the Bulletin

BROOKHAVEN NATIONAL LABORATORY

Vol. 59 - No. 3 January 28, 2005

New Technique to Track Gene Regulators

May help reveal regulator proteins' roles in cell differentiation, cancer, more

Roger Stoutenburgh D0771004

Sean McCorkle (left) and John Dunn

Finding out where gene-regulator proteins bind to DNA and identifying the genes they regulate just got a step easier, thanks to a new technique developed by biologists at BNL. The technique could greatly speed the process of unraveling the role these proteins play in turning on and off the genes that establish the very identity of cells — be they brain cells, liver, or blood — as well as what might go awry in certain conditions like cancer.

John Dunn and Sean McCorkle of the Biology Department, with collaborators from Oregon Health & Science University, Emory School of Medicine, and Stony Brook University, have published the first results using their technique in the December 29, 2004 issue of *Cell*, where they describe the human-genome binding sites of a regulator protein known as CREB. The research is funded by the Office of Biological & Environmental Research within DOE's Office of Science, the National Institutes of Health, and the Howard Hughes Medical Institute.

"Though scientists have now decoded almost all of the entire human genome — the series of nucleotide bases (labeled A, T, G, and C) that make up the source code for running the machinery of the cell — we are just beginning to decipher it," said Dunn, who led BNL's role in the research. "It's as if we have in our hands a giant book of life, but we are barely beginning to learn how to read it."

DOE's Office of Science was a founder of the Human Genome Project, a nationwide effort to generate the instrumentation and biological and computational resources necessary to sequence the entire human genome, identify all functional genes, and help transfer this information and related technology to the private sector for the benefit of society (see DOEgenomes.org).

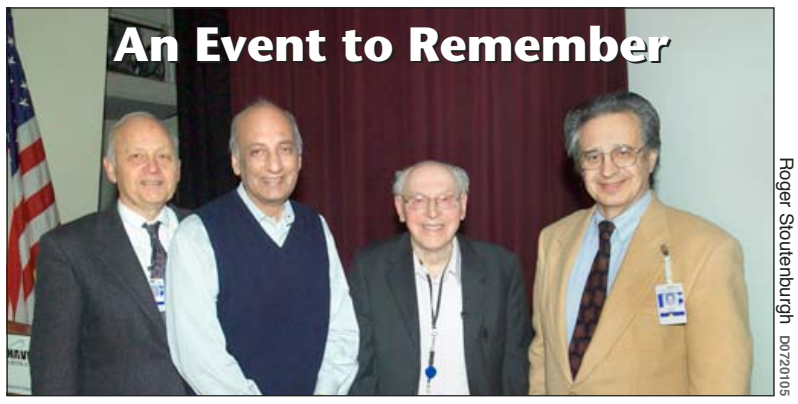
"Our technique gives us a new way to index the code, to find the places where regulators act — where the on/off switches are that determine which genes are at work in different types of cells under different conditions," he said.

Previous, individual experiments have identified about 100 places where CREB binds to DNA and regulates genes in humans, so scientists know it is important, particularly in regulating cell differentiation, survival, and the function of nerve cells. But there has been no easy way to screen the entire genome. "We are the first to do a genome-wide survey," says Dunn.

The problem has been the sheer magnitude of information in the genome: three billion nucleotides, and many tens of thousands genes. Trying to ascertain which of these genes CREB regulates by more traditional methods, evaluating one gene at a time, would be too labor-intensive, expensive, and take a very long time.

(continued on page 2)

An Event to Remember



Roger Stoutenburgh D0720105

An afternoon of thickly falling snow discouraged none of the enthusiastic audience that packed Berkner Hall to hear the 400th Brookhaven Lecture given on Wednesday, January 19, by Maurice Goldhaber, BNL Distinguished Scientist Emeritus, on "The Role of Empirical Rules in Predicting Directions in Science." Pictured with Goldhaber (third from left) at the event were: (from left) Peter Bond, Deputy BNL Director for Science & Technology (Interim); Praveen Chaudhari, BNL Director, and Nicholas Samios, Physics Department and former BNL Director, who introduced the speaker.

AAAS, RTSD Honor Ralph James

Roger Stoutenburgh D1900703

Ralph James, Associate Laboratory Director for Energy, Environment & National Security, has been honored for his work on radiation detectors by two professional organizations. The American Association for the Advancement of Science (AAAS) has named James as a Fellow, and the International Conference on Room-Temperature Semiconductor Radiation Detectors (RTSD) has awarded him the RTSD Scientist Award.

With over 134,000 members and 272 affiliated societies comprising more than 10 million members, AAAS is the world's largest federation of scientists. James was among 308 members to be elected as Fellows in 2004. He was cited for "outstanding scientific contributions to and leadership in materials research leading to the development of wide band-gap compound semiconductors for detecting and imaging X- and gamma radiation."

The International Conference on Room-Temperature Semiconductor Radiation Detectors presents the RTSD Scientist Award every two years. At the 2004 award at the Institute of Electrical & Electronic Engineers' (IEEE) Nuclear Science Symposium & Medical Imaging Conference in Rome, Italy, on October 21, 2004, James was cited for "extraordinary scientific contributions and leadership in the field of room-temperature semiconductor detectors."

For his work on radiation detection devices, James had won *Discover* magazine's "Innovator of the Year" award in 1997. James is also a three-time winner of *R&D Magazine*'s R&D 100 Award, which honors the top 100 inventions of the year. He won in 1998, 2000, and 2001, for developing radiation detection devices and a new method of growing semiconductor crystals.

"I am gratified that my accomplishments in the field of radiation detection devices have been acknowledged by two prestigious professional organizations," James said. "I've worked with a talented and dedicated team from DOE national laboratories, academia, and industry to bring the ideas for these devices to tangible tools that can be of use in numerous areas, from national security to medical imaging."

(continued on page 3)

BNLers' Bright Ideas Prevent Pollution

Each year, BNL's Pollution Prevention Council, composed of one representative per directorate and chaired by Peter Pohlot, Environmental & Waste Management Services Division, asks for suggestions from employees on how BNL can reduce wastes and prevent pollution. The eight proposals funded in FY2004 are expected to save the Lab a total of $62,000 annually. Four proposals have been described in the Bulletins of October 29, 2004, and January 7, 2005. Two more are featured this week.

