

Roger Stoutenburgh 00270708

Harold Schwarz, Senior Chemist Emeritus

Harold Schwarz, who has worked in the Chemistry Department at Brookhaven National Laboratory (BNL) since 1951, has been named Senior Chemist Emeritus. Since his retirement in 1995, Schwarz has continued to work in Chemistry, collaborating with colleagues on research and helping to maintain and upgrade equipment. As a Senior Chemist Emeritus, Schwarz will regain his BNL badge along with many of the rights, privileges, and obligations of active employees.

Said Chemistry Chair Alex Harris, "Harold Schwarz is an internationally recognized leader in the fields of radiation chemistry, the chemistry of free radicals, and the development and application of pulse radiolysis techniques. He has continued as an active participant in the Chemistry Department's research since his retirement. In particular, he has brought very valuable expertise in the continuing development of advanced instrumentation to the Center for Radiation Chemistry. We are very pleased that the Laboratory is recognizing his active involvement and contributions to BNL by supporting his appointment as Emeritus."

"BNL was a reasonably new lab that had developed a good reputation when I joined nearly 57 years ago," Schwarz recalled. He began his career at BNL by researching radiation effects on water. Water was used to cool and moderate nuclear reactors and Schwarz investigated accidents that could occur when it was irradiated. In his early years, he collaborated with Augustine (A.O.) Allen, a senior chemist in the department. Together, they determined the nature and reactivity of free radicals produced in irradiated water and also discovered conditions under which the generation of hydrogen and oxygen was almost completely suppressed. Due to his expertise on the subject, Schwarz was called in as a consultant during the Three Mile Island reactor crisis in 1979.

Schwarz also worked with the Instrumentation Division

to design a circuit for the department's Van de Graaff accelerator that would create short pulses of 2 MeV electrons used to produce free radicals and study reactions directly.

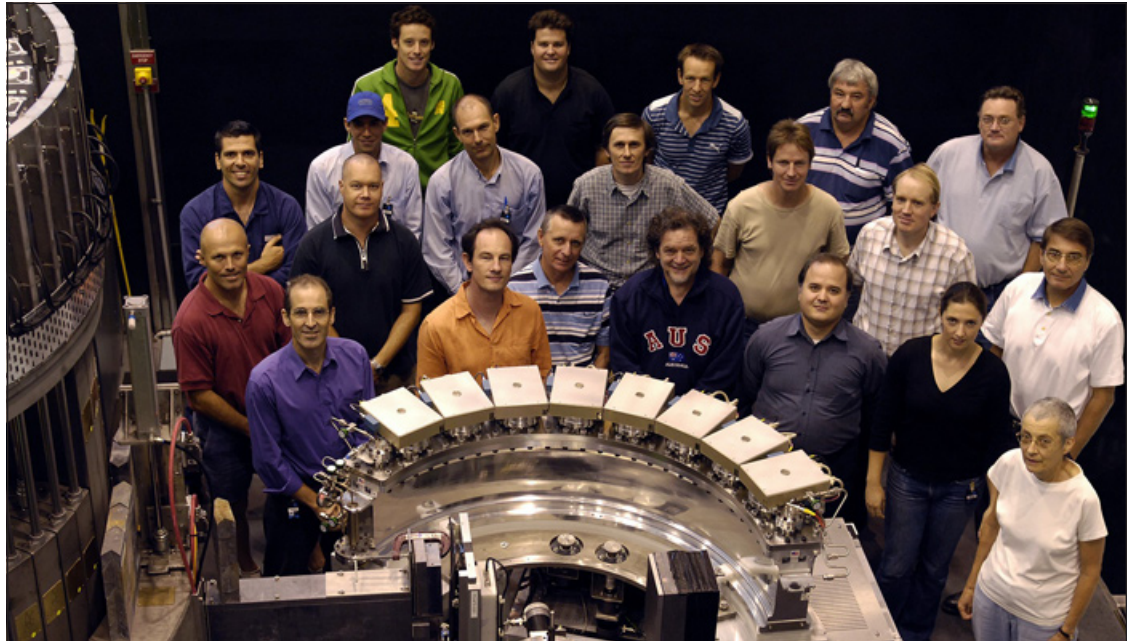
"Very few people have jobs they look forward to going to—I am one of them."

