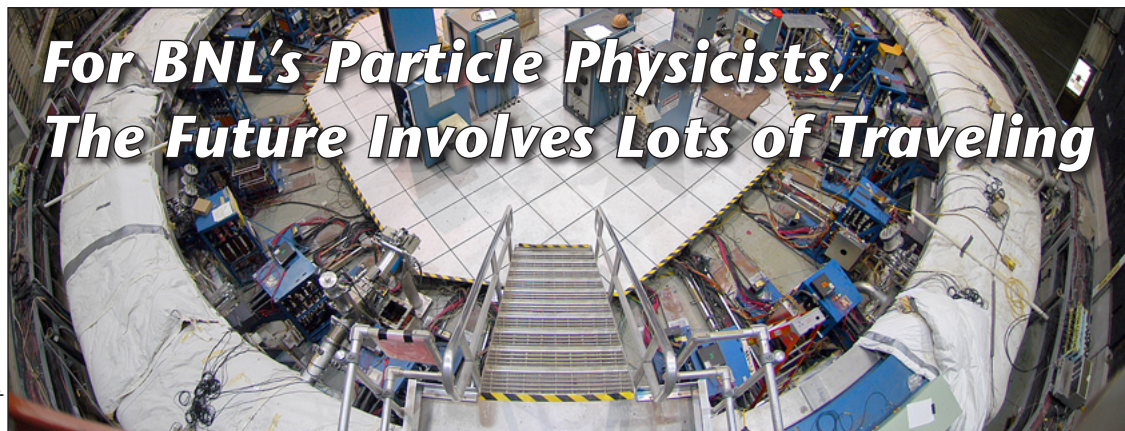


For BNL's Particle Physicists, The Future Involves Lots of Traveling

Joseph Rubino D1971205



The experimental apparatus of the muon g-2 (pronounced gee-minus-two) project — a precision measurement of the anomalous magnetic moment of the muon, a type of subatomic particle

Particle physics in the United States is at a crossroad. Go in one direction, and major research projects will continue to drift overseas. Drive the other way and the U.S. could gain back and strengthen its scientific leadership. Whichever path is followed, BNL's high-energy physicists will play a leading role, but their involvement is likely to take place miles away.

Since the shutdown of the high-energy experiments at the Alternating Gradient Synchrotron (AGS) and the termination of the Rare Symmetry Violating Processes (RSVP) project last summer, there has not been an on-site particle physics experiment at BNL. Funding for particle physics at the Lab has declined greatly since the AGS days, and the possibility of starting a new experiment on site remains uncertain.

One potential on-site experiment would be an upgrade of the Muon g-2 Experiment, which began in the late 1990s and garnered banner headlines earlier this decade. A panel of nationwide scientists, formed to advise DOE and the National Science Foundation on upcoming particle physics projects, will meet in September to decide g-2's fate.

Meanwhile, as particle physics experiments across the country approach shutdown dates, recommendations for the future of the U.S. field are depending on other labs to host new experiments. A recent report released by a 22-member panel called "EPP2010: Elementary Particle Physics in the 21st Century" highlights a course of action for U.S. particle physics in the next 15 years. The report, "Revealing the Hidden Nature of Space and Time: Charting the course for elementary particle physics," also stresses that in order for the nation's particle physics community to prosper, Fermi National Accelerator Laboratory (Fermilab), near Chicago, needs to be strong.

"We have seen many decisions made in the last few years that indicate BNL facilities will not be the focus for high-energy physics," said Peter Bond, Acting Associate Director for High Energy & Nuclear Physics. As a result, the role of particle physics at BNL has shifted from host to user, with Lab physicists working at cutting-edge facilities at other national labs and abroad.

"We're still very active and we still do a lot of good experiments but they aren't carried out here any more," Bond said. In addition to working at Fermilab's DZero and MINOS experiments, BNL physicists are involved in some of the major experiments highlighted in the EPP2010 report.

"This is a very special time in particle physics," said Sally

ing precision probes of physics beyond the Standard Model, the theory that, for now, describes all known fundamental particles and their interactions.

For the moment, much of BNL's focus is in Switzerland. BNL scientists constructed some of the many magnets used in the LHC tunnel and built pieces of ATLAS, one of the LHC's main detectors. The Lab also is the headquarters for the 33 U.S. institutions contributing to ATLAS. "We're going to be involved at the LHC for some

large number of years, and we will follow closely how the ILC develops," Bond said. BNL has already carved itself a role in R&D for the ILC, if it goes through as planned. Technicians in the Magnet Division are working on designs for compact focusing magnets and other scientists are working on new detector technology.

Another prospect for BNL's particle physics program lies in southern China. BNL physicists are collaborating on the proposed Daya Bay Neutrino Experiment, a project meant to measure a quantity related to the changing of neutrino identities as these minute particles travel from the sun to the earth.

"We have a long history in neutrino research and I'm sure we'll be a player in any neutrino experiments no matter where they occur," Bond said.

That history includes a 2002 Nobel Prize awarded to the late BNL chemist Raymond Davis, Jr., for detecting solar neutrinos. Other possible long-term neutrino activities for BNL include a possible very long baseline experiment, involving a beam from Fermilab to a

Dawson, BNL Physics Department Chair and the EPP2010 Committee Vice Chair, during a June 13 BNL colloquium on the report. "We are about to have the tools to answer questions that have dominated particle physics for decades."

The first of those tools comes in the form of a 17-mile circular accelerator buried almost 330 feet underground outside of Geneva, Switzerland, that is expected to be turned on in November 2007. This powerful particle accelerator, called the Large Hadron Collider (LHC), will directly access experimentally a new level of energy, at which scientists expect to make discoveries that could explain fundamental questions like why particles have mass, what is the identity of dark matter, and whether extra dimensions exist.

The second tool would build upon the LHC's discoveries. The International Linear Collider (ILC) is a proposed global machine that would collide beams of electrons and positrons at nearly the speed of light. A design committee made up of representatives from North America, Europe and Asia will soon establish a design for the machine, but project approval and cost are still uncertain.

Both of these accelerators grabbed the top spots in the list of priorities outlined for U.S. particle physicists in the EPP2010 report. They include: 1. Maintaining an active role in the operation of the LHC; 2. Aggressively participating in the global design effort for research and development of the ILC; 3. Mounting a bid to host the ILC in the U.S.; 4. Exploiting opportunities at the intersections of particle physics, astrophysics, and cosmology; 5. Coordinating an international program for the study of neutrinos and proton decays; and 6. Conduct-



"We are about to have the tools to answer questions that have dominated particle physics for decades." — Sally Dawson

Tranquada Receives 2006 Prize From the Neutron Scattering Society of America

The Neutron Scattering Society of America has named John Tranquada, a senior physicist at BNL, the recipient of its 2006 Sustained Research Prize. The \$2,500 prize recognizes a sustained contribution to science using neutron scattering techniques. In these techniques, scientists use neutrons, subatomic particles created in a nuclear reactor or a particle accelerator, to probe materials for insight into their atomic structure and dynamics.