Pollution prevention proposals are still being accepted for FY2005. Contact your environmental representative, or Pohlot, Ext. 5660 or pohlot@bnl.gov.

Using new brake-cleaner system

Roger Stoutenburgh D0651004

Henry Hauptman (left), Staff Services Division (SSD), pictured above with Edward Shea, also of SSD, requested $1,000 to buy a recyclable, nonflammable, low-toxicity brake-cleaning system, greatly reducing the use of an aerosol brake cleaner. The new system will eliminate 60 gallons of organic solvents and one cubic foot of hazardous waste annually. BNL's automotive shop services the brakes on 298 Lab vehicles as often as every six months. Projected annual savings for implementing the new system is estimated at $700 based on the cost of the current brake cleaner and the disposal of partially empty aerosol cans. As an added benefit, employees will be less exposed to chemicals and brake dust. Also, the new nonflammable cleaner reduces fire risks. The estimated payback period for this investment is 1.4 years.

Replacing mercury-containing utility devices

Robert Colichio (left), Life Sciences Directorate, pictured with Steve Ferrone, Environmental Services Division, requested $2,500 to purchase nontoxic equipment to replace mercury-containing switches, thermometers, thermostats and other equipment that may contain the toxic metal mercury in the Biology and Medical Departments. Approximately five pounds of mercury was removed from Bldgs. 463 and 490 and sent for reclamation along with a florescent bulbs shipment. Since it has been estimated that cleanup of one mercury spill would cost approximately $1,750, the estimated payback period for this expenditure is 1.4 years.

— Diane Greenberg

Roger Stoutenburgh D0980904

Calendar

of Laboratory Events

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

— EACH WEEK —

Weekdays: Free English for Speakers of Other Languages Classes
Beginner, Intermediate, and Advanced classes. Various times. All are welcome. Learn English, make friends. See www.bnl.gov/esol/schedule. html for schedule. Jen Lynch, Ext. 4894.

Mondays: BNL Gospel Choir
5:15-7 p.m. Berkner Hall. All faiths are welcome. www.bnl.gov/bera/activities/choir/.

Mondays & Wednesdays: Pilates
Mon., Noon-1 p.m. in the Rec. Hall; Wed., 5:30-6:30 p.m. in the Rec. Hall. Christine Carter, Ext. 5090.

Mondays & Wednesdays: Yoga
Noon-1 p.m., Brookhaven Center. Free. Ila Campbell, Ext. 2206, ila@bnl.gov.

Mon., Tues., & Thurs.: Kickboxing
$5 per class. Mon., noon-1 p.m. in the gym; Tues., 5:15-6:15 p.m. in the gym; Thurs., noon-1 p.m. in the gym; Thurs., 5:15-6:15 p.m. in Brookhaven Ctr. North Room. Registration is required. Christine Carter, Ext. 5090.

Mon., Wed., & Fri.: Tai Chi
Noon-1 p.m., Brookhaven Center North Room. Adam Rusek, Ext. 5830 or rusek@bnl.gov.

Tuesdays: Welcome Coffee
10-11:30 a.m., Rec. Hall. First Tuesday of every month is special for Lab newcomers and leaving guests. Cindy Ottemann, 849-2646.

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/toastmstrs/default.htm.

Tuesdays & Thursdays: Aerobics
5:15-6:30 p.m., $5 per class or $40 for ten classes. Rec. Hall. Pat Flood, Ext 7886.

Tuesdays & Thursdays: Aqua Aerobics
5:15-6:15 p.m. Eight-week session. $20 to attend once a week; $40 to attend twice a week. Ext. 2873 for more information.

Tuesdays & Thursdays: Jazzercise
Noon-1 p.m., Rec. Hall. Preregistration is required. Christine Carter, Ext. 5090.

Tues., Thurs., Fri.: Upton Nursery School
8:30-11:30 a.m. Rec. Hall. Two- and three-day program avail. 727-8082 or Ext. 5090, for information.

Tues., Wed. & Thurs: Rec Hall Activities
5:30-9:30 p.m. General activities, large-screen TV, ping pong, chess, games, and socializing. Christine Carter, Ext. 5090.

Wednesdays: On-Site Play Group
10 a.m.-noon. Rec. Hall. An infant/toddler drop-in event. Parents meet while children play. Kati Petreczky, 821-4131.

Wednesdays: Weight Watchers
Noon-1 p.m. Michael Thorn, Ext. 8612.

Wednesdays: Open Chess Night
5-8 p.m., Rec. Hall. Christine Carter, Ext. 5090.

Wednesdays: Dance Lessons
5:15-8 p.m. Brookhaven Cntr., North Room. BNL Ballroom Dance Club hosts lessons, beginner to adv. John Millener, Ext. 3853.

Thursdays: Reiki Healing Class
Noon-1 p.m., Bldg. 211 Conference Rm. Nicole Bernholc, Ext. 2027.

***Thursdays: FreshDirect Delivery**
3:30-5:30 p.m., Berkner Hall parking lot. Moved to Wednesday, next week only., See notice on page 3.

Fridays: Family Swim Night
5-8 p.m. at the BNL Pool. $5 per family.

Fridays: BNL Social & Cultural Club
6-9 p.m., North Ballroom, Brookhaven Ctr., dance lessons, 9-11:30 p.m. general dancing. Rudy Alforque, Ext. 4733, rudy@bnl.gov.

— WEEK OF 1/31 —

Wednesday, 2/2

LeCroy Equipment Demo
11 a.m.-2 p.m., Berkner Hall. As a major supplier of high-performance digital oscilloscopes, LeCroy helps engineers validate the design of electronic products for the data storage, computer, semiconductor, and aerospace and defense industries. Dan Monopoli, 845-323-9072.

Thursday, 2/3

Cycletrons Motorcycle Club Meeting
5 p.m. at Peanuts on Main Street in Yaphank. Frank Dusek, Ext. 2022, dusek@bnl.gov.

In Memoriam: Gen Shirane, Physics Department

Gen Shirane, a senior physicist in the Physics Department, died at age 80, on January 16, 2005.

