

AGS Beam Runs Through Warm Snake 50 percent polarized proton beam measured in tests

Get to Know Snakes, Polarized Protons

Snakes

Snake magnets get their name from the snake-like undulation of the beam as it travels through the helical, or twisting, form of the magnet. The original idea of snake magnets was invented at the Budker Institute of Nuclear Physics in Siberia, hence they were dubbed "Siberian" snakes. Previous helical Siberian snakes have been superconducting magnets which have to be kept at very low temperatures. The recently installed snake at the Alternating Gradient Synchrotron (see story, right) needs no supercooling to work, so, by contrast, it is "warm."

Polarized Protons

One of the fundamental properties of the proton particle is its spin or angular momentum. To study how this angular momentum is distributed among the quarks and gluons that make up the proton, scientists can use beams of polarized protons accelerated to high energy around a ring. A beam of polarized protons is a beam of protons with the majority of their spins pointing in the same direction. Snake magnets are used to flip the spin of the protons in the beam every revolution in such a way as to eliminate depolarization at certain stages, called "resonances," which occur during acceleration.

So, by sending a beam of polarized protons through a snake magnet, more of the protons stay polarized and experimental results are easier to obtain. — L.S.

A BNL team recently installed a warm, helical Siberian snake (see box, left), among other magnets in the Alternating Gradient Synchrotron (AGS). Designed by Masahiro Okamura of RIKEN and Junpai Takano of the Tokyo Institute of Technology, and built by the Takano Original Magnet Company in Japan, the magnet's initial test measurements have proved its success.

Said Waldo MacKay of the Collider Accelerator (C-A) Department, who is manager of the Relativistic Heavy Ion Collider (RHIC) Spin Project, "This magnet, which is one-of-a-kind, will help upgrade the quality of the beam of protons delivered from the AGS into RHIC for experiments in proton spin physics."

In RHIC, MacKay explained, BNL has pioneered and developed the unique capability to collide polarized protons (see box, left) at high energy.

"This part of the RHIC program is just starting and should provide exciting new results in

understanding the structure of the proton," MacKay said.

The warm snake story began a little over a year ago, when Thomas Roser of C-A proposed building the snake. The new helical snake was expected to minimize the depolarization from coupling resonances as the beam of polarized protons accelerated around the AGS ring before entering RHIC. It would replace the older solenoidal snake magnet in the AGS, which also promoted polarization, but had other disadvantages.

"Then, RIKEN designed and produced the final product in record time," said MacKay. "The magnet was delivered to BNL at the end of October."

The snake magnet was first set up in the Superconducting Magnet Division, where a detailed series of measurements of electrical properties and magnetic field were made and completed in January.

"These measurements were made by Magnet teams led by George Ganetis and Animesh



Pictured with the new warm helical Siberian snake magnet is Junpai Takano of the Tokyo Institute of Technology, who designed the magnet with Masahiro Okamura of RIKEN. Built by the Takano Original Magnet Company in Japan, the new snake was funded by RIKEN.

Jain," said MacKay. "Junpei Takano verified the model calculations with the measurements and adjusted mechanical shims to compensate the field at the ends of the magnet."

"Once the adjustments were made, we installed the magnet in the AGS tunnel during February," MacKay continued. "Pablo Rosas [C-A] and others in the meantime had built and installed a new power supply for the snake in the AGS. After a few short periods to adjust the power supply with the snake, we were ready to try the snake with beam."

Then came March 5. "Woody Glenn [C-A], with some sage advice from Okamura, tuned up the AGS to inject and accelerate protons with the new snake magnet," said MacKay. "This compact snake, which has a single power supply, can cause

large distortions of the orbit, if the snake and the AGS are not set up properly."

Everything went well.

"More recently, we have gotten some measurements showing that the snake is working. With a little more tuning of the AGS, we have measured polarizations around 50 percent for injection into RHIC. This snake appears to work very well," MacKay said.

However, this warm helical snake is not the end of the story.

"We are building an additional, even stronger helical snake that is superconducting," said MacKay. In combination with the warm snake, an unprecedented 70 percent polarized beam will be provided to RHIC for the spin physics program. — Liz Seubert
More information may be found at: <http://rhichome.bnl.gov/RHIC/Spin>



From the Superconducting Magnet Division, John McCaffrey Jr. (back) constructed the snake magnet's test setup with Dan Sullivan (front), who also helped test the magnet with Andrew Sauerwald (not present).

EM Directorate Works Two Years With No Lost-Time Injury or Incident

On Monday, March 22, Environmental Management (EM) Directorate personnel passed a significant safety milestone — working more than two years without a single lost-time injury or incident. At a March 25 celebratory luncheon in the Brookhaven Center, EM Director Les Hill commended the more than 150 employees and contractors in the directorate (including those in the photo below) for their role in making safety a personal responsibility, and described how that focus has led to continued success in the field.

"Over the past two years, we've completed more cleanup and moved more waste off site than in the history of the program," said Hill. "To do that without experiencing a single incident or accident is not just good — it's phenomenal."

The luncheon followed a series of presentations by EM project managers on safety success stories and best

practices from the past two years. Fred Petschauer, manager of the Brookhaven Graphite Research Reactor project, described the unique challenges and hazards employees and contractors faced in removing highly contaminated filters from a bank in the reactor's below-ground ducts. Petschauer credited administrative controls, work controls, and open and frequent communication (including tailgate, management, and all-hands meetings) as key in completing the job without a single lost-time accident.

"It's all about work planning, constant vigilance, responsibility for yourself and others, and leadership by example," said Petschauer.

The luncheon was also attended by Deputy Director for Science Peter Paul, DOE's Brookhaven Area Office Manager Mike Holland, and Jeff Roberts from DOE's Chicago Operations Office.