Tranquada was recognized for "his outstanding neutron scattering studies of the charge and spin ordering in the high-temperature cuprates and related materials."

He was given the award at the American Conference on Neutron Scattering in St Charles, Illinois, on June 21.

"I am honored to receive this award," Tranquada said. "I joined Brookhaven's Physics Department at an exciting time, in 1986, the year that the first high-temperature superconductor was discovered. I am gratified that, with my colleagues, I have been able to elucidate some of the surprising properties of these materials. As often happens in basic research, our results raise as many questions as they answer."

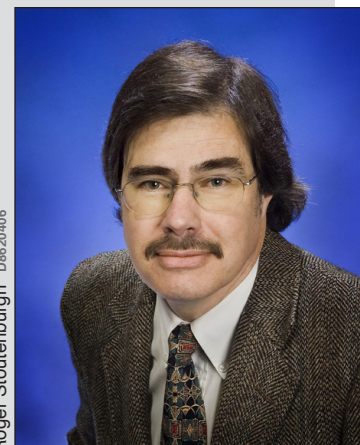
Most superconductors — materials with no electrical resistance — have to be cooled to almost absolute zero (minus 459.67 degrees Fahrenheit) before becoming superconducting. But copper-oxide compounds, called cuprates, show superconducting properties at the relatively high temperature of minus 220 degrees Fahrenheit. If they can be made to be economical, superconductors could be used widely for power transmission and applications in the electronics industry.

Based on his neutron-scattering experiments in the 1980s at Brookhaven's High Flux Beam Reactor, Tranquada discovered that cuprates exhibit antiferromagnetism, a condition in which adjacent magnetic atoms have their magnetic north poles pointing in opposite directions.

In the 1990s, Tranquada and his colleagues discovered that high-temperature superconductors have a tendency toward charge segregation, which enables the coexistence of conducting and insulating properties. This work indicates that the electronic structure of high-temperature superconductors consists of fluctuating strings of charge, known as stripes, a concept that is increasingly influencing the current models of high-temperature superconductors.

John Tranquada received a B.A. in physics from Pomona College in 1977 and a Ph.D. in physics from the University of Washington in 1983. He did postdoctoral research at the Lab's National Synchrotron Light Source from 1983 to 1986, officially joining BNL as an assistant physicist in 1986. He worked his way through the ranks to become leader of Brookhaven's Neutron Scattering Group in 1998, and senior physicist in 2000.

A Fellow of the American Physical Society, Tranquada received a U.S. DOE Award for Outstanding Scientific Accomplishment in Solid State Physics in 1988, and he was honored with BNL's Research & Development Award in 1997. — Diane Greenberg



John Tranquada

Roger Stoutenburgh D8620406

large underground facility to be located in South Dakota or Colorado.

But, until key decisions are made on international projects like the ILC and domestic ones like g-2, pieces of the nation's

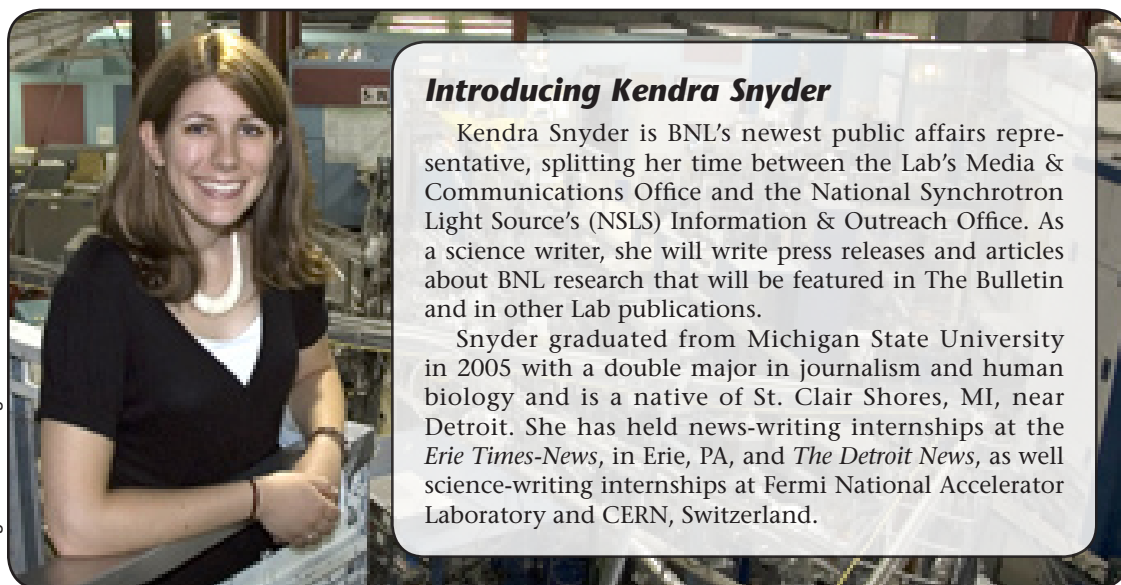
particle physics program remain blurry. "There are so many things that are uncertain for the moment," Bond said. "Two clear, near-term directions are the LHC and Daya Bay."

— Kendra Snyder

Introducing Kendra Snyder

Kendra Snyder is BNL's newest public affairs representative, splitting her time between the Lab's Media & Communications Office and the National Synchrotron Light Source's (NSLS) Information & Outreach Office. As a science writer, she will write press releases and articles about BNL research that will be featured in The Bulletin and in other Lab publications.

Snyder graduated from Michigan State University in 2005 with a double major in journalism and human biology and is a native of St. Clair Shores, MI, near Detroit. She has held news-writing internships at the Erie Times-News, in Erie, PA, and The Detroit News, as well science-writing internships at Fermi National Accelerator Laboratory and CERN, Switzerland.



Roger Stoutenburgh D5600606

CALENDAR OF LABORATORY EVENTS

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

— EACH WEEK —

Weekdays: Free English for Speakers Of Other Languages Classes

Beginner, Intermediate, Advanced classes. Various times. All are welcome. Learn English, make friends. See www.bnl.gov/esol/schedule.html for schedule. Jen Lynch, Ext. 4894.

Mondays: CIGNA Rep On Site

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

Mondays: BNL Social & Cultural Club

Noon-1 p.m., Brookhaven Center, South Room, free beginners dance lessons. Rudy Alforque, Ext. 4733, alforque@bnl.gov.