— Harold Schwarz

In 1968, Schwarz served as a visiting professor at The Hebrew University of Jerusalem in Israel. During this one-year sabbatical, he collaborated with a former research associate at the university to develop and use pulse radiolysis equipment with a recently acquired linear accelerator. While in Israel, Schwarz also collaborated with fellow BNL chemist Ralph Weston, who was in California at the time to write a textbook entitled *Chemical Kinetics*, published in 1972. Chemical kinetics, the study of chemical reaction rates and detailed mechanisms, was changing rapidly at the time the book was published. Schwarz and Weston's textbook was one of the first to take this into account.

In later work at BNL, Schwarz used pulse radiolysis techniques to study many reduction-oxidation (redox) reactions and the thermochemistry of various free radicals. These experiments meshed with the work of other BNL staff members to develop a better understanding of reactions in the use of solar energy. Schwarz was also influential in planning for a new accelerator that would become BNL's Laser-Electron Accelerator Facility (LEAF). His experience with accelerators enabled him to provide critical input and advice during the conceptual and development phases of LEAF.

Since his retirement, Schwarz has continued to play *see Schwarz on pg. 2*



The Australian Nuclear Science & Technology Organization research team gather around their BNL-built detector.

BNL-Built 'Wombat' Detector Up, Running in Australia

Will enable structural, dynamic studies of materials for electronics, energy conversion, more

A neutron detector designed and built by scientists at BNL is now up and running at Australia's new OPAL nuclear research reactor, which is operated by the Australian Nuclear Science & Technology Organization (ANSTO). The detector is a major component of Wombat (named for the native Australian marsupial), one of several new instruments at OPAL. Wombat will soon be collecting data on the properties of a wide range of materials with potential applications in electronics, drug delivery, and energy conversion and storage.

The detector project drew upon the expertise of physicists, engineers, and technical staff within BNL's Instrumentation

Division. That team, with mechanical engineering assistance from the Collider-Accelerator Department and support from Central Fabrication Services Division, had designed and built a nearly identical neutron detector for biologists at Los Alamos National Laboratory, where it has been operating successfully for structural studies of proteins since 2002. A visit there prompted a group of Australian scientists to request a similar design.

"It was quite an honor to carry out this work," said Instrumentation's Graham Smith, who led the project. "We're not in the business of production-line assembly, but this detector is not something the Australians could have purchased commercially. All the parts are unique and all were designed here at Brookhaven. The Australians came to us because we have a

long track record of building one-of-a-kind, precision detectors for research facilities. So we were delighted to do this for the benefit of science."

BNL was compensated through a "work for others" arrangement.

Making a Wombat Detector

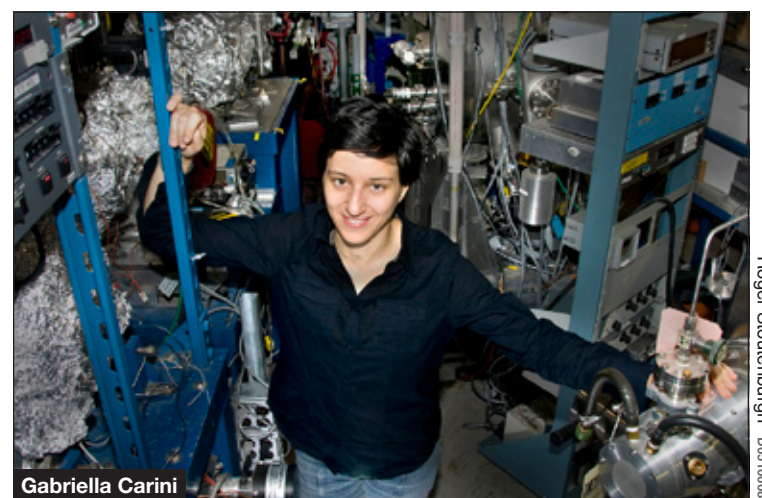
Like its counterpart at Los Alamos, the detector on the Australian Wombat instrument is made of eight identical multi-wire segments arranged side-by-side inside an arc-shaped aluminum pressure vessel containing a rare form of helium gas. As a neutron beam from the OPAL reactor strikes a sample placed at the center of the arc, neutrons scatter, or diffract, off the sample, travel into the vessel, and collide with helium atoms.