Paul commented on the importance of safety at BNL

and its direct relation to support from DOE and other agencies, saying, "When we work safely, it allows us to focus on the things we need to focus on in Washington, and that is new business, new initiatives, and new projects."

Roberts discussed the human aspects of working safely. "At the end of the day, it's about what happens in the field — that personal responsibility to keep yourself and your coworkers safe," he said. "That you've been able to do so makes this particular achievement much more gratifying, and it's something that should be shared with everyone."

Hill closed by challenging the directorate to keep the momentum going. "I commend all of you for the work you've done," he said, "but we've got about a year and a half left in this program, and none of us will be happy unless we run the table." — Peter Genzer



Calendar
of Laboratory Events

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

— EACH WEEK —

Weekdays: Free English for Speakers of Other Languages Classes

Beginner, Intermediate, 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/.

Mon., Tues., & Thurs.: Kickboxing

\$5 per class. Mon. & Thurs. noon-1 p.m. in the gym; Tues., 5:15-6:15 p.m. in the gym; Thurs., 5:15-6:15 p.m. in Brookhaven Ctr. Registration is required. Christine Carter, Ext. 2873.

Monday & Friday: Jazzercise

Noon-1 p.m., Rec. Hall. Pre-registration is required. Christine Carter, Ext. 5090.

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

Noon- 12:45 p.m., Brookhaven Center North Room. Adam Rusek, Ext. 5830 or rusek@bnl.gov.

Tuesdays: Welcome Coffee

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

Tuesdays: BNL Music Club

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

Tuesdays: Jiu Jitsu Club

6:30-7:30 p.m. in the gym. All levels, ages 6 and above. \$10 per class. Tom, Ext. 4556.

Tuesdays: Toastmasters

1st and 3rd Tuesday of each month , 5:30 p.m., Bldg. 463, room 160. Guests, visitors always welcome. www.bnl.gov/bera/activities/toastmasters/default.htm.

Tuesdays & Thursdays: Aerobics

5:15-6:30 p.m., \$4 per class. 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.

Tues. & Thurs: Upton Nursery School

9-11:30 a.m. in the Rec. Hall. For 3 & 4 year olds. Alison Tilp, Ext. 4465, or tilp@bnl.gov.

Wednesdays: On-Site Play Group

10 a.m.-noon. Rec. Hall. An infant/toddler drop-in event. Parents meet while children play. Cindy Otteman, 821-4482.

Wednesdays: Weight Watchers

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

Wednesdays: Yoga Practice

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

Wednesdays: Open Chess Night

5-8 p.m., Rec. Hall. Christine Carter, Ext. 5090.

Wednesdays: Dance Lessons

6-8 p.m., North Ballroom, Brookhaven Ctr. John Millner, Ext. 3853.

Thursdays: FreshDirect Delivery

3:30-5:30 p.m., Berkner Hall parking lot.

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.

BNL Celebrates Asian
Pacific American
Heritage Month
This April

Visit the poster display with the "Photographic Meditations on the NY Chinese Scholar's Garden," exhibit in Berkner Hall lobby.

— NEXT WEEK —

Tuesday, 4/5

Caring Friends Meet

Noon, Berkner Hall, Room D. All are welcome to join an informal support group serving as a resource for individuals experiencing grief following the loss of a loved one. Call Pat Hein, Ext. 3962, or Gerry Van Derlaske, Ext. 3476.

Thursday, 4/8

BERA Bridge Club

7 p.m., Brookhaven Center. Morris Strongson, Ext. 4192, mms@bnl.gov.

Introducing the 2004 Brookhaven Council

The Brookhaven Council, an elected body that advises the Director on matters affecting the scientific staff, is particularly concerned with maintaining an atmosphere conducive to excellence in scientific research at BNL. Through the Council, members of the scientific staff may bring their concerns to the Director's attention. Council members are tenured scientific staff, elected for three-year terms by tenured scientific

staff of their respective departments and divisions.

Brookhaven Council Chair Robert Bari, Energy Sciences & Technology Department, said "As Chair of the Council, I look forward to another challenging and busy year as we begin to address the work load that awaits us."

More information on the Brookhaven Council is available at <http://www.bnl.gov/bnlweb/Admin/council.html>.



Roger Stoutenburgh D0100304

The Brookhaven Council is composed of (front, from left) Walter Mangel, Biology Department; Brookhaven Council Chair Robert Bari, Energy Sciences & Technology (ES&T) Department and Energy, Environment & National Security Directorate (EENS); and Brookhaven Council Secretary Michael Brennan, Collider-Accelerator (C-A) Department; (back, from left) John Miller, Chemistry Department; Paul Freimuth, Biology Department; Michael Tannenbaum, Physics Department; George Hendrey, Environmental Science Department and EENS; Yu-Shin Ding, Chemistry and Medical Departments; Lonny Berman, National Synchrotron Light Source (NSLS) Department; José Rodriguez, Chemistry; Yimei Zhu, Materials Science Department; and Graham Smith, Instrumentation Division. Not pictured are: James Davenport, Center for Data Intensive Computing and EENS; Benjamin Ocko, Physics; Peter Siddons, NSLS; and Gene-Jack Wang, Medical, and Jie Wei, C-A.

Roll Up Your Sleeve: Blood Drive, 4/13

BNL will hold a blood drive on Tuesday, April 13, 9:30 a.m.-3 p.m. in the Brookhaven Center. People in good health between the ages of 17 and 75, weighing at least 110 pounds, may give blood. Some individuals who have traveled to or lived in Europe and/or Great Britain may not be eligible to donate. For more specific information, see: nybloodcenter.org. Donors need a photo ID and social security number. To donate, contact Susan Foster at Ext. 2888 or donateblood@bnl.gov, with your name, phone extension, and best time for an appointment.