Mondays & Thursdays: Kickboxing

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

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

Noon-1 p.m., Brookhaven Center North Rm. Adam Rusek, Ext. 5830, rusek@bnl.gov.

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

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

Tue., Thu. & Fri: Upton Nursery School

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

Tuesdays: Welcome Coffee

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

Tuesdays: BNL Music Club

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

Tuesdays: Jiu Jitsu Club

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

Tuesdays: Toastmasters

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

Tues., Wed. & Thurs: Rec Hall Activities

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

Wednesdays: On-Site Play Group

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

Wednesdays: Market Day

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

Wednesdays: Weight Watchers

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

Wednesdays: Yoga

Noon-1 p.m., B'haven Center. Free. Ila Campbell, Ext. 2206, ila@bnl.gov.

Wednesdays: Ballroom Dance Class

Brookhaven Center, N. Ballroom. Instructor: Giny Rae. John Millener, Ext. 3853; Madeline Windsor, Ext. 5069.

Thursdays: Reiki Healing Class

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

Fridays: Family Swim Night

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

Fridays: BNL Social & Cultural Club

Noon-1 p.m., Brookhaven Center, South Room, free beginners dance lessons. Rudy Alforque, Ext. 4733, alforque@bnl.gov.

Five 2006 Environmental Stewardship Awardees Won Recognition for Pollution Prevention Ideas

This year, five Environmental Stewardship Awards were presented at BNL's annual Earth Day Awards Ceremony held on April 20 to Lab employees who demonstrated outstanding contributions in the areas of pollution prevention, recycling, waste minimization, energy conservation, compliance, or resource conservation.

A large turnout of students and parents from local elementary schools also attended the ceremony for a "Your Environment" art contest in which the students design a poster on an environmental theme: the winning posters will be featured in the 2005 Site Environmental Report Summary. In addition, several lucky attendees won door prizes that included a new mountain bike and a two-year certificate for free oil changes donated by Atlantic Honda.

Not only the Earth Day ceremony, but the Earth Week events organized by Jason Remien and Karen Ratel, both of the Environmental & Waste Management Services Division, helped by a host of volunteers, were a success. Among these were the Annual Office Swap, in which many items unused in one part of the Lab were recycled by Lab "shoppers" to be used in another office; the Hybrid Vehicle Display, which included exhibits from Honda, Ford, Toyota, and Mercury; and the Pledge Tree, to which employees donated \$800-plus to the Foundation for Ecological Research in the Northeast (FERN). For more information on FERN, see <http://Fern-li.org>.



Roger Stoutenburgh D8730406

(From left) Vincent LoDestro, Brian Briscoe, and Walter Shaffer, Collider Accelerator Department, win a team award presented by George Goode (right), Environmental & Waste Management Services Division Manager, for their persistence in finding funding to replace all PCB capacitors with non-PCB capacitors at the Linac, thereby reducing the entire BNL PCB weight inventory by 83 percent and the number of inventoried PCB items by 50 percent.



Roger Stoutenburgh D8690406

George Goode congratulates Claudia Hatton, Facilities & Operations Directorate, awarded for her efforts to reduce waste and save money within her directorate by minimizing paper waste and organizing office swaps.



Roger Stoutenburgh D8740406

Jim Rowe with his students from the West Middle Island Elementary School, participants in the "Your Environment" art contest.



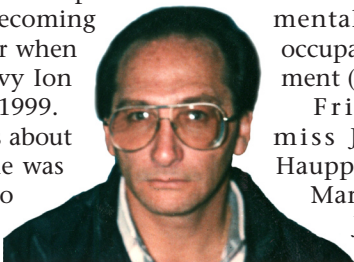
Roger Stoutenburgh D8670406

In Memoriam, Jesse Becker

Jesse Becker, a business operations manager II in the Collider-Accelerator (C-A) Department, died on May 15, 2006. He was 61.

Becker joined the Lab on February 14, 1972, as Senior Auditor for Associated Universities, Inc., the company that originally managed BNL. A year later, he became a staff assistant in the Accelerator Development Department, then rose through the ranks to become Manager of the Department's Administrative & Project Systems by 1989. In 1990, he joined the then Alternating Gradient Synchrotron (AGS) Department as Department Administrative Manager, becoming a C-A business operations manager when the AGS and the Relativistic Heavy Ion Collider combined to form C-A in 1999.

Becker changed his career focus about two and a half years ago when he was transferred from budgeting work to the C-A's Environmental, Safety, Health & Quality (ESHQ) Division.



Oral Health, Diabetes, 7/12

Mitchell Shapiro, DDS, will discuss how to maintain good oral health and options for treatment of oral health problems on Wednesday, July 12, from noon to 1 p.m. in Berkner Hall, Room B. Preregistration is required to attend this talk. Check your mailbox for registration forms. For more information, contact Michael Thorn, Ext. 8612 or mthorn@bnl.gov.

Arrivals & Departures

— Arrivals —

Luis Cruz..... Plant Eng.
Allen Orville..... Biology
Sergey Panitkin..... Physics
Eduard Pozdeyev..... C-A

— Departures —

Shailendra Chouhan..... NSLS
Pramod Kulkarni..... EE/ASD
Jo-Ann Nasta..... Physics
Charles Peter..... C-A
Denise Robertson..... Biology

Said Raymond Karol, Manager of C-A's ESHQ, "Jesse was excited about the challenges in this new area and quickly got involved in becoming an instructor, routinely teaching RHIC experimenters from all over the world how to conduct their work safely at BNL. He was also involved in developing a program to better secure our valuable materials within the department. His most recent work was reviewing our environmental process assessments and work hazards which helped us maintain our third party registration in the international standards for environmental management (ISO14001) and occupational, safety and health management (OHSAS 18001)."

Friends at BNL will dearly miss Jesse Becker. A resident of Hauppauge, he is survived by his wife Marjorie; children Michele Hamou, Jared Becker, and Jillian Per; and five grandchildren.

One-On-One TIAA-CREF Retirement Counseling

A TIAA-CREF consultant will visit BNL on Wednesday, July 19, Friday, July 28, and Monday, July 31, to answer employees' questions about financial matters. The consultant will help BNLees understand the importance of protecting assets against inflation; find the right allocation mix; learn about TIAA-CREF retirement income flexibility; and compare lifetime income vs. cash withdrawal options. For an appointment, call Arlene Lyons, (866) 842-2053, Ext. 4629. (Not the on-site Ext. 2053.)



Join in the Talent Show!