These collisions produce a *see Wombat on page 2*

Gabriella Carini of the NSLS Wins IEEE Young Engineer Award

National Synchrotron Light Source (NSLS) researcher Gabriella Carini has won the 2008 Institute of Electrical & Electronics Engineers (IEEE) Long Island Section's Outstanding Young Engineer Award for "outstanding contributions to the advancement of semiconductor detectors for x-ray spectroscopy." The award is given to IEEE members who have made important technical contributions prior to age 35. The IEEE Long Island Section has about 3,000 members.

Carini joined the Detector Development & Testing Division at BNL's Nonproliferation & National Security (NNS) Department as a graduate student in 2003. During this time, she was part of a team that developed a cadmium-zinc-telluride (CZT) Frisch-ring detector at BNL. This highly efficient, low-cost radiation detector can be used for homeland security applications, nuclear medical imaging, environmental monitoring and cleanup, galactic events studies, and nuclear-weapons safeguards. The development team received a 2005 R&D 100 Award for the device, which detects both x-rays and gamma rays with high



Gabriella Carini

Roger Stoutenburgh 00510608

resolution, and can identify the specific source of radiation.

"Data generated by Gabriella using the NSLS led to new thrusts for many organizations involved in the development of CZT x-ray and gamma detectors," said Ralph James of NNS. "It is rare to see a young scientist impact the directions of so many people."

In 2006, Carini received her Ph.D. in electronic engineering from the University of Palermo, in Italy, and stayed at BNL as a research associate with NNS. She led the development of the endstation at NSLS beamline

X27B for microcharacterization of semiconductor detectors, and joined the NSLS Detectors Group as a research associate in late 2006. She was promoted to assistant physicist in April 2008.

"Since joining NSLS, Gabriella has led the effort to produce novel silicon detector arrays for the Linac Coherent Light Source at Stanford," said physicist Pete Siddons, who leads the NSLS Detectors Group. "Thanks to her skills and persistence, we have recently successfully demonstrated prototypes of this new detector." — Kendra Snyder

BNL Office of Educational Programs Hosts Open Space Stewardship Teacher Workshop

Last week, from July 14-18th, BNL's Office of Educational Programs (OEP) held the Open Space Stewardship Program (OSSP) Teacher Workshop at BNL. The five-day workshop was led by OSSP leader teachers Amy Meyer and Ivan Suarez from William Floyd and Longwood School Districts, respectively.

The workshop was designed for teachers who will be participating in the program for the first time during the 2008-09 school year. During the week, 14 teachers from local schools learned how to use the equipment such as GPS — global positioning systems — tracking devices, and soil and water test kits that they will use with their students during the year.

"The goal for today will be to get you out of your comfort zones into a new feeling that



Roger Stoutenburgh 00530708



Roger Stoutenburgh 00730708

(Above) Mel Morris, Office of Educational Programs, studies a water sample with a workshop participant.

(Left) The 2008 Open Space Stewardship Program Teacher Workshop attendees

(Below) Capturing samples



Roger Stoutenburgh 00730708

"I can do the fieldwork myself, and I can do the fieldwork with my students," explained Suarez, before participants left for Longwood Estates on Wednesday, where they took pond water samples.

The teachers appreciated learning about different techniques and research themes. "I think this workshop is great," said Aaron Factor, a science research teacher at Middle Country Central School District. "One of the big reasons I'm taking this class is to get research ideas to do with my students. I will definitely take them out into the field and if they just learn how to take data during the first half of the year, it will be excellent."

Research projects planned by the teachers for the fall are wide-ranging. Donna Edgar, a marine biology teacher from

Bayport-Blue Point High School, will be monitoring different field parameters, such as dissolved oxygen, nitrates, phosphates, and temperature within the Brown's River Watershed and a few other surrounding estuarine areas.

