SS). "But the major automotive manufacturers stopped making these vehicles. After doing some research, we decided that adding vehicles to our fleet that use E85, a mixture of 85 percent ethanol alcohol and 15 percent gasoline, would reduce emissions and be more available and cost-effective."

Calling All Agencies

With direction from Robert Gordon, Business Management Division Director of the DOE Brookhaven Site Office, and guidance from the New York State and Suffolk County Departments of Environmental Conservation (DEC), BNL began to transition from regular gas to E85.

"We weren't sure if it was best to install a new holding tank or refurbish the tank we already had in place," said Henry Hauptman, who manages the SS fleet. "After meeting with the DEC staff, we determined the best route was to convert the existing tank. A local contractor, Island Pump and Tank Corporation, was hired to perform the tank



Roger Stoutenburgh D2400311

In front of the Lab's new E85 fuel pump are, from left, Richard Allingham, Staff Services (SS); Jeffrey Swenson, SS; Henry Hauptman, SS; Jennifer Caccioppoli, Island Pump & Tank Corporation; and Robert Gordon, U.S. DOE Brookhaven Site Office.

conversion. Pipes were replaced, dispensers were made compatible, and the tank underwent a stringent cleaning process. When the new E85 vehicles arrived, we were ready to go."

Safeguarding and Maximizing the Investment

A card system was put in place to ensure that vehicles filling up at the Lab's motor-pool pump are using the appropriate fuel.

"The card system will not allow an E85 vehicle to use gas dispensed from the regular pump, and vice versa," explained Richard Allingham, SS's motor vehicle maintenance supervisor. "This ensures that we are maximizing our use of E85."

More Good News

"We're not done yet. There are more E85 vehicles on their way to BNL," said Gordon. "The combination of a compressed natural

gas facility, a biofuel dispensing unit, and now E85 capability places the Lab in the enviable position of having a diverse alternative fuels portfolio to power the 300-plus vehicles on site."

Sharing With Our Neighbors

"Particularly notable is BNL's penchant to share its facilities with the broader community, outside the gates of the Laboratory, by allowing access of alternative fuel options to neighboring organizations like Dowling College and the Town of Brookhaven," added Gordon. "The Lab continues to be a leader in finding ways to displace fossil fuels and support the Department of Energy's missions. The E85 facility is just another demonstration of BNL's efforts to help address the energy needs of our nation."

— Jane Koropsak

STAR MASTER 4000 – PT, excl cond, b/o. Michael, 804-4662.

WETSUIT – Youth size 12. Exc. condition. Pd. \$110. Ask \$55. Lynda, Ext. 7235 or fitz@bnl.gov.

Miscellaneous

FISHER PRICE POWER WHEELS – Harley D Mtrcycle model, ride on top, excel cond, batt chrg, pics, \$80. sbronson@bnl.gov.

METS TICKETS – 3, Fri., April 22 vs Diamondbacks, Caesars Club Gold sect. 318 behind hme plate, \$100/ea, face value. Ext. 2112.

ORAL-B SONIC TOOTHBRUSH HEADS – 3/pack, plus one, use w/Oral-B Sonic complete or Vitality Sonic, \$15. Ext. 5322.

POWER CHILL – Hot/Cold Thermoelectric Cooler, 40 quart capac, \$50. 878-2425 or storan@bnl.gov.

ROOCASE – Executive e-Book Flip Case, leather/storage flap/magnetic closure, in box, never used, \$25. Donna, Ext. 2716.

TODDLER WORK BENCH – black&Decker work station for toddlers w/lots of tools, exc, pics avail, \$30. sbronson@bnl.gov.

Car Pool

DEER PARK/DIX HILLS – daily to Lab. Xiang (Lillian), 814-876-0173, xiangli@bnl.gov.

Happenings

CHINESE AUCTION – To benefit the Southold Indian Museum, Sat, Mar 19, 11:30-2 pm, at Peconic Rec Center, 970 Peconic Lane, Peconic, NY, Drawing at 1pm, light lunch avail. Joe, Ext. 2912 or wall@bnl.gov.

WOODSTOCK MANIA – In Concert, March 19, Revisit summer 1969 with music of Janis Joplin, Jefferson Airplane, Jimi Hendrix, Santana, The Band, Blood Sweat and Tears, Sly and the Family Stone, Arlo Guthrie, and others. Theater Three Port Jefferson. 928-9100.

Free

28 FT. WOODEN BOAT – being restored, new rudder, bow, swing keel box of white oak, you take it w/the tent. 834-5718.

BLACK & WHITE SHORTHAIK CAT – inside cat, young female, healthy & well behaved, fixed. Warren, Ext. 2080, 880-3822 or wejappe@gmail.com.

DESK – wooden desk, gd cond, Free, but u-pic it up. Lisa, Ext. 5325 or lwwhitehead@bnl.gov.

KITTEN – 18 weeks. Grey w/white "boots", playful. Loves people. Foster owner allergic. Pictures on craigslist. 525-6648.

Wanted

ADOPT-A-PLATOON – Monetary donations gratefully accepted towards mailing shipments to military overseas and to send goodie pkgs to BNL family members. Thank you. Joanne, Ext. 8481.