Shirane is recognized as a world leader in the use of neutron scattering techniques to understand the structure and dynamics of condensed matter, as well as a teacher to many of the world's most prominent neutron scatterers. During his 40-plus years at the Lab, he mostly used the High Flux Beam Reactor as the source of neutrons for investigations of phase transitions and the magnetic properties of many materials, including high-temperature superconductors. Over his 50-year career he published over 700 papers in the field, many of which opened new areas of research or provided key experiments in unraveling difficult solid-state problems.


Roger Stoutenburgh 12-332-93
Gen Shirane

Said Robert Birgeneau, Chancellor of the University of California, Berkeley, "Gen Shirane was both a great mentor and a dear, close friend to me, and indeed, to an entire generation of scientists in the field of neutron scattering. He was truly a giant in our field and one of the great scientists of the twentieth century. I will miss him very much."

From DOE's Office of Science came messages from Patricia Dehmer, Associate Director, Office of Basic Energy Sciences (BES), and William Oosterhuis, BES's Material Sciences & Engineering Division head. "Gen Shirane was a great scientist and teacher to many generations of neutron scatterers," wrote Dehmer. "BNL and DOE were fortunate to have had him in the family for so many years." Oosterhuis, having known Shirane since the 1960s, wrote, "We have been very proud to have supported his research. He certainly leaves his stamp upon the field of neutron scattering — leading the way to show what could be done with this tool. I know that all of you at BNL will miss him, and so will we."

At BNL, Stephen Shapiro and John Tranquada, both of Physics and who worked closely with Shirane, said, "Over our combined 54 years of collaboration and friendship with Gen and his family, we learned a tremendous amount about neutrons, physics and life. Given his never-ending drive and enthusiasm for science, we expected he would be here forever!"

Born in 1924 in Nishinomiya, Japan, Shirane received his B. Eng. degree in 1944 and D.Sc. degree in 1947 from the University of Tokyo. After a year there working on the physics of ferroelectric crystals, he joined the Tokyo Institute of Technology. In 1952, he became a research associate at Pennsylvania State University, then, on March 29, 1956, joined BNL's Physics Department for a year as a visiting associate physicist, using neutrons from the Brookhaven Graphite Research Reactor. From 1957-63, he joined Westinghouse Research Laboratories in Pittsburgh, returning as a guest for one month in August 1962, then joined the Physics staff on February 6, 1963, as a physicist. He received tenure on July 1, 1965, and, three years later, was named a senior physicist. For most of his time at Brookhaven he was leader of the Neutron Scattering Group and performed his research at the High Flux Beam Reactor.

Gen Shirane has received numerous honors. In 1973 he was distinguished with the Oliver E. Buckley Solid State Physics Award from the American Physical Society (APS) for his application of neutron scattering to the understanding of solids. He was also the joint winner of the 1973 Bertram Eugene Warren Diffraction Physics Award presented by the American Crystallographic Association for his work on lattice and molecular dynamics, and, in 1985, received a Senior U.S. Scientist Award from the Alexander von Humboldt Foundation. Elected to the National Academy of Sciences and the American Academy of Arts & Sciences, he was also an APS Fellow.

In 1989, on the occasion of his 65th birthday, BNL held a Symposium on Neutron Scattering to honor his contributions to this field. In the same year he was honored by DOE with its Distinguished Associate Award. Then, in 1993, BNL also gave him the Distinguished Research & Development Award. In December, 2003, the Japanese Society for Neutron Science presented him with its highest honor for his "outstanding scientific accomplishments in solid state physics by neutron scattering and his great contribution in training Japanese scientists," and in the following year, he received the Ikeda Award for his earlier work in ferroelectrics. In July 2004 the Physics Department at Brookhaven hosted a symposium called "Gen Shirane and the Frontiers of Neutron Scattering," to celebrate his 80th birthday and his 50 years of cutting-edge research in this field.

A 40-year resident of Bellport, Shirane is survived by his beloved wife of 55 years, Sakae; two sons, Haruo of Manhattan and Tatsuo of West Hartford, CT; one sister, Kiyoko Yasuda of Osaka, Japan; and three grandchildren, Seiji, Kyoko and Sumiko.

A memorial for Gen Shirane will be held on Saturday, February 12, at 2 p.m. in the Large Seminar Room of Physics, Bldg. 510. In lieu of flowers, the family requests that donations be sent to the Student Conservation Association (www.thesca.org), c/o H. Montgomery, PO Box 550, Charlestown, New Hampshire 03603-0550, an organization which provides volunteer conservation service opportunities to high school and college students. — Liz Seubert

Intel Semifinalist Worked on Winning Project at BNL

Michael Herbert D0600105
(From left) Antonio Checco, Jeanette Muiz, and Mel Morris

Jeanette Muniz, one of 300 Intel Science Talent Search semifinalists chosen from 1,600 entrants, did research for her winning project at BNL this past summer as a Community Summer Science Program student. Often referred to as the "junior Nobel Prize," the Intel competition is America's oldest and most highly regarded pre-college science competition.

Under the direction of Benjamin Ocko, Physics Department, Muniz worked with BNL's Antonio Checco, Physics, and Oleg Gang, Center for Functional Nanomaterials, to enhance water repellency of surfaces by etching nanopits — holes on the scale of billionths of a meter — into a silicon surface and then chemically treating it. Researchers at the University of Massachusetts and IBM developed the nanopits method, which was used in these studies.

"These were fundamental studies in which Jeanette explored the role of nanoscale roughness on wetting properties," said Checco. "We found that with increasing surface roughness the silicon surfaces became more water-repellent. Eventually, this method might be used on many different kinds of surfaces."

A senior at Commack High School, Muniz plans to attend Dartmouth College and major in biology, with emphasis in biomedical engineering. As an Intel semifinalist, she receives $1,000, and her high school receives the same amount to enhance math and science programs. On March 15, ten national winners will be announced, who will share $500,000 in scholarships.

In the photo, Checco shakes hands with Muniz, as Mel Morris, who manages the Office of Educational Programs Community Summer Science Program and placed Muniz in Ocko's lab, displays an Intel brochure. — Diane Greenberg

Tracking Gene Regulators: New Technique *(cont'd.)*

Dunn's team has come up with a technique to determine the positions of 500-to-1,500-base-long pieces on an entire genome — even one as large as the human genome — relatively quickly and in very large numbers.