"It is important to make students aware that activities that are carried out in an upland watershed may greatly influence a neighboring ecosystem such as the Great South Bay," explained Edgar.

Al Levik, a Middle Country School 11th and 12th grade physics teacher plans to use GPS tracking devices and distance displacement vectors to determine tree line distance. "This program is focused on earth and environmental research, but we can take a lot from it also for physics research," Levik said.

OEP launched the OSSP in

2006 as part of its GREEN Institute. GREEN stands for "Gaining Research Experience in the Environment."

"This program provides an opportunity for students in grades K through 12 to be out in their local environment, doing science research," said Mel Morris, an educational programs administrator at OEP. "It also prepares the future generation of environmentally literate citizens and environmentalists."

During the school year, students do environmental research on undeveloped land within their school district that is owned by either a public or private agency. Past classroom projects have included: tracking black squirrel populations

at the Robert J. Henke Memorial Nature Preserve, studying an intertidal swale habitat at the Harper's Preserve in Southold, and testing soil samples from a field near the Albert G. Prodel Middle School. Each spring, the students present their work at a student symposium held at BNL. For more information about OSSP, visit: <http://www.greenosp.org/> or contact Morris at 631-344-5963 or mmorris@bnl.gov —Kirsten Dorans

Obituary Page

The Bulletin has a new, online Obituary Page at http://www.bnl.gov/bnl_web/pubaf/bulletin/obit to supplement the information given in the In Memoriam notices in the printed paper. All are invited to send in memories of BNL colleagues or family members. Contact Liz Seubert, lseubert@bnl.gov or Ext. 2346.

Service Anniversaries

The following employees celebrated a service anniversary during April:

- 40 Years —
- Lonnie Muldrow..... Plant Eng.
- 35 Years —
- Suresh Srivastava..... Medical
- 30 Years —
- John Blydenburgh..... PPM
- Alfred Farland..... CFS
- Michael Schaeffer..... CFN
- Peter Vanier..... NNS
- Susan White-DePace... Dir's Office
- 25 Years —
- Eleanor Hughes..... Dir's Office
- Antoinette Russo..... Budget
- 20 Years —
- Philip H. Baker, Jr. Plant Eng.
- Steven Hoey.....NLS-II
- John McCarthy..... Physics
- Michael O'Connor..... SSD
- Frank Toldo..... Physics
- 10 Years —
- Mark Baker..... Physics
- Pauline Carter..... Medical
- John Fogus..... Plant Eng.
- Arthur Governali..... Plant Eng.
- Richard Horstman..... Plant Eng.
- Aljosa Marus..... C-AD
- Gregory Meyer..... EMD
- James Mungo..... Plant Eng.
- Stephen Springsteen... Plant Eng.

Arrivals & Departures

- Arrivals —
- Jingchuan Sun..... Biology
- Liyuan Zhang..... CMP&MS
- Departures —
- Noreen Michelsen..... Budget
- Gregory Ogeka..... Finance
- John Sondericker..... CMP&MS

Wombat from pg. 1

telltale track of electrons, which are sensed by low-noise electronics sitting on top of the vessel, and translated into a diffraction pattern — a scatter plot of dots that indicate the direction and intensity of the scattered beam. This information enables the experimenter to determine the positions of hydrogen atoms in the sample, which can then be used to piece together important structural details of the sample. By taking several "snapshots" over time, the scientists can also use the detector to make "movies" of how a material's structure changes, for example, when the sample is placed under pressure or when an electric current is applied.

Wombat Detector Use

"We've already had a lot of interest in using Wombat for rapid real-time measurements," said ANSTO researcher Andrew Studer. "For example, there's a lot of interest in looking at phase changes in various materials. We've also had interest from chemists who want to look at how hydrogen arranges itself in hydrogen-storage materials as they're being charged up: Where in the structure does it go first? How does it shuffle around as the charging continues? How does the structure change after repeated use? Wombat can answer these sort of questions,

which may help lead to better storage solutions."

Although the Wombat detector was the second of its kind built by the BNL team, research and development was carried out to improve its performance from the initial design — primarily upgrades to several electronic elements to increase the rate of data collection.

