



2008 Nobel Prize in Chemistry Linked to NSLS Protein Work

Two American scientists and a Japanese researcher won the 2008 Nobel Prize in Chemistry for their discovery and development of a protein that has become a ubiquitous tool in bioscience. The prize is shared equally by Osamu Shimomura of the Marine Biological Laboratory and Boston University Medical School, Martin Chalfie of Columbia University, and Roger Y. Tsien of the University of California, San Diego.

Their work centers on a protein, found in a type of jellyfish, that glows green under ultraviolet light. Known as green fluorescent protein (GFP), this protein has become an extremely popular tool for probing the insides of living cells or whole animals and watching molecules interact in real time. With its bright green color, GFP can illuminate growing tumors, show nerve cell damage during the development of Alzheimer's disease in the brain, or literally shed light

on how insulin-producing cells are created in the pancreas of a growing embryo.

The structure of GFP was first reported in the journal *Science* in 1996, partially as the result of x-ray studies at BNL's National Synchrotron Light Source (NSLS). In a press release congratulating the three Prize winners, DOE Under Secretary for Science Raymond Orbach expressed pride that the DOE-supported NSLS was used by Tsien and other collaborators for this research.

"We also are pleased to note that the Department of Energy's Office of Science has directly supported Dr. Tsien's research to develop general ways to noninvasively image the expression of arbitrarily chosen genes within living organisms," Orbach said.

Research surrounding the unusual protein actually began more than 30 years earlier.

The story starts in the early 1960s with Shimomura, who

See *Proteins* on pg. 2

Satoshi Ozaki Awarded APS's Wilson Prize

Satoshi Ozaki, a physicist at BNL, has been selected as the recipient of the American Physical Society's 2009 Robert R. Wilson Prize. Named to honor the first director of DOE's Fermi National Accelerator Laboratory, the \$5,000 prize recognizes and encourages outstanding achievement in the physics of particle accelerators. Ozaki will receive the award at the 2009 Particle Accelerator Conference in Vancouver, Canada, in May.

Ozaki is cited "For his outstanding contribution to the design and construction of accelerators that has led to the realization of major machines for fundamental science on two continents, and his promotion of international collaboration."

"I am honored to receive this recognition for my accomplishments," Ozaki said. "Designing and building particle accelerators takes years of work by hundreds of very talented and skilled people. I am grateful for those who have helped me bring major research facilities to fruition, both in the U.S. and in Japan."

Ozaki, with BNL's Michael Harrison, led the decade-long development and construction of the Lab's world-class particle accelerator, the Relativistic Heavy Ion Collider (RHIC). About 1,000 physicists from around the world run experiments at RHIC, colliding very high energy subatomic particles known as heavy ions head-on to study the type of matter that existed a millionth of a second after the Big Bang. In 2005, RHIC physicists discovered a "perfect"



Roger Stoutenburg D1251008

liquid, a type of matter that has not existed since the beginning of the universe.

In 2002, RHIC became the world's first and only accelerator to collide high-energy beams of polarized protons — protons that spin in the same direction, the way the Earth spins on its axis. Physicists at RHIC hope to solve the mystery of what causes proton spin.

Before Ozaki started the RHIC project, he was invited in 1981 to join the National Laboratory for High Energy Physics, a research institute in Japan also known as KEK, to direct the construction of TRISTAN, the first major high-energy particle collider in the country. Ozaki completed TRISTAN on time and within budget. The facility accelerates and stores beams of electrons and positrons at 30 billion electron volts, the highest energy in the world at the time the accelerator started operations in 1987. In TRISTAN, the particles collided to create

an extremely high-energy concentration in a tiny, point-like space. It was envisaged that such high-energy collisions would reveal the nature of electromagnetic interaction of matter at an extremely short distance and provide the possibility of creating new heavy particles.

After earning a Ph.D. in physics from the Massachusetts Institute of Technology in 1959, Ozaki joined BNL as a research associate. He rose to become a tenured senior physicist in 1972. He joined KEK in 1981 to work on TRISTAN, a \$500-million project, and then returned to Brookhaven in 1989 to head the RHIC Project. Besides completing the \$660-million collider, Ozaki was instrumental in bringing polarized proton capability to RHIC with funding support from the RIKEN Institute of Japan.