Summer students, BNL staff will light up the stage, 7/18

Summer students and members of BNL staff will be performing in a Talent Show hosted by the Office of Educational Programs and produced by Tabatha Wyche. The Show, to be held at 5:30 p.m. on Tuesday, July 18, will consist of a variety of acts such as violin, piano solo, gospel, step dance, belly dance, comedy, and Hip Hop. All kinds of talents are very much needed to help make the show a success: volunteers will be warmly welcomed either to participate as performers or behind-the-scenes aides. To join in the show, contact Wyche at twyche@bnl.gov or Ext. 4000.

Defensive Driving On-Site Class, 7/15

Seating is limited to 40 people and pre-registration is required for the next six-hour Defensive Driving (Point & Insurance Reduction) course, to be held on Saturday, July 15, in Room B, Berkner Hall, from 9 a.m. to 3:30 p.m. Organized by the ESH&Q Directorate, sponsored by USA Training Inc. and delivered by EAS Associates, the course is open to BNL, BSA, and DOE employees, facility-users, and their families. The cost is \$30 per person. To register, call Edward Sierra at 821-1013 and leave a voicemail with your telephone number. For further information, call Sarah Wiley, Ext. 4207.

No Bulletin Next Week

The Lab will be closed next Monday and Tuesday, July 3 and 4, in observance of Independence Day. As a result, no Bulletin will be printed on Friday, July 7.

JFK Middle School Wins Science Bowl at BNL

Bellport Takes Second Place in Science Bowl, First Place in Hydrogen Car Contest



Roger Stoutenburgh D3070306

The John F. Kennedy Middle School team members include (from left): Katerina Sperl, Nicolette Randazzo, Deepak Ravi, David Lawrence, and Andrew Shindler. Joining the team (from left) are coaches Jennifer Watkiewicz, Chris Kowalski, and Steven Nielson. To the far right is Peter Faletra from the Department of Energy's (DOE) Office of Workforce Development.

The John F. Kennedy Middle School team won first place in the Regional Middle School Science Bowl competition held at BNL. Eighty students from nine Long Island middle schools participated in the fast-paced question-and-answer tournament designed to test the students' knowledge of biology, chemistry, physics, mathematics, astronomy, earth science, and general science.

The Bellport Middle School

team took second place in the academic contest and first place in the second part of the Science Bowl — a hydrogen fuel-cell model car race, in which students design, build and race model cars. The team's car took 19.48 seconds to race down a 10-meter-long track.

William Floyd Middle School placed third in the academic competition, and Commack Middle School came in fourth. R.C. Murphy Junior High School took

second-place in the model car race with a time of 25.7 seconds, and Commack High School came in third, with their car taking 32.6 seconds to traverse the track.

The Regional Science Bowl at Brookhaven Lab is part of the National Science Bowl® competition coordinated by the U.S. Department of Energy's Office of Science. Last year, more than 2,000 students participated in 24 regional events throughout the nation.

By participating in the competition, students are encouraged to excel in science and math and to pursue careers in those fields.

All the winning teams received a trophy, and the John F. Kennedy Middle School team represented the Long Island region in the National Science Bowl®, which was held in Denver, Colorado, from June 21-24. The U.S. Department of Energy funded the team's all-expense-paid trip.

— Diane Greenberg

Recital

Pianofest at BNL, 7/19

Participants in Pianofest, a summer workshop in the Hamptons, will perform showcase recitals in Berkner Hall on Wednesday, July 19, at noon.

Pianofest emphasizes the development of style and interpretation in piano performance for students already possessing considerable technical capability. The workshop's founder and director, Paul Schenly, will choose prize-winning Pianofest participants to perform from the great classical repertoire for the BNL recitals.

The recitals will be patterned upon the openly critiqued performances given by Pianofest students in the Southampton Cultural Center, Mondays at 4 p.m., from July 3 through July 31. For more information, call 329-9115.

Sponsored by Brookhaven Science Associates, noon recitals are free and open to the public. All visitors to the Lab age 16 and over must bring a photo ID.



Hospitality Bus Trip to NYC, 7/15

All BNLeers and their families are invited to join the BNL Hospitality Committee for a "Day in the City" coach trip, leaving from the Recreation Bldg. in the apartment area at 9 a.m. on Saturday, July 15, dropping off participants at Bryant Park and leaving the city at 6 p.m.

Tickets cost \$10 for adults and \$5 for children ages 2-12. Reservations and payments must be made in advance. Money will be collected at Berkner Hall on Tuesday, July 11, from 11 a.m. to noon.

For more information or to register, contact Hanna Herman, 849-2249 or haniaherman@yahoo.com, or Jing Rochman, 891-9430 or deshanghai@yahoo.fr.

Summer Fun at the Science Learning Center

The BNL community and their families are invited to the Science Learning Center (SLC) on four Fridays, July 14 & 28 and August 11 & 25, from noon to 1:30 p.m. to explore the many interactive exhibits and to visit the 3D visualization theater. See what makes the SLC such a popular visit for more than 25,000 elementary school children each year. The SLC also offers a limited selection of science-related toys. An adult must accompany children under 14 years old.

Estate Planning, 7/7

Join speaker Nancy Burner for the Elder Law Lecture "Estate Planning With Retirement Funds: What You Need to Know" on Friday, July 7, from noon to 1 p.m. in Berkner Hall, Room B.

Check your mailbox for registration forms. For more information, contact Michael Thorn, Ext. 8612 or mthorn@bnl.gov.

(Continued from page 4)

Miscellaneous

WEDDING GOWN - satin, size 4/6, Victorian-style headpiece, white, \$100. Bill, 395-9610.

YANKEES TICKETS - 2 tix for 7/14 BERA trip, \$12/ea. includes r/t coach bus ride, bus leaves BNL Center at 4 p.m. Ext. 7264.

Yard & Garage Sales

PATCHOGUE - multi family, Sat., 5/20, 9 a.m. - 4 p.m., 73 Buckley Rd., something for everyone. Ext. 7517.

PATCHOGUE - Sat., 6/17, 11 a.m., home furnishings, records, books, toys, good stuff. Ext. 5169.

Free

DOG FOR ADOPTION - 6-year-old female purebred yellow Labrador, playful, good with children, needs good home. Jeff, 516-982-5400.

Wanted

BIKE RACK - single, mounts on back of Volkswagen Cabrio. Magdalene, Ext. 4720.

BIKE RACK - secure, can hold up to 2 mountain bikes; will work on large and small cars. Amber, Ext. 3807.

CELLPHONE - Nextel i1000+, good cond. only, WinXP upgrade CD w/key. Karl, Ext. 3116.

DIGITAL CAMERA - old, for young kids to play with, will pay up to \$50. Ext. 5312.

DOUBLE BABY STROLLER - for needy mother. Barbara, 589-0277.