"It was also a big effort in terms of logistics," Smith said, "even bigger than the detector built for Los Alamos, because everything had to be moved halfway around the world."

All the parts were packaged in crates made by BNL carpenters. "They did an exceptional job," Smith said. "When we unpacked at ANSTO, everything was in perfect condition and worked without a fault."

Instrumentation's Neil Schaknowski and Joe Mead accompanied Smith to Australia in early 2007 for the on-site assembly and instrument commissioning, which went without a hitch. A temporary reactor shutdown then resulted in all OPAL instruments having no neutrons until the reactor came back online in May 2008.

Now up and running, Wombat is poised for scattering studies and — the BNL team anticipates — stunning science.

— Karen McNulty Walsh

BWIS Reception, Scholarship Presentation, 7/30

Brookhaven Women in Science (BWIS) invites the BNL community to a summer reception and presentation of the Renate W. Chasman Scholarship for Women, on Wednesday, July 30, at 5:15 p.m. in the Physics Seminar Lounge, Bldg. 510.

Refreshments will be served. For more information, contact Loralie Smart, Ext. 2425, or lsmart@bnl.gov.

Schwarz from pg. 1

a key role in upgrading pulse radiolysis equipment at the Van de Graaff accelerator. This machine was originally purchased in 1948 and while its pulses are considered slow on a modern timescale, Schwarz said, "Our Van de Graaff is one of the most precise instruments in the world for studying and providing insight into chemical species that have lifetimes from a few microseconds to several seconds."

Schwarz earned a B.A. in chemistry from the University of Omaha in 1948 and a Ph.D. in chemistry from the University of Notre Dame in 1952. He started at BNL as an associate chemist in 1951 and rose through BNL's ranks, retiring as a senior chemist in 1995. Nearly 70 of his works were published between 1954 and 2002.

Throughout his years at BNL, Schwarz has also been active in the outside scientific community, serving on a number of committees

including the Radiation Research Society Awards Committee in 1970 and 1971, the Accelerator Committee for the U.S. Army's Natick Laboratories in 1970-1973, the Visiting Committee at Argonne National Laboratory in 1993, and the Visiting Committee at the University of Notre Dame's Radiation Laboratory in 1996. Schwarz also lectured at the Radiation Research Society Meeting in 1970 and spoke at the University of Wisconsin's Symposium on Chemistry of Unusual Species in 1962, the Gatlinburg Conference in 1963, Berlin's Hahn-Meitner Institute in 1969, and Canada's Chalk River in 1978.

"We always had a lot of freedom in what we did at BNL," Schwarz reflected. "As long as we worked safely, we were free to do a lot of interesting work. Very few people have jobs they look forward to going to—I am one of them." — Joe Gettler

Rock Band to Feature Great Pop of 1960s-80s, 8/1

Argent Fantasy, a Long Island-based rock band, will perform in concert on Friday, August 1, at 7 p.m. in the Brookhaven Center. Sponsored by the BNL Music Club, the concert is open to the public. All visitors to the Lab age 16 and over must bring a photo ID.

The six band members: Marty Houlroyd on bass; Bill Blais

on keyboard and male lead vocals; Angie Billings, female lead vocals; Larry Weiss on percussion and vocals; and John Yaeger and Dominic Cuoccio on rhythm guitar — open up the Long Island music scene with popular sounds from the 1960s to 1980s. They include hits by Jefferson Airplane and the Zombies, the Beatles, the

Rolling Stones, the Doors, and more. On the pop side, the list includes hits by bands such as the Turtles and Badfinger, as well as the grassroots sounds of the Doobie Brothers, Robert Palmer, and the Eagles.

Tickets are \$10 at the BERA Store or at the door. For more information go to: www.argentfantasy.com.

CIGNA Representative

A CIGNA Healthcare representative is available as needed in Human Resources, Bldg. 400, or by phone to assist with claims issues you have been unable to resolve yourself through CIGNA's Customer Service number (1-800-CIGNA24). Mary Beth Kivlen will be available by appointment only. You will need to provide all pertinent documentation. To schedule, call the Benefits Office, Ext. 5126.