From 2005 until recently, Ozaki directed the Accelerator Systems Division for BNL's NSLS-II Project. This new synchrotron light source will provide extremely bright x-rays for basic and applied research in many areas of science. Ozaki serves on various advisory and review committees for U.S. and international institutions, laboratories and government agencies. He is a Fellow of the American Physical Society and the Chair of the APS Forum for International Physics. In 2007, Ozaki, with BNL's Michael Harrison, received the IEEE Particle Accelerator Science & Technology Award for leadership in the successful design and construction of RHIC.

— Diane Greenberg

443rd Brookhaven Lecture, 12/3

Gamma-Ray Detectors: From Homeland Security to the Cosmos

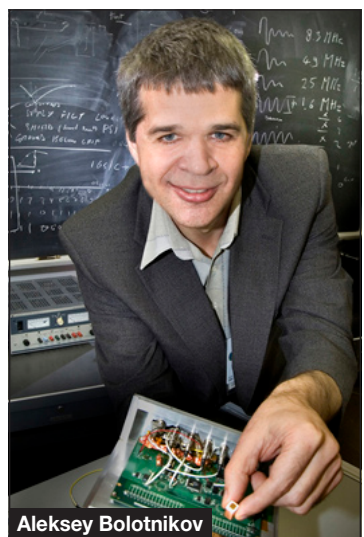
Many radiation detectors are first developed for homeland security or industrial applications. Scientists, however, are continuously realizing new roles that these detectors can play in high-energy physics and astrophysics experiments.

On Wednesday, December 3, join presenter Aleksey Bolotnikov, a physicist in Brookhaven's Non-proliferation and National Security Department (NNSD) and a co-inventor of the cadmium-zinc-telluride Frisch-ring (CdZnTe) detector, for the 443rd Brookhaven Lecture, titled "Gamma-Ray Detectors: From Homeland Security to the Cosmos." Bolotnikov will highlight three primary radiation-detector technologies in the lecture: CdZnTe detectors, fluid-Xe (Xe) detectors, and gamma-ray concentrators.

All are invited to attend this free talk, which is open to the public and will be held in Berkner Hall at 4 p.m. Refreshments will be offered before and afterward. All visitors to the Lab ages 16 and over must carry a photo ID.

CdZnTe detectors, co-invented by colleagues from Brookhaven National Lab, Kansas State University, and Ynnel Tech, Inc., were originally developed to scan and locate even trace amounts of radioactive materials placed in freight or public places. In 2005, the CdZnTe detector was honored by *R&D Magazine* as one of the top 100 inventions of the year. Scientists now use these highly efficient CdZnTe detectors for neutrinoless double beta decays at the international COBRA experiment.

Both gamma-ray concentrators and fluid-Xe detectors were also proposed and developed for security and industrial applica-



tions but are now essential to ongoing scientific experiments and data collection. Gamma-ray-focusing telescopes provide far greater sensitivity to cosmic gamma rays than common diffraction telescopes and fluid Xe detectors are widely used in the quest to observe Dark Matter in the cosmos and beyond.

Bolotnikov earned a Ph.D. in physics at Moscow Engineering & Physics Institute in 1991 and joined NNSD as a physicist in 2003. He received the Charles Hirsch Award from the Long Island chapter of the Institute of Electrical and Electronic Engineers (IEEE) for his work on the CdZnTe detector in 2005. He co-wrote a book, *Noble Gas Detectors*, published in 2006, and has co-authored 19 scientific papers. He and NNSD colleagues are currently involved in several projects related to CdZnTe and high-pressure-Xe detectors for homeland security applications.

To join Bolotnikov for dinner at a restaurant off-site following the lecture, contact Barbara Roland, roland@bnl.gov, Ext. 5656.

— Joe Gettler

BNL's Research Data Provides Consumers With Web-based Fuel-Oil Savings Analysis Calculator

The high price of fuel oil is bound to put a big dent in the pocketbooks of Long Islanders this heating season. Some homeowners may be thinking about replacing an old boiler for a more efficient one, but they are unsure if the expense of buying a new unit would be worthwhile in terms of fuel savings.

Funded by the New York State Energy Research and Development Authority and the National Oil Heat Research Alliance (NORA), BNL scientists have done extensive research on the efficiency of oil- and gas-fired hydronic home-heating systems — systems that provide both heat and hot water through baseboard radiators. The data from this recent research forms the basis of a web-based fuel-oil savings analysis calculator for consumers. The calculator will work on computers running Microsoft Windows and can be downloaded at NORA's website: www.nora-oilheat.org.