Using this technique, the biologists have identified some 6,302 genome-binding sites for CREB, including many that are located near known genes. Genes identified as being regulated by CREB using this method include the gene responsible for causing Huntington's disease in mice, which is important for making advances in understanding Huntington's disease in humans, and genes that may play an important role in certain cancers.

"This technique can be applied to any protein that binds to specific sequences in the DNA and promises to be a very useful tool," says Dunn. — Karen McNulty Walsh

For more information on this new technique, see www.bnl.gov/bnlweb/pubaf/pr/PR_display.asp?prID=04-115.

Daffodil Days

BERA will again be selling daffodils to benefit the American Cancer Society. A bunch of ten fresh cut flowers is $10. Pick up your bouquet during the week of March 14. Paid reservations are being taken at the BERA Store in Berkner Hall, Monday-Friday, 9 a.m.-3 p.m.

BNL Fire-Rescue Group Is First on LI To Employ Revolutionary New CPR Device

Roger Stoutenburgh D0171104

William Strelecki (left) and Frank Palmeri, who are both firefighter/emergency medical technicians in BNL's Fire-Rescue Group, demonstrate the new CPR device.

With the recent delivery of a Revivant "AutoPulse" Resuscitation System, BNL's Fire-Rescue Group became New York State's first emergency response organization south of Westchester County to employ such a device to treat patients who are in cardiac arrest (patients whose hearts have stopped.)

The AutoPulse system is an innovative, non-invasive cardiopulmonary resuscitation (CPR) device that automatically compresses the chest of patients suffering from sudden cardiac arrest in order to circulate blood to the heart and brain. This makes it easier for emergency medical professionals to treat the patient quickly and focus on medications, ventilation (artificial breathing), and other necessary interventions.

The portable, battery-operated, rapidly deployed AutoPulse has been shown in studies to generate normal blood flow, which translates to an increased chance of the return of normal spontaneous circulation, and an increased possibility of survival when used with other interventions such as a defribrillator.

According to BNL Fire Chief John Searing, "The AutoPulse device is a worthwhile device that is going to revolutionize the way in which we treat the cardiac arrest patient."

Research shows that manual CPR performed by trained healthcare professionals typically delivers 30 to 40 percent of the normal blood flow to the brain and only 10 to 20 percent of normal blood flow to the heart. The AutoPulse has been shown to generate normal, pre-arrest level of blood flow to the heart and brain.

The AutoPulse system is a hard plastic half-backboard that houses a battery, motor, control electronics, and software. It delivers chest compressions with a chest pad that is wrapped around the patient's chest and connected to the backboard. Chest compressions are delivered continuously, with a periodic pause to allow for the delivery of ventilation.

"While we hope not to have to use the device, this new piece of equipment will help the BNL Fire-Rescue Group to improve the patient's chances of survival," said Searing.

The Lab's AutoPulse will not only aid the BNL community should a BNLer experience a cardiac arrest, but will also be available to the surrounding communities whenever the Fire-Rescue Group is called upon to assist a neighboring fire department in responding to a cardiac arrest. In fact, the device was deployed to Huntington Hospital on January 18 to assist with cardiac compressions of a hypothermic patient.

— John Galvin

Identity Theft Presentation, 2/8

James Pascarella, Assistant District Attorney in the Economic Crimes Bureau of the Suffolk County District Attorney's Identity Theft Unit, will talk on identity theft and prevention methods on Tuesday, February 8, noon -1 p.m. in Berkner Hall.

All are welcome: check your mailbox for registration forms. For more information, contact Michael Thorn, Ext. 8612, or mthorn@bnl.gov.

Ralph James *(cont'd.)*

James, who joined BNL in 2001, earned a B.S. in engineering physics from the University of Tennessee at Knoxville in 1976, an M.S. in physics from the Georgia Institute of Technology in 1977, and another M.S. in applied physics in 1978 and a Ph.D. in applied physics in 1980, both from the California Institute of Technology. The holder of nine patents, James has authored more than 280 scientific publications and 11 book chapters, and edited 10 books. He is recognized for a long history of dedicated mentorship and for leadership contributions to professional societies. James is also a Fellow of the IEEE, the American Physical Society and the International Society for Optical Engineering.

— Diane Greenberg

Pick a Summer Student

Student applications for the summer 2005 undergraduate science internship programs sponsored by DOE's Office of Workforce Development for Teachers & Scientists will be available for review on an electronic database beginning on Tuesday, February 1.

Selections for the first round choices must be submitted by February 28. Students will be here for ten weeks, starting June 6 and ending August 12. Stipends, housing, and travel are funded through the Office of Educational Programs (OEP) with a $1,000 cost share requested from the hosting department. The programs available include the Science Undergraduate Laboratory Internship (SULI), the Community College Institute (CCI) and the Pre-service Teacher Program (PST). A description of each program is available on the web at http://www.bnl.gov/scied/.

Those interested in sponsoring a summer student should contact OEP to obtain the address and passwords for accessing the student database. For more information, contact Mel Morris for SULI and PST, Ext. 5963 or mmorris@bnl.gov; Noel Blackburn for CCI, Ext. 2890 or blackburn@bnl.gov; or Kathy Gurski, Ext. 4503 or gurski@bnl.gov for all programs.

Master's in Technological Systems Management

BNL employees are offered an on-site Master's degree program in technological systems management from Stony Brook University. This degree will have a concentration in environmental and waste management. Requirements include one year of undergraduate calculus and a bachelor's degree in engineering, natural sciences, social sciences, mathematics or a closely related area from an accredited college or university.

The program will include six credits per semester for the first four semesters, spring, summer, fall of 2005 and spring 2006. The BNL Tuition Assistance Program can reimburse employees at 100 percent for the cost of tuition. Employees will be responsible for fees and books. Two classes will be held, starting the week of March 7, 5:30-8:30 p.m.:

EST 586: Environmental and Waste Management in Business and Industry (taught by Tom Petralia on Tuesdays)

EST 595: Principles of Environmental Systems Analysis (taught by Ed Kaplan on Wednesdays)

For more information, see www.stonybrook.edu/est/academics/graduate. To participate, e-mail Marilyn Pandorf, pandorf@bnl.gov.

Weight Watchers

BNLers can register for the next Weight Watchers session on Wednesday, February 9, from noon to 1 p.m. in the Brookhaven Center. The cost will be $89 for 10 weeks, payable to WeightWatchers. Contact Michael Thorn, Ext. 8612 or mthorn@bnl.gov.