HV CONTROLLER BOARD - for Varian MiniVac ion pump controller model 9290191. Karl, Ext. 3116.

SHORT TERM STUDIO APT - seeking N. shore apt., now to 8/15, for single female & 2 cats, up to \$1,400 for entire stay. Melanie, Ext. 5810 or 830-7427.

UPTON GAS STATION ATTENDEE - 8/7 to 8/11. Bill, Ext. 4034.

For Rent

CENTER MORICHES - 4-bdrm. wtr.-frt. house, dock on creek, eik, d/wr, w/d, f/p, 2 full bath, more. \$2,150/mo. 261-7908.

FARMINGDALE - 4 bdrm., 2 bath, all new kit./bath, s/s appl., nr. golf, hot tub/spa, great back yard, newly painted, great SD. \$2,600/mo./neg. Paul, 516-633-7275.

MANORVILLE - 1 bdrm., eik, lg. l/r, main flr., quiet, priv., all util. incl. \$995/mo. Annamarie, 878-8967.

MANORVILLE - 2 bdrm, kit-l/r combo apt., pvt. ent/deck/parking, 2 mo. sec., ref., incl. all. \$1,200/mo. 878-0331.

MILLER PLACE - share lg. furn. non smkg. Col. house, iresid. area, deck, internet, cac, tv cable, own w/w 14x12 bdrm. 10 mi. to BNL. \$675/mo. 744-8386.

OCALA, FL - 3-bdrm., 2-bath, unfurnished 2-yr.-old ranch in gated Ocala Palms retiree golf community, 6-mo. lease or longer only. \$1,400/mo. Ext. 5483 or 744-0790.

PATCHOGUE - 1-bdrm. apt., l/r, eik, 2nd floor pvt.. ent., w/w carpet, new appliances, no smkg./pets, credit check & refs., 1 mo. sec., elect not incl. \$975/mo. Carter, Ext. 7515 or 654-0411.

RIDGE - brand new, spacious, 600 sq. ft.,

1 lg. bdrm., kit., l/r, all utilities and cable incl., pvt. ent., 3 miles to Lab, no pets/smkg. \$1,150/mo. 813-8637.

RIDGE - 1 lg. studio, bright & warm, w/full bath, priv. ent. and fenced garden, house apart from owner, park in drway, quiet & safe n'hood. \$700/mo. Zhen, 821-0859.

ROCKY POINT - 2-bdrm. house available for sublease end of July to end of August 2006. \$1,000/mo. Ariane, Ext. 2209.

SHIRLEY - 1-yr.-old, 1-bdrm. apt., eik, lg. l/r, full bath, no pets/smkg., heat/own therm., cable, util. incl., pvt. ent., 8 mi. to BNL. \$1,000/mo. Diana, Ext. 3681.

SHIRLEY - studio apt, suitable for 1., full bath, sep. ent., all incl., cable & internet, no smkg./pets, 5 min. to stores & beach, 1 mo. security. \$550/mo. Ext. 8321.

SHOREHAM - 2 lg. bdrms. & l/r, fully carpeted, kit., full bath, cable, internet access, pvt. ent., on cul-de-sac., no smkg./pets, 8 mi. to BNL. \$1,200/mo. 928-9328.

WADING RIVER - 2 bdrm., eik, lg. l/r, lg. den, lg. deck, pvt. pkg., no kids/pets/smkg. util. extra. \$1,500/mo. 928-9328.

YAPHANK - Col. Woods, 2/3 bdrm condo, 1/2 mile to Lab, move-in cond., all new kit. & 1 + 1/2 baths, \$1,600/mo. plus utes. 1/mo sec., refs. 205-5447.

YAPHANK - 2 bdrm., l/r, kit., full bath, lg. yd., + util \$1,000/mo. Christopher, 436-6357.

For Sale

BOYNTON BEACH, FL - 55+ community, charming 1,800 sq. ft., 2/2 + den, near clubhouse, pool, tennis & shopping. \$239,900 561-495-0187.

BRIGHTWATERS - trad. Ackerson Colonial in village cntr., completely renov., 4 bdrm., 2 bath, new Viking kit, porch, decks. \$650,000. 516-810-6555.

CENTEREACH - 3-bdrm. ranch, 2 bath, eik, l/r, d/r, fam. rm. w/fp, fin. bsmt., cac, heated semi-igp, igs, htd. tile flrs., alarm, skylgts., hot wtr. htr., deck. \$419,900. Ext. 2881.

EAST PATCHOGUE - 2-bdrm. ranch, eik, 2 bath, l/r, d/r, part. fin. bsmt., attch. gar., 15 min. to BNL. \$369,000/neg. 289-6652.

EAST QUOGUE - condo 2/2 upper unit, 1-car gar., sr. commty, pool, clubhouse, cac, maint. free, low comm. chgs./taxes, excel. cond. \$629,900/neg. 723-0770.

KINGS PARK - 4 bdrm., 2 bath, renov. in & out, Anderson wndws, vinyl sidg, poss. m/d, 3 min to boat ramp, walk to park. \$519/neg. Richard, Ext. 5319 or 835-8309.

MIDDLE ISLAND - 2 bdrm., 2 bath, l/r, d/r, lg. eik, new upgraded appliances, partly fin. bsmt. igs., .5 acre, shed, 5 min to BNL. \$329,000/neg. Karen, 924-4968.

PORT JEFFERSON - mint Victorian in village ctr., 4 bdrm., 2 bath, 2-l/r, gas f/p, d/r, renov. eik, pvt. igp & decks, waterfall views, attics, gas heat, cac. \$649,000/neg. 804-4662.

PORT JEFFERSON STATION - hi-ranch, mint+, 3 bdrm., 2 bath, updated kit, l/r, windows, office, renov. bath, new roof (w/warr.), grt. location, well-priced. \$419,999/neg. Milind, Ext. 3327 or 331-6725.

PORT JEFFERSON STATION - almost new Townhome, gated, 3-bdrm, 3 bath, full finished bsmt., a/c, attached gar., many upgrades, skylights, cathedral ceiling, patio w/pond view. \$489,000/neg. 778-8075.

CALENDAR

(continued)

— WEEK OF 7/3 —

Mon. & Tues., 7/3 & 4

Holidays — Lab Closed

On Monday and Tuesday, July 3 and 4, the Lab will be closed in observance of July 4, Independence Day. No Bulletin will be issued on July 7.

Friday, 7/7

***Elder Law Lecture**

Noon-1 p.m., Berkner Hall, Room B. Nancy Burner will talk on "Estate Planning With Retirement Funds: What You Need to Know." Preregister to attend with Michael Thorn, Ext. 8612 or mthorn@bnl.gov.