BERA Golf Association Golf Clinic, 4/5

The BERA Golf Association will cosponsor a free "Start Over and Renew Activity Golf Clinic" with head pro Tim McCauley from Great Rock Golf Course, on Monday, April 5. The event is open to the entire BNL community. Two one-hour sessions will be held on site, 11 a.m.-noon, & noon-1 p.m., with prizes for winners in each session. Participants must pre-register and bring a pitching wedge or utility wedge. To register, contact Linda DiPierro, dipierro@bnl.gov, or Ext. 2733.

Finding Asia in America

APAA Sponsors Wang Center Director Talk, 4/9

On Friday, April 9, at noon in Berkner Hall, all are welcome to a talk by Sunita Mukhi, Director of the Charles B. Wang Center at Stony Brook University. Sponsored by the BERA Asian Pacific American Association (APAA), this free talk on "Finding Asia in America — A Personal Journey," is open to the public. Visitors to the Lab age 16 and over must carry a photo ID.

Mukhi has a B.A. in behavioral sciences and literature from De La Salle University, Manila, Philippines; an M.A. in interdisciplinary studies in the social sciences from San Francisco State University; and a Ph.D. in performance studies from New York University (NYU). She has performed, directed, and choreographed in university, community, and professional theatrical, television, and film productions in Manila, the United States, Mexico, and Singapore. As a storyteller, she appears in events at the Asia Society, the American Museum of Natural History, and the Brooklyn Museum of Art. Her most recent book, *Doing the Desi Thing: Performing Indianness in New York City* (Garland Publishing/Routledge), was published in 2000.

Bus Trip: Brooklyn Botanic Gardens, 5/1

Join a coach bus on Saturday, May 1, to the Cherry Blossom Festival at the Brooklyn Botanic Gardens. See and hear about Japanese music, dancing, art, and culture, and enjoy the superb gardens, including the renowned borsais. The 55-seat bus will leave the Recreation Bldg. at 9 a.m. and return at 5 p.m. Buy tickets, at \$10, at the BERA Sales Office in Berkner Hall. Admission to the gardens is free. For more information, call Beth Lin, Ext. 3372.

Hospitality Committee Easter Egg Hunt, 4/10

All are invited to the annual Easter Egg Hunt on Saturday, April 10, at 11 a.m. in the Recreation Hall. Each child needs 15 plastic eggs filled with soft candy. Parents are asked to bring a dessert to share. For information, contact Monique de la Beij, 399-7656.

Arrivals & Departures

Arrivals

Johan Bengtsson NSLS
Kristina Duryea Biology
Bernard McCaffrey Plant Eng.
Laura Thompson Medical

Departures

Drew Bennett ES/WM
Michael Iarocci C-A

Vanguard One-on-One
Retirement Planning

The Vanguard Group invites you to spend 45 minutes one-on-one with a licensed representative at the Lab to talk about financial issues, on Wednesday, April 28. Learn about: investing for long-term goals such as retirement; selecting funds for savings; and making the most of available services and investment tools. Schedule a 45-minute session online at www.meetvanguard.com or call 1-800-662-0106, Ext. 14500.

TIAA-CREF Individual
Retirement Counseling

A TIAA-CREF representative will visit BNL on Monday, April 12; Tuesday, April 20; and Friday, April 23; to answer employees' questions regarding the TIAA-CREF retirement plan, such as TIAA and CREF differences, allocating funds between TIAA and CREF, options, flexibilities with TIAA-CREF, and retirement options. For a 45-minute appointment, call Valerie James, (800) 842-2733, Ext. 7980.

Wanted: Volunteer English Tutors

Volunteers are needed to tutor English for the BNL English for Speakers of Other Languages (ESOL) Program. The eight-week training by the Literacy Volunteers of America and the BNL ESOL Program begins in early summer. Ongoing support is provided, as well as materials and resources for tutors. Contact Jennifer Lynch, ESOL Program Coordinator, Ext. 4894, and see www.bnl.gov/esol.

Science, Engineering Text Books
Wanted for Shipment to Africa

BNL's Office of Educational Programs (OEP) is supporting a project to send textbooks on science and engineering at high-school-to-college level to educational resources in Africa. The project is being coordinated locally by the African Students in Engineering & the Sciences (ASEAS) Society in Stony Brook in cooperation with the Books For Africa organization in Minnesota, which aims to collect 25,000 technical textbooks by the end of April for shipment in mid-May.

Says Noel Blackburn, who has recently moved to OEP after several years in Environmental Restoration Projects, "BNL was approached to help in this effort as it is hoped that many scientists and engineers or their children may have textbooks that they would like to see used in this way."

Blackburn explained that the \$8,000 needed for shipping has already been secured by donations from several organizations, "So now, we just need more books!" he says.

All donations to the Books for Africa organization are tax-deductible. A box for books is in the OEP lobby, Bldg. 438, or light books may be sent through interoffice mail, addressed to Noel Blackburn, OEP, Bldg. 438. More information on Books for Africa is at www.booksforafrica.org.



Roger Stoutenburgh D0810304

At the textbook collection area in the Office of Educational Program's lobby (Bldg. 438) are: (front, from left) Mel Morris, OEP Manager Ken White, Cathy Osiecki, and Noel Blackburn, all of OEP; and Chris Dalton (back), a contractor working in OEP.

Ward Melville High School Wins Science Bowl at BNL

After DOE's Office of Science National Science Bowl Regional Competition held at BNL on January 31, Peter Paul (center, right), BNL's Deputy Director for Science & Technology, presents Bob Spira, of the winning Ward Melville High School team, with a trophy for display in the school. Looking on are (from left) Kenneth White, Manager of BNL's Office of Educational Programs; Peter Faletta, DOE's Assistant Director of Workforce Development for Teachers and Students; and champion team members Eduard Reznik, Yi Yi Deng, Mitchell Fourman, Nik Ray-Mazumder, and Neal Wadhwa.