"Along with the price of oil, the homeowner's current heating system can be included in the calculator, and it can be



Roger Stoutenburg D08503018

Tom Butcher, head of Brookhaven Laboratory's Energy Resources Division

compared with as many as three other systems chosen by the homeowner to determine which is most energy-efficient," said Tom Butcher, head of the Energy Resources Division in the Energy Sciences & Technology Department. Working with Butcher are team members: Yusuf Celebi, George Wei, Roger McDonald, and C.R. Krishna.

"We tested 13 systems and compared their efficiency to that of a 22-year-old oil-fired, cast-iron boiler," said Butcher.

"We found that efficiency can be improved by 25 percent for one sample home by replacing older boilers with top-rated new ones, which can result in many thousands of dollars of savings over the lifetime of a new boiler. We can't say what the exact savings will be because we don't know what the price of oil will be in the future or the details of energy use at every home."

While standard fuel-efficiency ratings that are used by most

See *Fuel Analysis* on pg. 2

One-Woman Play About Madame Marie Curie, 12/6

A one-woman play titled *Manya: A Living History of Madame Marie Curie* will be presented on Saturday, December 6, at 7 p.m. in Berkner Hall. A cash bar and refreshments will be offered starting at 6 p.m. and during intermission. Sponsored by the Long Island Physics Teachers Association, QuarkNet, and Brookhaven Women in Science, the event is open to the public. All visitors to the Lab age 16 and older must bring a photo ID.

Susan Marie Frontczak is the writer and star of the play, which she has presented to numerous schools, scientific institutions, and other organizations. Marie Curie's achievement of purifying a grain of radium from a ton of pitchblende inspired Frontczak to become an engineer, a career she pursued for 14 years before becoming a writer and actor. Frontczak's aim is to reveal "the human behind the scientist, while placing Marie Curie's life and accomplishments in a memorable historical context."

Tickets may be bought at \$10 for adults, \$5 for students, free under age 12. For advanced ticket sales, go to <http://lipta.org> — credit cards and PayPal are accepted. Remaining tickets will be available for purchase at the door on the night of the performance.

Michael Jazz Trio To Perform, 12/12

Three young, local musicians will give a concert on Friday, December 12, at 7 p.m. at 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 trio, all of whom hold a middle name of Michael, consists of 14-year-old Matthew on keyboard, 12-year-old David on alto and tenor sax, and 8-year-old Jordan on drums. The three were born and raised in Central Islip, New York. According to their parents, they were musically inclined at a young age and started sharing their musical talent by performing in front of local stores.

They were soon contacted by talent scouts and have played at various venues, including an annual fundraiser for the City of New York Corrections Department. In August 2007, the trio received a standing ovation at the Long Island Breast Cancer Cabaret Showcase. The boys continue to fine-tune their talent while maintaining academic excellence. In 2008, they performed over 50 times and released their first CD.

Tickets cost \$10 and may be purchased at the BERA Store, through www.ticketmaster.com, or at the door. — Jane Koropsak

CIGNA Representative

A CIGNA Healthcare representative is available by appointment, 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). You will need to provide all pertinent documentation. To schedule, call the Benefits Office, Ext. 5126.



Roger Stouthenburgh dn54108

BNL 2008 United Way Campaign 'United Together, Sharing and Caring'

"This time of year reminds us all of the warmth of family and friends," says Lanny Bates (above, left), Assistant Lab Director for Facilities & Operations, who is this year's BNL-United Way Campaign Chair. "But we are also reminded of the needs of those less fortunate in our community. I am proud to lead BNL's annual campaign to raise funds for the United Way, which does so much to help so many local families and individuals who are going through difficult times. With Campaign Co-Chair Pam Yerry [above, second left], I look forward to participating with the many BNL volunteers in the activities that will help us achieve our goals in supporting United Way."

This year's drive will include raising funds through the usual submission of pledge forms that will be sent to each employee. Also, the following activities are being organized. See <http://intranet.bnl.gov/unitedway/fundRaising.asp> to learn more about the events and how to attend and/or volunteer your help.

Pancake Breakfast. Mon., 12/1, Bldg 134C Training Room, 9–10 a.m. \$6 donation, pay by Nov. 25, to P. Lucas, C. Meyer, R. Rualdo, Bldg. 134C.

Proteins from pg. 1

first isolated GFP from the jellyfish *Aequorea Victoria* - found off the west coast of North America — and discovered the protein's green glow.

Next, in the late 1980s, Chalfie demonstrated the value of GFP as a luminous genetic tag for various biological phenomena. In one of his first experiments, he colored six individual cells in a transparent roundworm. In contrast to other bioluminescent proteins, which require a continuous supply of energy-rich molecules, GFP doesn't need additives to glow. This revolutionary protein is non-toxic and non-disruptive, making it ideal for biological studies.