Hospitality Committee's Valentine Party, 2/12

The Hospitality Committee invites BNLers of all ages to a Valentine's Soup & Dance Party at the Recreation Hall in the apartment area on Saturday, February 12, at 5 p.m. The committee will provide homemade soups, bread, and drinks. Bring a salad or dessert to share with six people. After dinner, a DJ will spin music for the whole family to dance to! For more information, contact Cindy Ottemann, cjottabb@optonline.net, 849-2646.

Foot Screening, 2/24

Join podiatrists Ben Dimichino and Brian Fanno on Friday, February 24, 9- 11:50 a.m. in the Occupational Medicine Clinic, Bldg. 490, where they will discuss the latest treatments for common foot-related complaints and concerns. A 3-D computerized scanner will also be available for those who wear or feel that they may be a candidate for orthoses. Schedule appointments with Michael Thorn, Ext. 8612 or mthorn@bnl. gov.

'River Dance,' 3/13

BERA will sponsor a bus trip to see the 1 p.m. show of River Dance at Radio City in Manhattan, on Sunday, March 13. The luxury bus will leave the Brookhaven Center at 9 a.m. and leave New York Center at 5:30 p.m. The cost is $62 per person, for front mezzanine seats. About six seats remain. Buy tickets at the BERA Store, Berkner Hall.

Enterprise-Rent-a-Car On Site at BNL

Need to rent a car for a weekend, a day, or even half a day? Or a month, or a week? Enterprise-Rent-a-Car, here on site at BNL, may have what you need.

For example, cars are available for part of a day, 11 a.m.-4 p.m., or 4 p.m.-9 a.m. the next day. Also, three-day weekend rates are now available, $19.99 a day, Friday-Sunday, with 450 free miles included. Vans and 4x4s are also available. Check for yourself, call Ext. 4888/4889, Monday-Friday, 9 a.m.-1 p.m. and 3-5 p.m. Or stop in at Bldg. 355, 50 Brookhaven Avenue, or visit www.enterprise.com.

BERA Fitness Classes

Adult swim: starts 2/9, eight classes for $80. Call Sue Dwyer, Ext. 3496, M-Th, 4:30-8:30 pm.

Pilates, aqua aerobics, and jazzercise are all starting new sessions. See calendar, page 2, for contacts' phone numbers.

Calendar *(continued)*

— WEEK OF 2/7 —

Tuesday, 2/8

***Identity Theft**

Noon-1 p.m., Berkner Hall. Talk by James Pascarella, Assistant District Attorney in the Economic Crimes Bureau, Suffolk County District Attorney's Identity Theft Unit. Michael Thorn, Ext. 8612, or mthorn@bnl.gov.

Wednesday, 2/9

BSA Noon Recital

Noon, Berkner Hall. Joseph Bramley will perform multi percussion. All are welcome to these free recitals sponsored by BSA. Visitors to the Lab of 16 and over must carry a photo ID.

Saturday, 2/12

Valentine's Day Soup & Dance Party

5 p.m., Recreation Hall. All are welcome. See notice, left. Cindy Ottemann, cjottabb@optonline.net or 849-2646.

Hooch & the Bluesicians in Concert

8 p.m., Berkner Hall. Sponsored by BNL Music Club. See notice, page 4. Tickets $10 in adv., $15 at door.

WEEK OF 2/14

Tuesday, 2/15

401st Brookhaven Lecture

4 p.m., Berkner Hall. Marcelo Vazquez, Medical Department, "Heavy Ion Beam Effects on Cells & Animals." All are welcome.

— WEEK OF 2/28 —

Saturday, 3/5

Bus Trip to Cradle of Aviation Museum

9 a.m.-5 p.m. $15/adult, $13/seniors and children. BERA-sponsored coach to Long Island's Cradle of Aviation Museum in Garden City. Tickets cover bus, museum, IMAX movie, and Mars Virtual Voyage ride. Buy tickets at the BERA Store.

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. Write "Bulletin Calendar" in the subject line.

Arrivals & Departures

Arrivals

Brian Conroy ..... Plant Eng.
Kay Cordtz ..... CEGPA
Kyle Cranmer ..... Physics
Mandakini Kanungo ..... Mat. Sci.
Angela Kim ..... Medical
Jody Maddock ..... Fiscal
James Sadloski ..... Plant Eng.

Departures

Curtis Bergh ..... ITD
Sasa Dordevic ..... Physics
Alison Funston ..... Chemistry
David Kawall ..... Physics
Guang Liu ..... Physics
Tianbo Liu ..... Physics
Veena Venkatagiriyappa ..... NSLS

Spa Day at Gurney's

BNLers are invited to attend a spa day at Gurney's Inn on Sunday, February 27, 8 a.m.-4 p.m. Tickets cost $260 per person and include luxury bus transportation, luncheon, facial, massage, manicure, pedicure, use of all Spa facilities, taxes, and gratuities. For tickets and more information, contact Christine Carter, Ext. 5090, ccarter@bnl.gov.

Call for Nominations for Goldhaber Prize

Brookhaven Women in Science (BWIS) is now accepting nominations for the 2005 Gertrude S. Goldhaber Prize. The $1,000 award is granted to a female graduate student in physics, recognized for substantial promise and accomplishment. To be eligible, she must be an enrolled physics graduate student who is a candidate for a doctoral degree, but not to be graduating with that degree before spring 2005. She must either be enrolled at Stony Brook University (SBU) or be doing her thesis research at BNL.

BNL staff members and SBU Physics Department faculty can make nominations before February 15, 2005. For more information, contact Vinita Ghosh, Ext. 6226, or ghoshvj@bnl.gov.

American Physical Society Job Opening

ALTERNATIVE SCIENCE CAREER - The American Physical Society (APS) seeks a dynamic and personable colleague to join the editorial staff of *Physical Review C (Nuclear Physics)* and *Physical Review Special Topics - Accelerators and Beams* (an all-electronic journal) in Ridge, New York (near Stony Brook and Brookhaven). A qualified candidate possesses a degree in a physical science (preferably nuclear physics with an advanced degree), an excellent command of written and spoken English and familiarity with the research (peer-review) publication process. The candidate must have excellent interpersonal communication skills, be self-motivated, organized, detail oriented, able to meet deadlines, and be flexible. APS offers career stability and an outstanding benefits package to a qualified individual ready to start a nontraditional career in physics. To learn more about our organization visit www.aps.org. Send your resume plus cover letter containing salary requirements and timetable of availability to: Joseph Ignacio, Director of Human Resources, American Physical Society, 1 Research Road, Box 9000, Ridge, NY 11961 e-mail: edresumes@aps.org, Fax: 631-591-4155.