Roger Stoutenburgh D0550104

A team of science whiz kids from Ward Melville High School in East Setauket are now preparing to compete in the National Science Bowl®, to be held in Chevy Chase, Maryland, April 29-May 3. This team won the Regional Science Bowl held on January 31 at BNL. Sponsored by BSA, the fast-paced question-and-answer tournament was designed to test high school students' knowledge of biology, chemistry, physics, mathematics, astronomy, earth science and general science.

The Regional Science Bowl at the Lab, with 65 others around the country, is part of the National Science Bowl® competition coordinated by DOE's Office of Science. Since its inception in 1991, more than 90,000 high school students have participated in this "Jeopardy"-style contest. By competing, students are encouraged to excel in science and math and to pursue careers in those fields.

Susan Sears, a museum educator in the Office of Educational Programs (OEP) ran the contest with OEP staff and the greatly appreciated assistance of many BNL volunteers. Eighteen Long Island schools participated in the competition this year. As first-place winners, the Ward Melville High School team received a \$500 gift certificate from CompUSA to be shared among the five team members. Second-place honors went to Half Hollow Hills High School East, who won a \$300 gift certificate; and William Floyd High School came in third place, winning \$200. Longwood High School took fourth place. All four winning teams received trophies.

— Diane Greenberg

Pilates Classes 4/23

BNL's new pilates class will begin on Friday, April 23 (not April 9 as previously announced), and run for eight consecutive weeks on Fridays from 7 to 8 a.m. in the gym at a cost of \$60 for eight weeks. Advanced registration is required. Send checks, payable to BERA, to Christine Carter, Bldg. 179B. For more information, contact Carter at Ext. 5090.

Remember to change the batteries in your smoke detectors when you change your clocks forward this weekend.

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.

LABORATORY RECRUITMENT - Opportunities for Laboratory Employees.

NS4127. SR. ADMINISTRATIVE ASSISTANT (A-5) - Requires an AAS in secretarial science or equivalent, excellent oral and written communication skills, and a thorough knowledge of Laboratory policies and procedures. Requires a total of eight years' related administrative experience including four years at BNL in a role that provided exposure to broad knowledge, skills and abilities. This position requires the ability to work with quickly changing priorities, have a flexible schedule, and have demonstrated organizational and decision-making skills. A high level of competence in processing information on a PC is required, as is proficiency with MS Office software (complex word processing, PowerPoint presentations, database management, spreadsheets, project management schedules, basic graphic designing, etc.) Knowledge of IPAP, travel system, PeopleSoft Financials and PeopleSoft HR, and web-based requisitions also required. Will provide administrative support to the Associate Laboratory Director for Basic Energy Sciences by performing a variety of complex administrative assignments and handling daily work flow, including but not limited to, scheduling meetings with internal and external contacts, maintaining/updating Outlook calendar, conducting administrative support staff meetings, and preparing correspondence and presentation materials. Must be able to interact with all levels of Laboratory personnel and staff from outside organizations. Basic Energy Sciences Directorate.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates. VH4189. ASSOCIATE LABORATORY DIRECTOR - BASIC ENERGY SCIENCES - Reporting to the Laboratory Director, this Directorate is one of five science Directorates at the Laboratory and contains both major research and facility sectors, including Chemical Sciences, Condensed Matter Physics, Materials Sciences, and The Center for Functional Nanomaterials (CFN). The annual budget of the Directorate is about \$50 M with a staff of over 170. The Associate Laboratory Director (ALD) is responsible for the scientific and managerial leadership of the Directorate. The successful candidate must have a Ph.D. degree and a distinguished research career in the physical sciences accompanied by proven experience in the management of a mid-sized research effort. BNL is interested in candidates who will develop internationally leading programs that are aligned with the mission of the Department of Energy, and who will maintain and enhance a world-class scientific and technical staff. The ALD is the primary contact with BNL's programs and facility sponsors, principally the U.S. Department of Energy. The ALD participates at the Director's level in the Laboratory-wide planning for new programs and user facilities and has line responsibility for safe and environmentally sound operation of his/her program. Recent areas of scientific focus include nanoscience, strongly correlated and complex systems, catalysis, and advanced imaging. New programs are developing in soft matter and biomaterials, materials synthesis and at the interface of life and physical sciences. In the facilities sector, the focus will be on developing the Center for Functional Nanomaterials as a major research and user facility with scientific thrusts in nanocatalysis, self-assembly and electronic materials, among others. The BES Directorate should play an important role in the development and use of BNL's proposed National Synchrotron Light Source II. Emphasis will also be applied to coupling BES programs to those in other BNL Directorates, including the Life Sciences and Energy, Environment and National Security. Director's Office. MK2517. ASSOCIATE PHYSICIST (S-2) - Requires a Ph.D. in nuclear physics, 5 years' experience in low energy reaction physics research (experimental or theoretical) and a strong interest in compilation of experimental nuclear reaction data. In addition, requires a solid background in nuclear reaction physics with nucleons and light ions up to about 200 MeV (neutron resonances, optical model, level densities, statistical model, direct and pre-equilibrium models), and capabilities of using complex nuclear reaction model codes for nuclear reaction data evaluations. Research will be involved in compilation of experimental data for the nuclear reaction data library CSISRS (EXFOR) and evaluation of nuclear reaction data for the ENDF library. Must be available for extensive international collaboration and active interaction with nuclear data community. Under the direction of P. Oblozinsky, Energy Sciences & Technology Department. MK2772. ASSISTANT SCIENTIST (S-1) - Requires a Ph.D. in physics, applied physics, or electrical engineering with substantial postdoctoral experience, a strong publications record, and extensive experience with UHV, MBE, RHEED, synthesis of thin films and superate superconductors. The research group is building a new laboratory for atomic-layer engineering of cuprates and other complex oxides an in-depth study of their physics and has acquired a next-generation molecular beam epitaxy (MBE) oxide system that contains 16 metal evaporation sources, a pure ozone source, RHEED, a 16-channel atomic absorption spectroscopy system for rate monitoring, TOF-ISARS (Time of flight ion scattering and recoil spectroscopy), LEEM/PEEM/LEED system etc. The lab will also be equipped for state-of-the-art transport measurements, XRD, AFM, advanced lithography for device fabrication, and cryogenic device testing. Other advanced research tools will be used at the NSLS, CFN, and other BNL departments. Under the direction of I. Bozovic, Materials Science Department. MK2777. ASSISTANT SCIENTIST (S-1) - Requires a Ph.D. in physics, applied physics or electrical engineering, substantial postdoctoral experience, a strong record of research publications in device physics, and extensive experience with deep UV lithography as is some experience with e-beam, FIB, NSOM or AFM nano-lithography. The research group is building a new laboratory for atomic-layer engineering of cuprates and other complex oxides an in-depth study of their physics and has acquired a next-generation molecular beam epitaxy (MBE) oxide system that contains 16 metal evaporation sources, a pure ozone source, RHEED, a 16-channel atomic absorption spectroscopy system for rate monitoring, TOF-ISARS (Time of flight ion scattering and recoil spectroscopy), LEEM/PEEM/LEED system etc. The lab will also be equipped for state-of-the-art transport measurements, XRD, AFM, advanced lithography for device fabrication, and cryogenic device testing. 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More jobs follow on page 4.