Most recently, Tsien contributed to the general understanding of how GFP glows by determining the formation of the GFP chromophore, a chemical group that absorbs and emits light. When ultraviolet light hits the chromophore, it sucks up the energy in the light and

then disposes of it by emitting lower energy (green) light. Tsien is best known for extending the color palette of GFP beyond green, allowing researchers to follow several different biological processes at the same time. According to background on the Nobel Prize website: "An important step forward, allowing for rational design of mutants, was the solution of the crystal structure of GFP..." This molecular structure, published in 1996, was solved in part at NSLS beamline X4A. The effort was led by a group of researchers from the University of Oregon, with Tsien among the authors on the paper.

Thanks to the contributions from all three Nobel laureates, scientists are able to see the cellular world in an entirely different light. — Kendra Snyder
Note: DOE has sponsored 48 Nobel Laureates since DOE's inception in 1977 — and a total of 88 Nobel Laureates associated with DOE and its predecessor agencies since 1934.

Wild Turkey Population Thriving at BNL

Most Americans enjoy turkey with stuffing, cranberries and all the trimmings at Thanksgiving, but the wild turkeys at the Brookhaven Lab site won't be on the menu. The turkeys on site are healthy and thriving, but they can't be hunted for two reasons — hunting is not allowed at BNL, and all Long Island wild turkeys are protected by the New York State Department of Environmental Conservation (NYSDEC), which, in order to bring a healthy population of birds back to the area, has not yet established turkey hunting on Long Island.

In the early 1990s, the NYSDEC transported 49 turkeys to Southaven Park in Shirley to reestablish the birds in the area, and many of those birds migrated to BNL. Judging by the number of wild turkeys on site

nowadays, the NYSDEC program has been extremely successful.

"We have an estimate close to 500 wild turkeys on site," said zoologist Tim Green, the BNL Cultural and Natural Resources Manager. "The DEC no longer has to transport them around the county — many of the turkeys have migrated on their own all over Suffolk County. In fact, the population is so large that the DEC may lift the ban on hunting the birds next year."

Wild turkeys live about four to six years, and they eat a wide variety of insects, as well as acorns, fruits, oats, seeds, and even manure in agricultural areas. They can fly up to about 1,000 yards at a speed as high as 55 miles per hour, and they can run up to 12 miles per hour. The turkey breeding season runs from the end of March through mid-June,

Fuel Analysis from pg. 1

fuel-oil contractors are based on simple tests of space-heating efficiency only, the Brookhaven researchers used a more accurate method of measurement in their tests that takes into account the domestic hot water load, which is typically integrated with a boiler system, as well as new controls that increase efficiency.

"A lot of oil is used in the warm months just to keep the boiler hot in case hot water is needed," Butcher said. "This was taken into account in our measurements. We imposed realistic heating loads on our test boilers, simulating use during all seasons to get accurate

annual efficiency ratings. We found that summer performance, and performance during spring and fall when heating loads are low, have a big impact on overall fuel consumption."

The researchers found that one oil-based non-condensing system tested — one that does not recover condensing gases to heat water — is equal in annual efficiency to the high-performance natural gas boiler that they tested — a surprising result. The BNL report that provides the basis for the calculator is also available for downloading on the NORA website.

— Diane Greenberg



Roger Stouthenburgh dn76705

and during this time, the toms perform courtship displays, fluffing their feathers, dragging their wings, and gobbling. The hen nests by herself, most often in a wooded area. While wild turkeys usually do not bother humans,

but if they are disturbed during breeding season, they may attack the intruder.

"It is best to keep your distance from wild turkeys, and please don't feed them," Green asked. — Diane Greenberg

CPA/Business Advisor Available at BNL, Mondays; Workshop on How to Start a Business, 12/8

Bernie Ryba, a certified senior business advisor for the New York State Small Business Development Center at Stony Brook University (SBU) and a certified public accountant, will be available at BNL on Mondays, effective immediately, to provide free, confidential consultations to BNL employees who are interested in commercializing a technology developed at the Laboratory.

"I will work closely with members of BNL's Office of Intellectual Property to expand the resources for the Lab, assisting in reaching out to businesses and other organizations," Ryba said. "I have access to commercial enterprises, angel investors and venture capitalists, for example, that can be helpful in bringing technology to the marketplace. Also, I can offer advice on how to start a business and can provide business plan assistance as well as insight on marketing.