Classified Advertisements

Placement Notices

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

OPEN RECRUITMENT – Opportunities for Laboratory employees and outside candidates.

NS2188. MANAGER, FACILITIES & OPERATIONS ESHT&Q PROGRAMS (M-2) – Requires a bachelor's degree in a relevant field, 15 years of progressive safety, health, and quality management experience. Master's degree is highly desirable as is professional certification as a CSP or CIH. Must be an individual of high personal integrity and professional ethics, have strong written and oral communication/presentation skills, and demonstrated commitment to teamwork, innovation, collaborative decision-making and diversity in the work place. The manager will provide leadership and management for all aspects of the ESH, Training & Quality programs to protect workers' safety and health for the F&O Divisions and support contractors. This position reports to the ALD for Facilities & Operations.

MK4120. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. and experience with some or all of the following: chemical kinetics and thermodynamics of atmospheric trace constituents, chemical transformations in clouds, experience in developing and using chemical transport models, familiarity with Mie scattering calculations, and familiarity with large scale computer codes. This project will develop, apply, and evaluate efficient moment-based representation of these processes in the framework of chemical transport models on regional to hemispheric scales. Model development will focus on representation of aerosol processes on multiple geographical scales, multivariate aerosol representation, representation of gas-aqueous and multiphase reactions, and parameterization of effects of clouds and sub-grid phenomena. Under the direction of S. Schwartz, Environmental Sciences Department.

MK3555. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in statistical physics, computational biology, bioinformatics or a related discipline. Experience with analysis of complex bio-molecular networks is desirable and knowledge of Matlab is a plus. Research will involve statistical analysis of complex biomolecular networks and the development of new algorithms and analytical methods for detection of important topological patterns in such networks. These patterns would be subsequently analyzed from evolutionary and functional standpoints. Under the direction of S. Maslov, Physics Department.

Motor Vehicles & Supplies

03 HARLEY DAVIDSON SPORTSTER 1200 - custom, Anniv. Ed., extras, showroom cond. 3500 mi. $8,500/neg. Ext. 7465 or 828-1768.

99 MERCEDES-BENZ E320 - Tan w/ leather int., awd, pwr. m/roof, Bose sound syst., 74K mi. $21,500. Ext. 5896 or 744-0960.,

93 AUDI 100S - 6-cyl., 4-dr., a/t, abs, a/c, p/b, p/s, p/w, p/l, c/c, am/fm, cass, sun rf, good cond. 120K mi. $3,400/neg. Paul, 878-1486.

91 TOYOTA COROLLA - gd. running cond., 139K mi. $1,000/neg. Jim, 974-0815.

75 CHEVROLET CORVETTE - vg. cond., saddle ext.&int., a/t, T-Tops, 350 CI, e-pics. avail. 85K mi. $11,900/neg. Ext. 4834 or 807-9080.

RECEIVER HITCH - bolt on class III, fits 2002 Chevy Blazer. $75 obo. Anna, Ext. 7132 or 793-4551.

RIMS, TIRES - 17" five-slot, five-lug rims from Dodge 1500; Wrangler P265/70 R17 tires w/38K miles. $200 neg. Patrick, Ext. 4265.

Furnishings & Appliances

APPLIANCES - Brand new, white. Maytag dishwasher, Quiet Series 100, $300. Fridgidare stove, ceram. top, $350. Ext. 3177.

CANOPY BED - Iron, qu. size, grt. cond., w/ 3 iron curtain rods for sides. $100. 754-7863.

ENTERTAINMENT CENTER - wood veneer fits 32" TV. $75/obo. Will deliver. Glider rocker, $100. Anna, Ext. 7132 or 793-4551.

GAS WALL OVEN - Excellent condition, black. $50/obo. Joseph, Ext. 5409.

STAIRLIFT - Electra-Ride II stairlift, chair on stairs for handicapped, like new, was $2,500 new, asking $500. Ext. 4627 or 928-6469.

WASHER - Whirlpool large capacity, multi cycle, excel. cond., used 4 years, $100/neg. Ext. 7746 or 580-2940.

Audio, Video & Computers

AMPLIFIER - Sony STR-DE185 FM-AM receiver, black, 2 yrs. old., perf. cond., remote incl., selling for upgrade, $40. Gary, Ext. 7045.

COLOR PRINTER - model HP712, $10; computer swivel chair, $10; printer table with wheels, $10. Barbara, 929-1981.

TV, DVD, VCR - TV, Sanyo, 27 in., $160; DVD, Coby, $30; VCR, $15. Almost new. Denis, Ext. 5879.

Sports, Hobbies & Pets

ANTIQUE AUTO ADS (2) - Pierce Arrow & REO Motor Car Co. Approx. print size: 8.5 x 11. Authentic. $37/pair obo. 286-6133.

CAGE - Large cage for dog training w/bottom tray, black, used, $50. Warren, Ext. 2080 or 751-5245.

EXERCISE MACHINES - Wt bench w/~160 lbs wts & bar, $45. Aerobic 2-steps platform, $10. Ab-Roller, $10. Ext. 7459 or 929-1981.

HORSEBACK RIDING BOOTS - Worn once, black leather, size 8, ankle high, paid $200. Best offer. Kathleen, Ext. 3926.

PACHI-SLO SLOT MACHINE - Japanese skill slot machine, excellent condition. $375. Richard, Ext. 4834 or 807-9080.

PAINT BALL EQUIPMENT - Tippman 98 Custom and accessories, sold as pkg. or as individ. pieces. Pam/Michael, 286-8380.

POOL TABLE - All accessories included; above-table light, small cue ball and set-up video. $800. 281-0943.

Tools, House & Garden

RADIAL ARM SAW - Sears, 10" on rolling cabinet w/extras, Scott, 764-4944.

Miscellaneous

CHILD BOOSTER SEATS - Two seats for sale, 1-Graco and 1-Century. $10 each. Marc, Ext. 8281.