— WEEK OF 7/9 —

Wednesday, 7/12

***"Oral Heath and Diabetes"**

Noon-1 p.m. Berkner Hall, Room B. Mitchell Shapiro, DDS, will discuss oral health maintenance and options for treatment. Preregister for this talk with Michael Thorn, Ext. 8612 or mthorn@bnl.gov.

Saturday, 7/15

***Bus Trip to New York City**

Bus leaves from the Recreation Bldg. at 9 a.m., and leaves the city at 6 p.m. Tickets cost \$10 for adults and \$5 for children ages 2-12. See notice at left.

***Defensive Driving Course**

9 a.m.-3:30 p.m., Berkner Hall, Room B. The cost is \$30 per person. To register, call Edward Sierra at 821-1013 and leave a voice mail with your telephone number. For further information, call Sarah Wiley, Ext. 4207. See notice, page 2.

— WEEK OF 7/17 —

Tuesday, 7/18

***Talent Show**

5:30 p.m. Berkner Hall. Performed by students and Office of Educational Programs staff. Volunteers needed. See notice, page 3. Tabatha Wyche, twyche@bnl.gov or Ext. 4000.

Wednesday, 7/19

***BSA Noon Recital — Pianofest**

Noon. Berkner Hall. Free recital by prize-winning pianists. See notice at left.

— WEEK OF 7/24 —

Friday, 7/28

Celebrate Friedlander's 90th B-Day

Noon, Hamilton Seminar Rm., Bldg. 555. An afternoon of talks, reminiscences by a variety of speakers, BNL colleagues, friends, and family will honor Gerhart Friedlander, distinguished nuclear chemist and Chair of Chemistry, 1968-1977.

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.

SOUTHOLD - French Normandy style home, 1 level, estate like grounds in downtown Southold, walk to town and beach, no updates needed. \$999,000 Amy, Ext. 8032.

WESTHAMPTON - 3-bdrm. ranch, 1 bath. \$625,000/neg. Peter, 288-5445.

Lost & Found

FOUND: 3 FOLDERS - brown, in front of Bldg. 729. Two headed "GN Chamber," other is "MOD 88-4". Melanie, Ext. 5810.

FOUND: EARRING - silver snow flake earring found outside of Bldg. 460 on Center St. Pamela, Ext. 7774.

In Appreciation

To all the personnal at Central Fabrication Services, Thank you very much for your kindness and thoughtful words during the illness and passing of our mother Barbara Wilson. — The Wilson Family

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 benefits-eligible employees within the department/division and/or appropriate bargaining unit, with preference for those within the immediate work group; (2) present benefits-eligible 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. Access current job openings on the World Wide Web at www.bnl.gov/HR/jobs/.

LABORATORY RECRUITMENT – Opportunities for Laboratory employees

TB3980. SR. ADMINISTRATIVE SERVICES ASSISTANT (A-3) - Requires a bachelor's degree or equivalent experience, and at least three years of relevant work experience, a demonstrated proficiency in MS Word, Excel, Access and Outlook as well as other computer applications. Must have strong communication and organizational and problem solving skills, the ability to work independently, handle multiple projects, and prioritize workload. The ideal candidate will have writing and editing skills. Responsibilities include assisting in the administration of licenses, including monitoring insurance, due diligence requirements, and royalty payments. Will also be responsible for interacting with outside companies to assure compliance, forwarding to fiscal all licensing revenue, and coordinating with fiscal proper disposition of such revenue. Duties will include the preparation of licensing documents, non-disclosure agreements and material transfer agreements; administration of those agreements, maintenance of license and agreements databases and general support of Office of Intellectual Property. Office of Intellectual Property& Sponsored Research.

OPEN RECRUITMENT – Opportunities for Laboratory employees and outside candidates

MK3247. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in any of the physical sciences or a related engineering field and some knowledge of micro-electronics fabrication methods, and some understanding of the basic physics of conventional optics and/or hard X-ray optics. Will investigate and compare methods such as laser profiling or reactive ion etching, in order to transfer computer generated patterns into diamond substrates. Under the direction of K. Evans-Lutterodt, National Synchrotron Light Source Department.

MK3757. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in chemistry, electrochemistry, metallurgical, chemical, or mechanical engineering. Experience in synthesis of lithium-ion battery cathode materials using electrostatic spray deposition (ESD) methods, thin film deposition, metal oxide powder synthesis using solid state methods and sol-gel process also required, as is experience with the application of synchrotron x-ray methods to study cathode materials. The research programs use a combination of *in situ* x-ray diffraction (XRD) and x-ray absorption spectroscopy (XAS) at the National Synchrotron Light Source to study the cathode and anode materials for energy storage devices such as lithium-ion batteries, supercapacitors, and fuel cells. XAS will be used to follow the redox chemistry of the heavy metal atoms during charge and discharge. XRD will be used to follow the phase changes. Soft x-ray XAS will be used to identify species at the surface of the electrodes. The effects of temperature and cycling rate will be studied. New cathode and anode material synthesis for the energy storage devices will also be conducted in the research programs. Under the direction of X.-Q. Yang, Chemistry Department.

MK3839. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in biochemistry or molecular biology. Experience in plant polysaccharide analysis and membrane protein manipulation is strongly desired, and knowledge of bioinformatics or plant cell wall physiology is preferred. Research involves work on reverse genetics and biochemical genomics approaches to characterize a family of acyl-CoA dependent acyltransferases involved in various plant metabolisms, particularly in lignocellulosic biosynthesis and modification. Under the direction of C.-J. Liu, Biology Department.

TB3788. ADMINISTRATIVE SERVICES ASSISTANT (A-2 – temporary position) - Requires an associate's degree in secretarial science plus related experience of at least four years or equivalent and excellent oral, written communication skills and organizational skills. Expertise in providing administrative support including performing complex administrative office or secretarial functions is also required, as are excellent word processing skills, and computer proficiency in MS word, Excel, Outlook and Power Point. MS Access capability also desired. Experience with PeopleSoft is highly desirable. Position will require using financial and other systems to order and account for materials, labor, equipment, supplies, travel and services in support of the Procurement & Property Management Division. Successful candidate will be expected to exercise initiative, good judgment, and be able to multi-task. Procurement & Property Management Division.

Motor Vehicles & Supplies

04 CHEVY TRAILBLAZER - 4x4, 6cyl, a/t, loaded, mint cond., LT edition, 36K mile warr., original owner, must sell. 17K mi. \$20,990/neg. Steve, 704-9679.