BAKERS NEEDED – Please individually wrap your items ready to sell and deliver morning of, for Adopt-a-Platoon's Book & Bake Fundraiser on 3/31 @ 400 lobby from 11am-3pm, Thank you. jrula@bnl.gov.

BNL FAMILY MEMBERS IN MILITARY – If you have a family member that has been deployed overseas, please contact Adopt-a-Platoon so we may send them a goodie package. Joanne, Ext. 8481.

BOXTOPS & LABELS FOR EDUCATION – needed for Kindergarten and 4th Grade class. Money generated for gd cause. Send to Bldg 911A. Thanks. Nina, Ext. 5894 or nriviera@bnl.gov.

CLOTHING DONATIONS – for families in need & to support programs for Big Brothers/Big Sisters of LI. Donation boxes are in Bldg 179 lunchroom. Celeste, Ext. 2551 or tymann@bnl.gov.

DONATIONS OF DOG/CAT FOOD – For pets of struggling families/elderly and or Kent Animal Shelter. Collection bins are in Bldgs: 134, 400, 510 (x5864), 725, 901, 902. Kathleen, Ext. 3161 or kratto@bnl.gov.

FIREWOOD – cut downed hardwd logs oak/maple, etc 14"-20", split or non split pcs, will remove free nr Rocky Point vicinity. Michael, Ext. 7861, 849-2329.

NINTENDO DS – Looking for a good working used Nintendo DS lite system. Charlie, Ext. 4736.

UKULELE – I am looking to purchase a ukulele. Please call me if you have one you are willing to sell. Michell, Ext. 2541.

For Rent

WEEKI WACHEE, FL – Gulf Coast Ranch, 70m Orlando, 45m Tampa, screen/igp & lanai, fruit trees, SW architecture, 3bdrm, 2ba, d/r, f/p, 2x gar, shed. \$950/mo neg. 344-5537.

BELLPORT VILLAGE – 1 bdrm upstairs apt in 2/fam home, fully carpeted, lots of light, prv d'way & ent, enjoy village amenities, avail 5/1, util incl. \$1,100/mo. 275-0745.

E. PATCHOGUE – 4BR, 2Bath, Cape. LR, EIK, DR, enc sun porch, oversized 2-car gar. lge yard. \$1600./mo + utils. 1 mo sec + ref. N/S. \$1,600/mo. 516-551-1901.

FARMINGVILLE – 1 bdrm grd flr apt, kit/lr rm combo, own heat contrl, cac, util, cable/int incl, 15 min to Lab/SUNY SB, no smkg/pets, 1/mo sec. \$900/mo. 974-0770.

MASTIC – 3 bdrm, 2.5 bath hse, eik, d/w, w/d, bsmt, 1/car gar, lg patio, agp, some furn, 7mi to BNL, roommates, most pets ok, + util/sec. \$1,950/mo neg. 790-7179.

MIDDLE ISLAND – priv 1 bdrm loft, w/d, d/w, cable, int, heat& elect all incl deck 3 mi to Lab. \$1,400/mo. Jim, Ext. 2765 or newburgh@bnl.gov.

RIDGE – spacious 1 bdrm, bath, 7 min to lab, pvt ent/drwy, all util incl, l/r, eik, w/d, tile/new carpet, fresh paint. \$1,000/mo. Marie, 236-9114 or mcjrbj@gmail.com.

RIDGE – 1 bdrm, 1 bath w/jacuzzi tub, bsmt apt w/grd level ent & lg windows, priv drway, use of yd, incl utils, cable & int, 1 mo sec req. \$1,100/mo. 965-2039.

SHIRLEY – lg 1 br bsmt apt, suit for one, nr beaches/parks/freeways/lirr, Lab, all incl, 1/mo + sec. \$750/mo. Ext. 3846.

SHIRLEY – main flr, 1 bdrm apt, pvt ent, lr/kit combo, granite, new appl, full ba, hdwd flrs, off str prkg, no smkg/pets, single pers, crdit chck 1 mo sec, \$1,000/mo. incl all. 848-6353.

SHOREHAM – Spacious basement level apt, ten mins to BNL. Two large rooms, EIK, bath, sep. entrance. Includes all utilities. \$900/mo. Vinny, 744-4049.

SHOREHAM – walk to beach, 1 lg bdrm apt, office area, pvt bath, kit/lr combo, lg closets, pvt ent w/Fr drs, drway prkg, cac/heat/elec/cable/web access. \$900/mo. 849-6121.

For Sale

WEEKI WACHEE, FL – Gulf Coast Ranch, 70m Orlando, 45m Tampa, screen/igp and lanai, fruit trees, SW architecture, 3bdrm, 2bath, lg dr, f/p, 2x gar, shed, see photos. \$129,900 neg. 344-5537.

MASTIC BEACH – 3 bdrm ranch, l/r, d/r, eik, recently remodeled, full bsmt, close to BNL & schools, price reduced, great hse, <http://tinyurl.com/69t2gly>. \$149,900 neg. Mike, Ext. 7472 or loftus@bnl.gov.

S.BLUE POINT – just listed, charming 4bdrm, 2bath Cape, fresh paint, new roof, high effc heater, cac, eik, ovr sz gar, pics on youtube for 64 Paumanack Road. \$415,000 neg. Lorraine, 516-885-5174.