CRIBSET - matching pink quilt, curtains, sheets, bumpers, dust ruffle, patchwork like pattern w/pastels, $20. Michele, 821-2530.

CRUISE MEXICAN RIVIERA - 2 - 8 days Norweg. Cruise Lines at LA, CA. 2/25-3/5. Rm w/prv. balc., $1,922. Ext. 5920 or 979-8894.

DOORWAY BABY JUMPER - perf. cond., used twice. Sim. to Johnny Jump Up but with play tray. $15. Anna, Ext. 7132 or 793-4551.

FLASHING VALENTINE'S HEARTS - Valentine flashing rings, necklaces, hearts, lips. They're going fast. $3 ea. Michael, Ext. 5262.

GURNEY'S WEEK - 1 week stay 3/4/05 - 3/11/05 1 bdrm. Best offer. Emil, 921-5189.

MICROWAVE, CHAIR - m/wave, Emerson, 0.9 cu. ft., $25; country chair, $15; wall mirror, 1x4 ft., $5. Denis, Ext. 5879 or 878-1724.

MOVING BOXES - about 30, incl. 3 dish containers & 3 wardrobes, $20. Ext. 5452.

NYC BALLET TICKETS - 2, matinée, gt. prog., Sun., Feb. 20, 2nd ring, front row center, $63/ea. Edward, Ext. 2007 or 751-1474.

WORKOUT EQUIPMENT - scale, $5; ThighMaster Gold, $5. Denis, Ext. 5879.

Farewell Gatherings

DEBBIE MARESCA - Retirement Party 3:30, Feb. 7, Clinic Reception Area. $10 incl. finger foods, gift. RSVP by 2/1/05. Robyn, Ext. 3192.

Wanted

BACKHOE - under $900. Mary Lynn, Ext. 7796.

CHILDREN'S BOARD GAMES - for student working w/children 5-10. Donate or v. low price. Pictionary, cards, etc. Karen, 286-6133.

ELECTRIC KEYBOARD LESSONS - beginner instruct. to 7-yr-old in my East Moriches home. Reasonable price. Donna, Ext. 2716.

RIVER DANCE TICKETS - I need 1 or 2 Riverdance Tickets for the March 13th show. Please call. Mary, Ext. 3927.

For Rent

BELLPORT VILLAGE - Two large rooms, full bath, A/C, quiet neighborhood, Ground fl., single, no pets/smokers. $950/mo. , Ext. 3849 or 286-8740.

BROOKLYN - Completely renovated, 1 BR, 2nd fl. apt., heat & hot water incl. Sep. electric meter, entrance. $1,050/mo. Joseph, Ext. 5409 or 516-903-2013.

CENTER MORICHES - 2nd fl. apt. 2 lg. rms, kit, full bath, heat incl, priv. ent, prkg, gar. Single, no smoking/pets. 10 min to BNL. Near all. Sec. reqd. $850/mo. Lois, 929-4753.

HOLBROOK - Holbrook at Fairfield, large 1 bdrm., all new kitchen, carpets, paint. 2 entrances, 1 mo. sec. $1,235/mo. 928-6469/428-7246.

MEDFORD - 1-bdrm. bright bsmt. apt., full kit, l/r, tile bath, sep ent. & thermo., best for 1, but 2 ok, no pets/smkg., avail. now, 10 mi. to BNL. $800/mo. Ext. 3562 or 758-2653.

SHOREHAM - 1-bdrm, new bsmt. apt., furn. kitch, all new appli. l/r, d/r, bath, priv. ent. no pets/ smkg. 1 pers. 1-mth sec. + 1-mth rent. Util incl. $1,200/mo. Ext. 5263 or 744-2545.

SOUND BEACH - new 1-bdrm bsmt. apt. Big windows, priv. entr., l/r/kitch combo, full bath, sep. bdrm, large closets, Pergo flooring, util. incl., no smkg./pets. $925/mo. 821-2013.

STONY BROOK - 2-bdrm. apt., mins. to SBU, 1 bath, living room, kitchen, priv. ent., off-str. parking, no smoking or pets, rent includes all. $1,300/mo. 806-2582 after 3 p.m.

STONY BROOK - 3-bdrm house, 2 bath, lg. eik, l/r w/fp, yard, off-str. pkg., mins. to SBU, no smkg./pets, $2,000/mo. incl. all. 368-3735.

WADING RIVER - 1-bdrm. apt., eik, full bath, lg. rms., priv. ent., 1 block to LI Sound, 10 min. to BNL, non smkr. only, 1 mo. sec., util. incl., $850/mo. Richard, 929-3419/eves.

WADING RIVER - 3-bdrm. house, newly renovated near priv. beach, 15 min. to BNL, bright, airy, open flr. plan, furn/unfurn., short term OK. $2,000/mo. Sonx0ia, 929-0163.

YAPHANK - 4-bdrm. Colonial house, lg. yrd. wooded area, 5 mi. to BNL, avail. now. $1,500/mo. Yung, 924-5219.

YAPHANK - beautiful new 1-bdrm. apt., ground flr., priv. ent., patio drway., heat, elec. incl., no smkg/pets, priv. home, $950/mo. Jerry, 924-5219.

KEYWEST, FL - Timeshare in hist. town on water, 1 or 2 wk. April 9-23, sleeps 2-6, priv. beach/pool, deck on water, kit, w/d, gym, hot tub, Tiki bar, restaurant. $750 /wk. 929-8741.

MYRTLE BEACH, SC - 2 bdrm. (4 beds), 2.5 bath, t/house on golf course, in Little River, SC. Comm. pool. $491 - $813/week or $700 - $1200/mo. $491/wk. 472-4994.

OUTER BANKS, NC - Oceanside, pvt. beach access, 5 bdrm, 3 bath, pool/hot tub, decks, billiard rm, www.family-vacation-homes.com, $695-$2,695/wk. $2,695/mo. 889-5303.

For Sale

EAST MORICHES - 3 bdrm. ranch, 2 bath, den w/fp, d/r, deck, completely renov. int., new siding, windows, lg. property, beach and boating rights. $485,000/neg. 878-5449.