BNL Hosts Supplier Showcase To Highlight Small Businesses

On Friday, August 8, from 9 a.m. to 1:30 p.m., Brookhaven will host a Small Business Supplier Showcase in the upper lobby of Berkner Hall. The showcase is intended to familiarize Lab employees responsible for purchasing activities with the products and/or services available from small business suppliers.

The showcase takes the place of the usual Bi-Annual Small Business Procurement Fair, and all are encouraged to stop by, get information, and talk with the vendors about their products.

"Our primary goal is to show the BNL/DOE community that the various items they usually buy from large businesses can, in many cases, be bought from some of our proven/reliable small business sources," said Jill Clough-Johnston, BNL's Small Business Liaison Officer. "We also see it as one way to thank our small business suppliers for helping us complete the DOE mission in FY07."

Clough-Johnston expects approximately 25 small business suppliers to participate and set up tables featuring their products and services. Several other small business suppliers will have posters displayed. Local Congressman Tim Bishop (First Congressional District, Suffolk County) is expected to attend the event and address participants.

"All of BNL's small businesses suppliers that submitted a company profile will also be showcased in the 'FY07 BNL Small Business Suppliers Book,'" said Clough-Johnston. "This book is a buyer's resource that we will make available to all BNL/DOE employees on site."

The Next Top Model in Science

BERA Camera Club will conduct a studio lighting photography demonstration, featuring live models as subjects on August 6th. There will be a makeup artist on hand. The club is currently looking for photographers to join the club's photo shoot. Only club members can attend the shoot. To become a member, contact Ripp Bowman, Ext. 4672.

Join a BERA Trip!

Buy tickets at the BERA Store, Berkner Hall, Bldg. 488, Ext. 3347, weekdays, 9 a.m.-3 p.m. Tickets must be paid for at time of reservation. Trips leave from the Brookhaven Center.

- **Wildwater Kingdom, Dorney Park, PA.** Fri., 8/1. \$35/adult or child (recommended for children of 4 and over). Leave BNL 7 a.m., leave PA 6 p.m.
- **US Open,** Tues., 9/2, not a Lab holiday. \$58/person for ticket & coach. Leave BNL 8:30 a.m., leave stadium 7:30 p.m. Section 311 & 312, upper promenade level.
- **West Point Army vs. Akron, OH.** Football game, Sat., 9/20. \$65 per person includes luxury coach, game ticket, and hot tailgate catered luncheon. Leave BNL 7 a.m., leave game 5 p.m. or at game conclusion.
- **NASCAR race** at Dover, DE, Sun. 9/21. \$120/person includes ticket, tailgate party, luxury bus. Leave BNL at 5 a.m., leave Dover, DE at 6 p.m. or at race conclusion. 52 tickets available. Maximum of 5 tickets per person for the first week of sales.
- **New York City Dinner Cruise.** Sat. 9/27. Leave BNL at 5 p.m. by luxury coach to sail on the *Skyline Princess* in New York Harbor, 7-11 p.m. Cost of \$90/person includes tax, full buffet dinner with dessert, coffee, cash bar; DJ dancing; coach transportation, and tax. For ages 21 and over only. <http://www.skylinecruises.com/>
- **Cabela's** in East Hartford, CT, Sat. 9/27. "THE" shopping Mecca for all sports enthusiasts. Leave BNL 7 a.m., leave Cabela's at 5 p.m. \$20/adult or child. See www.cabelas.com/retail-2/retail-Stores_easthartford--easthartford_h.shtml.

Enterprise Car Rental Service Moves to Bldg. 400

Need to rent some wheels? If you need to rent a car, pick-up truck, or van, stop by the Enterprise Rent-A-Car service desk now located in the lobby of Building 400.

Henry Hauptman of the Staff Services Division, the liaison to Enterprise, says, "Having an Enterprise representative on site has proven worthwhile. Employees are keeping Enterprise busy by using their services regularly. It will be convenient having the service desk in a central location."

Through its Corporate Class Program, Enterprise offers discounted rental rates for Lab employees for business or personal use. Call Ext. 4888 for additional information on rental options and pricing.