Calendar

(continued)

Friday, 4/9

***Talk by Sunita Mukhi, SBU Wang Ctr.**
Noon, Berkner Hall. The BERA Asian Pacific American Association will sponsor a lecture to be given by Sunita Mukhi, Director, Stony Brook University Wang Center. See article, page 2.

Saturday, 4/10

***Hospitality Easter Egg Hunt**
11 a.m., Recreation Hall. All are welcome. See notice, page 2. Monique de la Beij, 399-7656.

— WEEK OF 4/12 —

Tuesday, 4/13

***Blood Drive**
9:30 a.m.-3 p.m., Brookhaven Center. See notice on page 2. Contact Susan Foster, Ext. 2888 or donate blood@bnl.gov.

Delta Technical Systems Demo
10 a.m.-2 p.m., Berkner Hall. Delta Technical Systems, Inc. will present BNLers with their complete line of industrial automation equipment, with high-performance control and data acquisition systems. Thomas Estilow, 215-957-0600, Ext. 3019 (not the on-site Ext. 3019).

Foundations of Estate Planning
Noon, Berkner Hall. TIAA-CREF talk on "Foundations of Estate Planning," with asset preservation, transfer of wealth, etc. All are welcome. Register using forms sent to all employees. Joyce Wund, Ext. 7516.

Wednesday, 4/14

Noon Recital, Stony Brook Opera
Noon, Berkner Hall. David Lawton with members of the Baroque Ensemble perform semi-staged highlights from Handel's *Agrippina*, first presented in 1710. All are welcome to this free recital, sponsored by BSA.

Rifle & Pistol Club Meeting
Noon, Conference Room, Bldg. 535. All are welcome. For more information, contact Jim Durnan, Ext. 8236; Rich Conte, Ext. 5741; or www.bnl.gov/bera/activities/rpc/.

Friday, 4/16

***Women In Concert**
7:30 p.m., Berkner Hall. Sponsored by the BERA Music Club, with host Yvette Malavet-Blum, a cabaret singer who works at BNL. Tickets are \$12. See page 4.

APAA Dinner & Dance Social
5:30-8:30 p.m., Recreation Hall. The BERA Asian Pacific American Association will hold a potluck dinner. Dinner is free, but bring a dish to share for six people.

8 p.m.-midnight, Brookhaven Center. The APAA dinner will be followed by a dance social. \$8 per person, includes workshop & dance, \$3 admission for the dance social only. Live band music by "Accent."

— WEEK OF 4/19 —

Wednesday, 4/21

Brookhaven Lecture
4 p.m. Berkner Hall. Hong Ma, Physics Department, will talk on the ATLAS detector, title to be announced.

Thursday, 4/22

BERA Bridge Club
7 p.m., Brookhaven Center. Morris Strongson, Ext. 4192, mms@bnl.gov.

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.

Take Daughters, Sons to Work Day

On Thursday, April 22, Lab community parents are invited to bring their children of ages 10 to 15 to the Lab to participate in Take our Daughters and Sons to Work Day, a national event sponsored by the Ms. Foundation for Women. To register, fill in the form that will be sent to all employees, and return it to Susan Foster, Bldg. 185. Contact Foster at Ext. 2888 or foster@bnl.gov.

Creative Corner: Turkey Talk

A week ago, The Bulletin received a photo (right) from Stephen Springston, Environmental Sciences Department, who wrote, "We are regularly treated to wildlife displays outside our offices in Building 815E. The winter was clearly not a problem for this guy."

A few days later came a message and another turkey photo from by Tim Green, BNL's Cultural & Natural Resources Manager, of the Environmental & Waste Management Services Division. Green had heard from a Lab birder, Jim Osterlund of the Collider-Accelerator Department. Osterlund gave information on turkey habits at this time of year, from which the wildlife warning below has been written.



Attention Drivers: Watch Out For Turkeys!



It's the season, and tom turkeys are heavily into displaying their feathers for the benefit of the hens. Turkeys in general are not alert to the danger of traffic, and when they are displaying, they can be mindless of a car's approach. So watch out for the turkeys at this time of year, because they're not watching out for themselves.