MASTIC BEACH - 3 bdrm. ranch, l/r, d/r, updated eik & bath, part-fin bsmt. new windows/ Fr. dr., hdwd, & lamin. flrs., new siding, fenced, $269,900. Ext. 2960 or 281-2414.

MILLER PLACE - 4/5 bdrms, 2.5 bath, 3,200 sq. ft. Post Modern in Imperial Estates. Full bsmt, cac, 9 ft. ceilings, 3/4 acre igs, fenced/ landscaped, more. $819,000. 642-8043.

SHOREHAM NORTH - Col., 4 lg. bdrm., 2.5 bath, formal l/r, & d/r, open flr plan, bsmt, 2-car gar., prof. landscape, energy effic., SWR SD, nr. BNL. $399,900 Ext. 5896 or 744-0960.

SOUND BEACH - 2/3 bdrm, 2 bath, jacuzzi, 50X12 deck w/hot tub, oak fl., new roof, loft w/ladder, bsmt, attic, gar, 1/2 acre crnr. fenced, cstm. wdwork/drs. $375,900. 821-2558.

Hooch & The Bluesicians in Concert, 2/12

Hooch & The Bluesicians will appear in concert in Berkner Hall on Saturday, February 12, at 8 p.m. Sponsored by the BNL Music Club, the concert, starring Bob "Hoochie Coochie" Paolucci, is open to the public. All visitors to the Lab age 16 and over must bring a photo ID.

A New Jersey native, musician/songwriter Bob Paolucci has been playing the harmonica and the guitar and singing for over 30 years. He is a mostly self-taught musician, although he has studied with the country/folk blues great Sonny Terry and Harry Feldman of The Harmonica Rascals. Paolucci has toured with guitar legends Son Seals and Louisiana Red, and he has shared the stage with performers like Big Bill Morganfield, Johnny Johnson, Shimika Copeland, Koko Taylor, Jimmy Vivino & The Conan O'Brian Band, and Todd Wolfe.

Paolucci's varied musical styles include Chicago and Delta blues, country rock, country western, reggae and jazz. In 2004, with the help of Frank "Of the Future" Otte, Richard Thiel, and Eddie "The Hat" D'Alessio, Hooch and the Bluesicians won the Long Island Blues Society's International Blues Challenge to Memphis. The band also released its new CD named "Fly Right" last year.

Tickets for the show cost $10 each in advance, and $15 each at the door on the evening of the performance. Buy advance tickets at the BERA Sales Office, Ext. 3347, on weekdays, 9 a.m.- 3 p.m.

Tsunami — BSA, BNL Donations

Thanks to the generosity of BNL employees $1,525 was collected for tsunami relief which was added to the $25,000 that BSA is sending to AmeriCares to support their medical aid to South Asia.

In addition, donations to the tsunami relief fund totaling over $2,445, collected from employees at BNL and given to Mahendra Kahanda of the Chemistry Department, were distributed among three U.S.-based non-profit organizations: New York Buddhist temple (Newyorkbuddhist.org), I-Freed Organization (I-Freed. org) and the Sri Lanka Orphanage Fund (SLOFund.org), which are working closely with local Sri Lankan authorities in the rebuilding efforts.

Generous amounts of clothing collected at BNL have also been delivered to New York Buddhist Temple in Queens and are been shipped to Sri Lanka along with medicine and other items. Financial contributions will continue to be collected in Building 555, Chemistry, by Mahendra Kahanda and Jean Petterson, who extend gratitude and sincerest appreciation to everyone who so generously supports this effort.

Send a Love Note to Your Valentine

Is there a special message you'd like to send to your valentine? Are you looking for a valentine? You can have your Valentine's Day message printed in The Bulletin on February 11.

Send your 15-to-20 word "love note" to The Bulletin, Bldg. 134, by Thursday, February 3. If you use paper, use a Sales & Notices Bulletin classified ad form, but mark it "Valentine's Day." If you use the forms on the web, use the form for "Miscellaneous," and mark it "Valentine's Day" at the beginning of the message. Or, you may e-mail your message to bulletin@bnl.gov. Include your name and life number and extension or home phone, but your name will not be printed unless it is clearly part of the message. Copy must be deemed tasteful. All "love notes" will be accepted at The Bulletin's discretion. Only one message per employee, please.

Staller Center Musical Gala, 2/12

A gala program to benefit the Staller Center at Stony Brook University is scheduled on Saturday, February 12, at 8 p.m., featuring the Prague Symphony Orchestra, with guest artists Denyce Graves, mezzo-soprano, and Navah Perlman, piano.

The Orchestra, founded in 1934, tours internationally. Graves, Metropolitan Opera star of *Carmen and Samson et Dalila,* gave, for example, a 90-minute collection of classical, gospel, R&B and jazz favorites in a national television special on PBS in March 2004; and Perlman, known for her lyrical eloquence on the stage, has performed throughout North America and internationally. For more information, go to www.staller.sunysb.edu/0405/gala. html. Tickets are available through the Box Office, 632-ARTS, or on line, and tickets and information will also be available in Berkner Hall lobby on Wednesday, February 2, 11:30 a.m.-1:30 p.m.

On-Site Service Station: Tip of the Month

How is your car battery standing up to the cold? If you have a 1999 vehicle with the original battery, it is at the end of its useful life and should be changed. If you are not sure, the on-site station, Upton Industries, Inc., will be glad to test it and supply a new one if needed. The station also offers NYS vehicle inspections, oil changes, and mechanical repairs, done while you are at work. For more information, call Ext. 4034.

Bus Trip to the Cradle of Aviation, 3/5

Join BERA for a coach bus trip to Long Island's Cradle of Aviation Museum in Garden City, on Saturday, March 5, 9 a.m.-5 p.m. Tickets ($15/adult, $13/seniors and children) cover bus, museum, IMAX movie, and Mars Virtual Voyage ride. Buy tickets at the BERA Store, Berkner Hall. For more information about the Cradle of Aviation/IMAX movie theater, go to www.cradleofaviation.org.

the Bulletin

Published weekly by the Media & Communications Office for the employees, facility-users, and retirees of Brookhaven National Laboratory.

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On the World Wide Web, the Bulletin is located at www.bnl.gov/bnlweb/pubaf/bulletin.html. A Weekly Calendar listing scientific and technical seminars and lectures is found at www.bnl.gov/bnlweb/pubaf/calendar.asp.

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