— Jane Koropsak



Working together to relocate the Enterprise service desk to the lobby of building 400, are (from left) Joann Giambalvo, Staff Services Division (SS); John Cascione, Jr., of Enterprise-Rent-A-Car; and Henry Hauptman, SS.

Summer Sunday Tours: Science Learning Center, 7/27

BNL again opens its doors to the public this summer, on Sundays from July 20 through August 17, featuring a different tour on each week. Adults and children can also enjoy a variety of entertaining activities, including the Whiz Bang Science Show and the Brain Teasers exhibit.

Summer Sundays are offered free, and no reservations are needed. Visitors may arrive any time between 10 a.m. and 3 p.m. BNLers who attend are most welcome, but please check in at Berkner first to join the regular groups taken to visit the featured facility. Lone rangers who show up solo at the facility can hold up the schedule, which has to be very tight. The Whiz Bang Science Show will be staged at 10:30 a.m., noon, 1:30 p.m. and 3 p.m. All visitors age 16 and over must bring a photo ID. For more information, visit the BNL website: www.bnl.gov. The Summer Sundays schedule follows:

July 27 — Science Learning Center

Play with science, no matter what your age. Have fun testing your hands-on science skills. Enjoy a science magician's tricks.

August 3 — National Weather Service

Come to the weather-forecasting center for the entire New York metropolitan area. Track storms, big or small. Learn about hurricane preparedness. Witness a 3:30 p.m. weather-balloon launch.

August 10 — Center for Functional Nanomaterials

Visit a new center where studies of the ultra-small may lead to ultra-big discoveries in many areas, from energy to electronics. This tour is appropriate for adults and children over 10 years old.

August 17 — Relativistic Heavy Ion Collider

Learn how gold ions are smashed together in an underground tunnel to recreate the temperature and energy density of the early universe. Tour appropriate for adults and children over 10 years old.

Join Jones Beach Walk/Run/Picnic, 7/29

The BNL Running Club and BERA members will participate in the annual MK Workplace Challenge Run/Walk at Jones Beach on Tuesday, July 29. Last year, 50 BNLers attended this event. They have the best memories: Jones Beach on a July evening — a great 3.5 miles on a beautiful course — Long Island's largest office picnic! All BNL employees, their families, and friends are welcome.

The event starts at 7 p.m. The BNL Captains are Paul Geiger pgeiger@bnl.gov, Bldg. 460, Ext. 3308; and Mike Mapes mapes@bnl.gov, Bldg. 911A, Ext. 2841. You can register online at https://secure.marathonguide.com/register/MKWorkplace_Challenge/TeamAdditions.cfm?Code=1419MdWw for \$22 through July 28.

The fee for the picnic is \$10 per person. Send or deliver your payment to Betty Elder, Bldg. No. 1005S, in cash or a check made out to Elder. Contact Elder, Ext. 3562 for more information or if you are willing to volunteer to help set up the picnic.

Last year's event was covered by News 12 Neighborhood Journal, and it is now on YouTube. Check it out! <http://www.youtube.com/watch?v=7ph-mOeiYas&fmt=6>.

A Reminder from the Benefits Office

The birth of a child, adopting a child, or getting married are all exciting life events. Please remember to enroll any newly attained dependents in your medical and/or dental programs within 30 days from the date your new dependent is born, adopted, or otherwise becomes eligible for coverage. If you do not enroll your dependent through the Benefits Office within 30 days from the date he/she first becomes eligible, you will be required to wait until the next Open Enrollment Period to enroll him/her. Call the Benefits Office, Ext. 2877 or Ext. 5126, if you have any questions.

For Rent

FARMINGVILLE - Lg Bdrm in house, full kit., l/r, d/r, share bath w/1, incl. cable, wifi, phone. avail. now. \$495/mo. Ben, 513-8275.

HOLBROOK - Condo, 2 bdrm, 2 bath, a/c, w/d, f/p, pool access, 20 mins to Lab, rent plus utilities \$1,500/mo. 203-317-9744.

MASTIC - new 1 BR apt, kit. l/r combo, full bath, priv. ent, quiet, own thermostat, util. incl, nr LIRR, no smkg/pets, walk to shop, 7 min to Lab. \$775/mo./neg. 335-4907.