Enter Earth Day Run, 4/17



BNL will host its fifth annual 4-mile Earth Day Run on site on Saturday, April 17, at 9:30 a.m. Walkers are also welcome for the same fee as runners. Children 12 and under are invited to participate in a free one-half-mile Fun Run at 10:30 a.m. Race day registration/check-in will be held 7:30 a.m.-9:15 a.m. in Berkner Hall. All entry fees from the 4-mile run will benefit Long Island Cares, Inc., a regional food bank. All visitors to the Lab age 16 and older are required to bring a photo ID to be admitted on site.

This year, the Long Island Track & Field Association, in conjunction with Vytra, has awarded the race Grand Prix status, a distinction that is bound to draw some of Long Island's top runners as they vie for Grand Prix points and subsequent prize money for the winners of the most points at the end of the year.

The race will be held on a U.S. Track & Field Federation-certified course consisting of a combination of road and wide trails through the on-site Pine Barrens. The course is relatively flat with some slight rolling hills in the last mile. Miles will be marked, mile splits will be posted, and a two-mile water stop will be available.

Download entry applications from www.bnl.gov/eday, or call Ext. 5660. If you register before April 12, the entry fee is \$18, discounted to \$15 if you bring a nonperishable food item for the food bank. After April 12, the fee will be \$21, or \$18 with a nonperishable food item. Make checks payable to BSA and send application forms to: Peter Pohlot, Bldg. 130.

The top three male and female runners and the top three masters (over 40 years old) males and females will receive prizes from Super Runners Shop of Huntington, Long Island. All registered runners and walkers will be treated to a free T-shirt, and a free post-run hot breakfast provided by Flik International. All children who participate in the Fun Run will take home a tree seedling to plant in honor of Earth Day.

Jobs (cont'd. from page 3)

MK2774. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in physics, applied physics or materials science, experience with characterization of thin films of cuprate superconductors, including structure determination by X-ray diffraction, and study of electronic properties by cryogenic transport measurements and advanced spectroscopic methods. Must have the capability to conduct and analyze experiments and communicate results to peers as evidenced by a strong record of publications in leading research journals. The research group is building a new laboratory for atomic-layer engineering of cuprates and other complex oxides an in-depth study of their physics and has acquired a next-generation molecular beam epitaxy (MBE) oxide system that contains 16 metal evaporation sources, a pure ozone source, RHEED, a 16-channel atomic absorption spectroscopy system for rate monitoring, TOF-ISARS (Time of flight ion scattering and recoil spectroscopy), LEEM/PEEM/LEED system etc. The lab will also be equipped for state-of-the-art transport measurements, XRD, AFM, advanced lithography for device fabrication, and cryogenic device testing. Other advanced research tools will be used at the NSLS, CFN, and other BNL departments. Under the direction of I. Bozovic, Materials Science Department.

MK2775. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph. D. in physics, applied physics or electrical engineering. Will be responsible for testing Josephson junctions and their response to magnetic fields and microwave radiation, and the study of nano-devices such as SETs. The lab will also be equipped for state-of-the-art transport measurements, XRD, AFM, advanced lithography for device fabrication, and cryogenic device testing. Other advanced research tools will be used at the NSLS, CFN, and other BNL departments. Under the direction of I. Bozovic, Materials Science Department.

Motor Vehicles & Supplies

03 TOYOTA COROLLA - a/t, a/c, p/s, p/b, silver, excel. cond., 30K mi., \$10,800. Joseph, Ext. 2121 or 399-1013.

01 MAZDA MPV LX - a/t, a/c, p/s, p/b, p/w, 26K mi., \$12,600. Phil, 864-9092.

01 YAMAHA ROADSTAR SILVERADO - 1600cc, windshield, saddle bags, red/br., excel. cond., 55K mi., \$8,000. 645-5844.

99 CHEVY LUMINA - sedan, a/t, a/c, p/s, p/b, p/w, c/c, 3.1L V6, 4dr., rem. st., am/fm/cd, 54K mi., \$6,200; trailer, \$450. 732-7568.

99 TOYOTA CAMRY LE - a/t, a/c, p/s, p/b, p/w, 4dr., s/roof, abs, keyless ent., 2dr., air bags, 59K mi., \$8,800. Kiin, Ext. 5713 or 1034.

97 FORD THUNDERBIRD - a/t, a/c, p/s, p/b, p/w, 84K mi., \$4,500. Russ, Ext. 3745.

97 HONDA CIVIC - 5-spd, a/c, p/s, am/fm/cass, 50-disc cd, 194 K mi., \$3,900, must see. Dave, Ext. 2795 or 582-9405.

97 HONDA CR-80 EXPERT - rebilt. eng., t&b, 1 hr. run time, 2 str., new plastic & rear tire, excel. cond., \$1,600. Ext. 2028 or 744-4879.

97 NISSAN ALTIMA - a/t, a/c, p/s, p/b, p/w, well maint., 126K mi., \$3,000. Laurie, 834-9648.

96 CHRYSLER CIRRUS LXi - a/t, a/c, p/s, p/b, p/w, c/c, leather int., keyless ent., alarm, 65K mi., \$4,000. Ext. 7132 or 793-4568.

95 CHEVY CAVALIER - a/t, a/c, 2dr., new brakes & tires, orig. owner, non smkr., garaged, excel. 111K mi., \$2,600. 642-7442.

95 FORD MUSTANG GT -a/t, p/s, p/b, 8 cyl., blk., am/fm/6-cd changer, new tires, 85K mi., excel. \$4,000/neg. Ext. 3084 or 924-475.

95 MERCURY GRAND MARQUIS - a/t, a/c, p/s, p/b, p/w, loaded, white/blue leather int., 84K mi., ask \$7,500. Ext. 3271 or 395-3168.