02 YAMAHA YZ250F - dirt bike, 4 stroke, water cooled, auto-decompression, perfect cond., like new. \$2,900. 886-1417.

01 LINCOLN LS - 4dr., loaded, 5cd, heated leather seats, dual temp controls, s/ roof, alarm, excel. cond. 53K mi. \$13,500/ neg. Denise, 871-0561.

00 FORD EXPLORER XLS - red, V6, a/t, p/s, c/c, p/w, c/d, 2wd, new tires, running brds, privacy glass, orig. owner. 55K mi. \$7,500. 567-4661 or 591-4011.

99 MITSUBUSHI ECLIPSE OZ - 10th anniversary, black, 4 cyl. a/t, fully loaded, leather int., after-market sound system, clean. 60K mi. \$7,000/neg. Donald, Ext. 5299 or 775-6126.

99 TOYOTA COROLLA LE - blue, a/t, all power, abs, delear maintained, excel. cond. 88K mi. \$5,600. Raman, Ext. 4290.

99 MITSUBISHI ECLIPSE OZ - 10th Anniversary, black, 4 cyl., a/t, full loaded, leather int., after-market sound system. 60K mi. \$7,000/neg. Heather, Ext. 5299.

99 YAMAHA 650 V STAR CUSTOM - Cobra pipes, carb kit, windshield, auxillary lighting, LED license plate, excel cond. 2500 mi. \$4,500. Donna, 878-4235.

90 GMC VAN - hi-top conversion, rebuilt trans.& rear, tow pkg, TV, DVD, am/fm/cass. 144 mi. \$2,700/neg. Shane, 345-0063.

89 DODGE CARAVAN - good, clean transportation. 6 cyl, 7 pass., a/c, am/fm, new batt., rebuilt a/t, runs well. 110K mi. \$1,200/neg. Ext. 3492 or 734-2593.

89 MERCURY SABLE GS - V6, a/t, 4wd, all options, gar. clean, orig. owner. 47K mi. \$970. Bill, 395-9610.

83 SUZUKI GN125 - female operated, great for learning to ride, looks and runs excellent. 3200 mi. \$1,200/neg. Donna, 878-4235.

GENERATOR - quiet, 600W, used w/RV. Ask \$250. Jim, Ext. 8236 or 929-5945.

SPOILER - brand new, in box, not yet painted, fits Honda Civic. \$75. neg. Maryann, Ext. 4705 or 929-4978.

UTILITY TRAILER - needs new decking, has side rails and spare tire. \$225 neg. Ext. 7129.

Boats & Marine Supplies

12' GRUMMAN ALUM. - w/trailor. \$450. Mark, Ext. 7638.

19' GRADY WHITE TOURNAMENT - 130 h.p. Yamaha, MagicTilt trlr., full encl., VHF & depth finder,swim platform, more, ready to go. \$7,500/neg. 878-8302.

23' COBIA CUDDY - 190-h.p. 4-cyl. I/O, new canviss, riser, rebuilt outdrive. \$2,000/ neg. Richard, Ext. 5319 or 835-8309.

27' SPORTSCRAFT CRUISER - excel. cond., 260hp, V8, inboard, VHF, windless swim platform, full canvas. \$10,000/neg. Ext. 5088 or 567-0533.

'76 CRUISER - fiberglass, 19' runabout w/115 h.p. Johnson outbrd. w/full canvas and trailer. \$1,000/neg. 878-0743.

MUSHROOM ANCHOR - 250 lb. w/chain, buoy & pendant line. John, 543-7065.

Furnishings & Appliances

AIR CONDITIONER - through-the-wall/ window, 24,000 Btu, 220V, \$100. Chris, Ext. 2094 or 929-5008.

AIR CONDITIONERS - Fedders, 18,000 Btu, 220 volts, \$150; Friedrich, 115 volts, \$50, both new cond. Anthony, 281-5827.

AIR CONDITIONERS - 2 GE 8,000 Btu standard window models, digital thermostats, timers. \$100 ea., both for \$150. Phil, Ext. 5669.

BEDFRAME - Queen size, brand new, still in box. 331-3765.

CRIB & CHANGING TABLE - matching set, white wood, excel. cond., pics avail. 331-3765.

CURIO SHELF - excel. cond., black metal, arched design, 4 glass shelves, pics avail 331-3765.

DINING TABLE, CHAIRS - maple table w/3 leaves & 6 matching chairs, excel. cond., pics avail. \$350 obo. 651-9798.

DISHWASHER & STOVE - dishwasher w/stainless steel int., \$75; GE electric range, white w/black glass door, \$100. Karl, Ext. 3116.

ENTERTAINMENT CENTER - excel. cond., black, storage on sides, shelves w/glass drs, up to 32" TV, pics avail. 331-3765.

ENTERTAINMENT UNIT - wood color, Teak, 96"W, 77"H, 22"D, Need to sell ASAP. Ask \$490 neg. Walter, 516-420-0688.

RANGE AND MICROWAVE - both GE Profile, 30", white, like new, \$275/\$125; upright freezer, \$50, works well. Bill, 395-9610 after 7 p.m..

REFRIGERATOR - White Frigidaire, 18.2 cu. ft., \$200. Chris, Ext. 2094 or 929-5008.

SHELF UNIT - new, solid natural oak, five shelves. \$75. Kim, Ext. 7465 or 399-3098.

TV - 30 inch Toshiba. \$75. Ext. 2320.

WASHING MACHINE - Kenmore, top loader, heavy duty, works great, \$75; Litton Microwave \$30. Karl, Ext. 3116.

Audio, Video & Computers

CAMERA - 5 megapixel Kodak model CX7530 w/case and 128MB SD, takes great pictures. \$75 firm. Tom, Ext. 3312.

CAR STEREO - Pioneer, 50W/channel, CDR/RW/MP3/WMA playback, satellite/iPod compatible, blue OEL display/screen-saver, \$200. Laura, Ext. 7842 or 434-5824.

CAR STEREO - DuraBand, CD/MP3/CDR/CDRW playback w/MP3 display, 45Wx4, slide down/detachable panel w/rem, 30 presets, \$120. Ext. 7842 or 434-5824.

COMPUTER - 400Mhz desktop w/14" mon., 10GB HD, cd-rw, floppy, Win2000. \$150, neg. Ext. 5080 or 766-7701.

JUKE BOX BY ROCKOLA - Holds eighty 45rpm records, new needle and arm. Ask \$500. Ttire, Ext. 3288 or 872-8972.

MONITOR - Gateway 2000, 16 in., great cond. \$20. 331-2475.

PLAYSTATION 1 - w/controller, game and memory card, \$35. Chris, Ext. 2094.

Sports, Hobbies & Pets

BIKE RACK - 2 bike holder, installs into a 2 inch receiver hitch, used once. \$75. 516-805-3178.