PORT JEFF - walk to shops, contemp. Victorian, 4 bdrm, great rm, 2 bath, eik, w/terrace, fin. bsmt, pool & hot tub, avail. Sept. 1. \$2,750/mo. 804-4662.

RIDGE - 2BR, Bath, LR, DR, EIK, wash&dry, no smoking/pets, price includes all, immed. avail., call after 6 p.m. \$1,250/mo. Lisa, 924-7282.

ROCKY POINT - avail. Aug 1, 1 bdrm bsmt apt, 9 mi to Lab, view of LI Sound, lg. l/r, eik, full bath, priv ent, 1 mo. sec + part util. \$1,100/mo. Lorraine, 849-2974.

ROCKY POINT - 1 BR apt for 1. Full bath, l/r, rm, kitch, cac, firepl. Sep. entr, off-str park. No pets. Utilities included except phone, cable, internet. \$975/mo. 987-8822.

ST. JAMES - 2 bdrm, 2 bath, l/r, d/r, eik, priv. deck, updated appli, catv, in Fairfield 55+ gated commnty, indoor & outdoor pools, tennis, clubhse. \$2,000/mo. 584-3656.

ST. JAMES - First floor apt., 2 bdrm., one bath, LR, full kitchen, patio, w/w carpeting, W/D, util. inc. no pets, smoking, children. \$1,000/mo. 584-8462.



Roger Stoutenburgh 00838389

CALENDAR

Sunday, 7/27

*Summer Sundays:

Science Learning Center
10 a.m.-3 p.m. Open to the public. All are invited to visit the Lab for free tours. No reservations needed. Witness the Whiz Bang Science Show, try your hand at the Brain Teasers exhibit. Visit the Science Learning Center, have fun playing and testing out your hands-on science skills. Visitors to the Lab of 16 and over must carry a photo ID. See notice at left.

— WEEK OF 7/28 —

Monday, 7/28

IBEW Meeting

6 p.m. Centereach Knights of Columbus Hall, 41 Horseblock Rd., Centereach. A meeting for shift workers will be held at 3 p.m. in the union office. The agenda includes nominations for union president and officers.

*Defensive Driving, Part I

6-9:15 p.m. Brookhaven Center, South Room. Part I of a two-part course. See notice below.

Wednesday, 7/30

*BWIS Reception, Chasman Award

5:15 p.m. Physics Seminar Lounge, Bldg. 510. The Renate W. Chasman Scholarship will be presented, and refreshments served. All are welcome.

Thursday, 7/31

*Defensive Driving, Part II

6-9:15 p.m. Berkner Hall, Room B. See notice, below.

Friday, 8/1

*Rock Band: Argent Fantasy

7 p.m. Brookhaven Center. Sponsored by the BNL Music Club, the concert by Argent Fantasy and his six-musician band will feature hits from the 1960s to the 1980s. Tickets are available at the BERA Store, at \$10 each. See notice, p. 2.

Sunday, 8/3

*Summer Sundays:

National Weather Center
10 a.m.-3 p.m. Open to the public. All are invited to visit the Lab for free tours. No reservations needed. Witness the Whiz Bang Science Show, try your hand at the Brain Teasers exhibit. Visit the National Weather Center on site. Visitors to the Lab of 16 and over must carry a photo ID. See notice above, left.

— WEEK OF 8/4 —

Friday, 8/8

*Small Business Supplier Show

9 a.m.-1:30 p.m. Berkner Hall lobby. About 25 small business that supply BNL will feature their products and services. All are welcome. See notice, above left.

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.

Defensive Driving In Two Parts, 7/28 & 31

The next six-hour Defensive Driving (Point & Insurance Reduction) course will be held in two parts: on Monday, July 28, in the Brookhaven Center South Room and Thursday, July 31, in Berkner Hall, Room B, both from 6 to 9:15 p.m. The course is open to BNL, BSA, and DOE employees, facility-users, and their families. The cost is \$38 per person. Preregistration is required. To register, call Ed Sierra, 821-1013, and leave a message. Include your phone number. For more information, call Sarah Wiley, Ext. 4207.