94 NISSAN PICKUP XE - a/t, a/c, p/s, p/b, p/w, c/c, w/cap, gd. cond., runs well, on site, 106K mi., \$3,000. Ext. 4935 or 929-4990.

94 SATURN SLI - 5-spd, a/c, pwr. sunroof, dk blue, all ser. records, runs well, 158K, \$1,600. David, 258-6087.

93 CHRYSLER VAN T&C - leather, new tires, brakes, runs well, \$2,000; utility home made 2-wheel trailer, \$200. 924-6751.

93 FORD TAURUS - a/t, a/c, p/s, p/b, p/w, tan, excel. body, very clean, runs well, 176K mi., \$900. Henry, 878-6210.

93 MERCURY GD. MARQUIS LS- a/t, a/c, p/s, p/b, p/w, leather, abs, traction, must sell, 85K mi., \$3,000/neg. Ext. 2960 or 281-2414.

92 SAAB 9000 TURBO - 5spd, all options, 140K mi., \$3,200. Kim, 379-4036.

92 SUZUKI KATANA S - sports bike, runs & rides well, minor work, 6K mi., \$2,500/neg. Frances, 664-4074.

91 CHEVY S-10 BLAZER - a/t, a/c, p/s, p/b, 4WD, am/fm/cd, new alt., starter; trailer pkg., 155K mi., \$1,800. Ext. 4970 or 369-9623.

91 FORD E250 VAN - new battery & starter, rebuilt tranny, ladder racks, shevels, runs well, \$1,500. Rich, Ext. 5319.

91 HYUNDAI EXCEL - a/t, a/c, p/s, runs, ok for local use, 92K mi., \$500. Douglas, 505-239-8205.

90 BUICK LESABRE - a/t, a/c, p/s, p/b, p/w, 3.8L V6, new fr. brakes, tires & water pump, 130K mi., \$1,500. Ext. 8335 or 804-2959.

90 KAWASAKI KDX-200 DIRT BIKE - 200cc FMF silencer, new parts, needs eng. work, \$800. Bob, Ext. 2028 or 744-4879.

87 OLDSMOBILE CUTLASS CIERA - a/t, a/c, p/s, p/b, p/w, 3.8L, new batt., 2 tires & exh., 96K mi., \$1,100. Ext. 2028 or 744-4879. **CAMPER** - '95 Rockwood XL pop-up, 3-way frig, gas heater, 3-burner stove, excel. cond., ask \$4,200, 744-3027.

CUSTOMS WHEELS - 3 tires, 17" chrome, ALBA edges, gd. cond., \$1,000. Frances, 664-4074.

GM WHEELS - alum weld Pro-Star, 2- 15x8" w/tires, 2- 15x6", lugs, locks, \$350; 4 - S-10 wheels, \$100; more. Ext. 7081 or 929-5502.

TIRES - (2) P195-65/r15m, 20K mi. on 50K mi, rating vgd. cond., \$40/both. Bob, 737-1786.

Boats & Marine Supplies

23' LARSON HAMPTON 235 - '97, 5.7 Volvo Penta, 240 hrs, Cobra SX, outdrive, swim plat., encl. head, \$17,500. Kevin, Ext. 4639.

22' CRUISER, INC. BARNEGIT - '87 w/trailer, rebilt. Chevy 350 I/O, new parts, \$7,000. 516-798-2599 or 516-860-9339.

21' PARKER SE/CC - '84, w/trailer, '98 150 Evinrude, 300 hrs., '89 rebuilt ez-loader, & t-top, excel., \$11,500. Ted, 722-3373.

19' CAPE DORY TYPHOON - '97, 3.5 hp, keel daysailer, 5 sails, new compass & rigging, cradle, tarp. Ext. 3454 or 878-3553.

17.6' PROSPORT - '01 ctr. console, 100 hp Yamaha w/ extended warranty trailer & other extras, Frank, 734-7635.

15' GRUMMAN CANOE - Alum., \$450; 14' SEA NYMPH - 0B25 hp Mariner, alum. open boat, excel. cond., \$1,450. 587-7876.

Furnishings & Appliances

AUDIO STAND - blk., hardly used, pd. \$200, ask, \$75. Mary, Ext. 2900.

BEDS - full-size mattress & boxspring, \$25, king mattress/boxsprings/frame, clean, \$300. Patricia, 744-8512.

BEDROOM SET - lt. pine (Hooker brand), 1 queen hdbd., 2 night chests, 1 dresser, chest of drawers, \$500. Ext. 2113 or 298-5345.

BEDROOM SET - Furn-a-Kit asmbld: arm-oire, queen hdbd., cdr. chst., more, \$225; sofa qu. sleeper w/loveseat, \$400. 751-7023.

DEHUMIDIFIER - gd. cond., \$75. Joe, Ext. 3787 or 929-8321.

DESK/TABLE - 2"-thick wood-slat platform, 33"x60" on cast-iron 30" stands, gd. for computer, \$50. JK, Ext. 5080 or 751-1884.

HUTCH - oak, 7 drawers, 1 cabinet area, \$100; daybed, blk., wrought-iron frame, w/single mattress, \$50. Mary, Ext. 6344.

WALL UNIT - 3 pc, blk. w/glass shelves & mirrors, \$325; blk. tables & 4 chairs, \$100. Diana, Ext. 3681 or 399-3910.

Tools, House & Garden

LAWN SWEEPER - Agrifab 38" used 6 times, \$75; Echo Power, PB-1000, \$75. Chuck, Ext. 2534.

LAWN MOWER - John Deere ride-on mower, 8 hp eng., elec. start, grass & leaf bagger, \$200. Rich, Ext. 7013, or 698-5294.