BOW FLEX EXTREME 2 - brand new, w/ extra bows, work out DVD, instructions, poster, T-bar & book. Orig. \$1,700, ask \$1,000. Charles, 872-9268.

TICKETS - Mets, 2 seats, avail. for Tues. & Fri. games, Loge Sec 5, Row G, face value. 751-7023.

Tools, House & Garden

AIR CONDITIONER - Gold Star, 8,000 Btu, window, \$50; Evanrude, 7.5 outboard eng., 10 yrs. in storage, \$400 . 924-6751.

LAWN TRACTOR - Craftsman, 10 hp, 30 in. cut, 5 speed, runs well. \$200. John, Ext. 4028.

LAWN TRACTOR - 2003 Sears Craftsman w/atts., LT1000, 42" mower, 17HP, elec. start, auto trans, like new. \$1,200. Kathleen, Ext. 7114.

PRESSURE WASHER - Karcher K3.97M, 1600 psi, electric, new in box, best offer over \$125. David, Ext. 2604.

On-Site Service Station

BOAT & MOTORCYCLE STARTERS, ALTERNATORS - The on-site service station can supply needs for boats and m/cycles as well as perform all vehicle services, NYS inspections, etc. Ext. 4034.

Miscellaneous

BABE RUTH MEMORABILIA - copies of the orig. 1919 agreement of Babe Ruth with the NY Yankees, b/o. Ollie, 727-5912.

BON JOVI CONCERT TICKETS - 2 tickets, Tues., July 18, 5 p.m. Giants Stadium, Section 330, Row 14, face value, \$80/ea. Michael, Ext. 7941.

EXERCISE EQUIPMENT - Cardio Glide, \$50. 289-8967.

FOOD CHOPPER - Black & Decker 2-speed Super Chopper, 480 ml (2 caps). \$5. Sergey, Ext. 5682.

HONDA MINIMOTO - mini motorcycle for kids. 18v rechargeable, 1yr old, only used 4x, v. clean, book, tools.\$75. Ed, Ext. 3050.

PAINT - light blue semi gloss quart; white frost, 1 quart; more. Best Offer. Barbara, Ext. 3431.

POWER SCOOTER - 300 lb., built-in batt. charger, front basket, cane holder, excl. cond., ask \$1,000. Kathy, 981-5993.

TELESCOPE MEADE ETX-90EC - 4" dia w/elec. controller, Maskulov-Casegrain, 1250mm x f/13.8, 8 x 21mm finder scope, \$250. Marty, 874-3478.

TICKETS - 2 tickets for the Dixie Chicks, Mad. Sq. Garden, 8/1, Sec 96, Row G, Seats 9-10. Face value \$90 ea. 331-7466.

TICKETS - 2 for Roger Waters (Pink Floyd) at Jones Beach, 9/15, 8 p.m., Sec. 4R, Row KK, Seats 5 & 6. \$75 ea. Sev, Ext. 5647.

TRACTOR - John Deere, 1941 Model A, restored to like new cond., converted to 12 volts, new batt., \$4,500. Bill, 886-1182.

WALL PICTURES - 2 scenes: cafe bistro and flower. Ask \$10. Barbara, Ext. 3431. (continued on page 3.)

Summer Sundays, 7/9 – 8/20

What can you do that's free, fun, and educational on a lazy summer Sunday? Visit BNL to enjoy a variety of entertaining activities for people all ages. The science research laboratory that is home to six Nobel Prizes will feature interactive exhibits and an exciting, action-filled science show. Each week, tour a different facility at the Laboratory's 5,300-acre campus and learn about everything from DNA to the perfect liquid, a state of matter now thought to have existed at the beginning of the universe.

Summer Sundays will be offered from July 9 through August 20. No reservations are needed. Visitors may arrive any time between 10 a.m. and 3 p.m. All visitors age 16 and over must bring a photo ID.

The “Whiz Bang Science Show” will be staged at 10:30 a.m., noon, 1:30 p.m. and 3 p.m. each Sunday, with a special exception: At 3 p.m. on both July 23 and August 6, a magician will show off some amazing science tricks. Visitors may test their mathematical skills at Nature's Numbers, a hands-on exhibit that features designs in nature and shows how they relate to math. Also, a historical exhibit on Camp Upton – the U.S. Army base that occupied the Laboratory site during World Wars I and II — will be on display.



Children have fun at Brookhaven Lab's Science Learning Center during Summer Sundays.

The full Summer Sunday schedule follows:

July 9..... National Weather Service

Meet the People who Forecast the Weather

Are you prepared for the hurricane season? Learn about the weather – what creates it, how it's tracked, and how you can be ready for it – at the National Weather Service. A weather balloon will be launched at 3:30 p.m.

July 16..... Life Sciences

Investigate the Living World

Explore the fascinating world of biological and biomedical research. See how scientists can use imaging devices to view the human brain. Learn about DNA sequencing and the Scanning Transmission Electron Microscope, a super-powerful microscope that allows scientists to see the intricate details of living organisms. See how a molecule's structure is determined with x-ray crystallography, and enjoy hands-on activities.

July 23.....Playing with Science

Enjoy interactive exhibits at the Laboratory's Science Learning Center. Learn about the Lab's educational programs and contests, and visit exhibits from the LI ScienCenter and the Children's Maritime Museum at Port Jefferson. At 3 p.m., be entertained by a science magician who reveals the science behind his tricks.

July 30..... See With Invisible Light

Powerful beams of invisible light help scientists make remarkable discoveries that can impact our everyday life. The National Synchrotron Light Source is one of the world's brightest sources of x-ray, infrared, and ultraviolet light. Used by over 2,000 researchers from around the world each year, the Light Source has contributed to advances in medicine, materials, space travel, and more. Enjoy hands-on activities, and take a quiz to win a prize.

August 6 Watch Us Go and Grow Safely

Meet the behind-the-scenes people who make the Laboratory work, from those who create building plans to those who operate large construction equipment, as well as security and emergency services workers who protect the Lab. Learn how the Lab operates with safety in mind and how to make safety part of your life. At 3 p.m., the science magician again shows the magic behind his tricks.

August 13Energy and the Environment for All

Learn about global warming from scientists who study the climate and its changes, see a bio-diesel fuel burner at work, visit many interesting environmental exhibits, and enjoy educational hands-on activities.

August 20A Perfect Liquid Exists

At the Relativistic Heavy Ion Collider (RHIC)

What do you get when you smash together two beams of gold particles, moving at 99.9 percent the speed of light? Using three-story tall detectors at RHIC, scientists have identified a state of matter that existed in the first millionth of a second after the Big Bang. It's a perfect liquid — a scientific surprise. A visit to RHIC will surely be memorable.