TOOLS - Sears Crftmn. tlbtop. Disc/belt sander; scrollsaw; tablesaw; grinder, \$50/ea.; more, 3hp air compressor, \$150. 205-0373.

Sports, Hobbies & Pets

AIR HOCKEY - table, 35"x7", \$135; Gldn. Retriever, 7 mo., papers, \$600/firm. www.wjappe.com for pics. Ext. 2080 or 751-5245.

FISH TANK - 35 gal., \$40. Chuck, Ext. 2534.

GLOVE - Wilson left hand softball, never used, \$20; Mary, Ext. 6344.

TENT - 20'x20', commerical party tent, heavy duty, only used a few times, orig. \$900, ask \$600. Richard, 929-5872.

Audio, Video & Computers

IBM ThinkPad; old laptop w/extras; 2 m. h/t 727 w/other Ham equip., make offer. 298-5625.

TV - 25" Magnavox w/coax & RCA rear connections, variable audio output & speakers on/off switch, \$30. Ext. 7625 or 793-4568.

Miscellaneous

COLLECTIBLES - Beanie Babies, \$5-\$10/ea., many to choose from; Boyd's bears, various prices. Sue, Ext. 2483.

RADIO FLYER - Town & Country wagon, never used. \$75. Norm. Ext. 2950.

RED BRICKS - approx. 1,500, clean, not used, price/neg. Mauro. 265-6542.

STROLLER - baby's, \$20. 751-5245.

TELESCOPE - Odyssey 10, university & long binoculars; water softener sys. w/ iron removal, make offer. Ron, 298-5625.

UNIQUE PIÑATAS - all occasions & characters, cartoon, Disney, Sesame Street. Donna, 821-0359.

Wanted

BICYCLE TRAINER - to transport child & can be towed from back of bicycle. Patricia, 473-8426.

DANCERS/CLAPPERS - for Filipino bamboo dance. Practice Thursdays, noon, Rec. Hall. Marie, Ext. 4727 or vanburen@bnl.gov.

'Women in Concert,' 4/16



Three popular female singers — Yvette-Malavet-Blum, Robin Greenstein, and Cathy Kreger — will perform in “Women in Concert,” in Berkner Hall on Friday, April 16, at 7:30 p.m. Sponsored by the BNL Music Club, the concert will be open to the public. All visitors to the Lab age 16 and over must bring a photo ID.

Yvette-Malavet-Blum will host the event and perform “A Tribute to My Favorite Female Singers.” Malavet-Blum, who at BNL is a secretary in the Director's Office, is also a popular cabaret singer who has performed in Manhattan and Long Island, as well as here at the Lab for two of the BSA Noon Recital Series concerts and for a BNL Music Club-sponsored concert last year with the Physics Department's Sam Carr.

Robin Greenstein is a singer-songwriter from New York City whose music is a mix of folk, pop, rock and blues. Greenstein's songs have been recorded on Fast Folk and Atlantic Records. She had been a writer for Bob Dylan's publishing company, and she has performed her music, which she calls “Acousticness,” in over 43 states and several countries, including Mexico, Germany, Denmark and Switzerland. A Long Island native, Greenstein graduated from Stony Brook University, where she studied classical guitar.

Cathy Kreger — singer, songwriter and guitarist — has been performing her unique combination of adult contemporary music, old blues and alternative rock for 18 years. She has acquired a devoted fan base throughout the Northeast, especially Connecticut, New York and Long Island.

Tickets for the concert cost \$12 each and may be purchased at the door or in advance at the BERA Sales Office on weekdays, from 9 a.m. to 3 p.m.

Lost & Found

LOST - engagement ring, gold baguette, high stone diamond, Tiffany style. Carol, 284-3387.

In Appreciation

To all my friends on site in the C-A Department, and especially the Vacuum Group; your warm wishes, gifts and kindness to my family during this emotional time of my mom's passing will always be cherished. Thank you so very much. — Steven Gill

Community Involvement

The Long Island ScienCenter announces its First Annual Golf Classic, 5/21 at the Swan Lake Golf Club. Peter, Ext. 7687 or 744-1112.

DONATIONS - unwanted new items & baskets requested for fund raiser for 5-year-old Krystal Schmitt, who has Pontine Brainstem Glioma, a rare cancer. JoAnn, 878-8263.

SR. ALZHEIMER'S CENTER - needs small gifts (hand lotion, sm. stuffed animals, etc.) for game prizes and craft items for activities. Karen, Bldg. 355, Ext. 4262.

RAFFLE - tickets for sale to benefit the Leukemia & Lymphoma Society. Great prizes! I still need to raise \$1,000. Please help! Anna, Ext. 7132 or 793-4551.

Ads should be submitted by noon on Friday for the following Friday's publication.

Service Ads: Spring Cleaning

In order to keep the Bulletin's “Services” list up to date, the Bulletin requests that all BNLers who currently advertise their service and wish to continue to have the ad appear in the list, resubmit the ad using the electronic form located at www.bnl.gov/bnlweb/pubaf/bulletin/ads/bb_ad_services.htm, or resubmit the ad using a paper form available at the Bulletin Office in the lobby of Bldg. 134.

The current list, which is available on the Web at www.bnl.gov/bnlweb/pubaf/bulletin/services.htm, contains many out-of-date listings and will be removed and replaced with a list containing only the service ads received on or after Friday, April 2, 2004.

The Bulletin's editorial staff asks that all ads meet the conditions of the Bulletin's Advertising Policy, including:

- In filling out the Services forms, use **no more than 20 words** for the advertisement.
- Use the Services form to advertise that you or members of your immediate family living within the same household are willing and qualified to perform work for others.
- Services must be performed by the employees who are advertising them or members of their immediate family living within the same household.
- No advertisement will be accepted for services that are offered in association with regular businesses or commercial enterprises.