Ryba has over 20 years of business experience, including



Joseph Rubino D063108

15 years with Pfizer, Inc., and he has first-hand knowledge of the life sciences and high-technology industries. His expertise ranges from financial and operational auditing to financial

management, commercial development and strategic planning. He is a graduate of SBU, and he earned an MBA from Hofstra University.

On Monday, December 8,

from noon to 1 p.m. in Berkner Hall, Room B, the Office of Intellectual Property and the Small Business Development Center at SBU will offer a free workshop open to BNL employees on "Starting a Small Business With Technology." Ryba will be joined by Dean Connor, a post-doctoral fellow at the National Synchrotron Light Source, who will be leaving BNL to co-found NextRay, a start-up based on Lab-developed technology, and another business owner to be announced, for a panel discussion, with a question and answer period afterwards. A complimentary lunch will be served to participants. Registration is required. To register, send an e-mail to the Office of Intellectual Property at oipr@bnl.gov.

To schedule an appointment for a consultation with Ryba at BNL, send an e-mail to him at bernard.ryba@sunysb.edu. He can also be reached at Ext. 5468 and at SBU at (631) 632-9019.

— Diane Greenberg

Calling All BERA Clubs: Special Moment Photos

In the 12/19 holiday issue of The Bulletin, we hope to feature "Special Moment" photos from BERA clubs. Send photos, for example, of a group at a special function or of one child playing ball at a club picnic. Submit high-resolution digital photos by email to bulletin@bnl.gov, with Special Moment Photo as the subject line. If you have no scanner, send a print by office mail to Liz Seubert, Bulletin, Bldg. 400, by Tues., Dec. 9. Include a very brief caption.

We look forward to receiving your club's photos; we will squeeze them all in somehow!

Brookhaven Blood Drive, 12/9

The next BNL Blood Drive will be on Tuesday, December 9, 9:30 a.m. – 3 p.m., at the Brookhaven Center, Bldg. 30. Donors must be 16 to 75 years of age, in good health and weigh over 110 lbs. Restrictions may apply to individuals from the United Kingdom and Europe. Donors should have a photo ID and know their social security number. To make an appointment, log on to the Human Resources webpage, click on "Blood Drive" and select "Schedule an Appointment." Or, contact Liz Gilbert, Ext. 2315.

Social & Cultural Club's Dance Party, 12/12

The BNL Social & Cultural Club will hold a "Holidays Dance Party" at the North Ballroom of the Brookhaven Center, on Friday, December 12, starting at 9 p.m., featuring Milagro, a popular seven-piece Santana tribute band. The evening kicks off with a shrimp cocktail and cold hero buffet dinner at 7 p.m. At 7:45 p.m., dance instructress Annette Alicante will give a one-hour dance lesson in "Rumba." The event is open to the public. All visitors to the Lab age 16 and over must bring a photo ID.

Tickets cost \$30 in advance or \$35 at the door. Only 150 tickets will be sold. Tickets are available at the BERA Store, Berkner Hall, weekdays, 9 a.m. – 3 p.m.; and at the regular "TGIF @ Brookhaven" dance socials on Friday nights at the Brookhaven Center.

BWIS Contest: Slogan Needed For Thirtieth Anniversary

Brookhaven Women in Science (BWIS) is sponsoring a contest to find a short and catchy slogan to celebrate its thirtieth anniversary in 2009. All BNL employees, guests and retirees are invited to create a slogan that can be used on a commemorative button.

Victoria McLane and Harriet Martin, both retired from BNL, first conceived of BWIS — first named BNL Scientific and Professional Women — in January 1979. Their initial goal was to send female BNL employees to local schools and libraries to serve as role models for students. The group made its debut at the Brightwaters Public Library on Valentine's Day in 1979. In September of that year, the group changed its name to BWIS and enlarged its scope to benefit all BNL employees.

Today, the primary mission

of BWIS is to increase the Lab's awareness of the accomplishments of women in science and to aid in women's advancement in scientific and technical careers. BWIS still encourages young women to consider careers in science, mathematics, engineering and technology.

A current BWIS slogan is "Not for Women Only," emphasizing that the nonprofit group's activities benefit the entire BNL community — both women and men. BWIS Board members will choose the winning slogan based on its appropriateness, creativity, and ability to capture the essence of BWIS.

Submit slogan entries to Stephanie LaMontagne at stephl@bnl.gov by December 31, 2008. The prize for the winning entry is a year's free membership in BWIS and a \$50 credit at the BERA Store.

— Diane Greenberg

Brookhaven Café Adjusts Hours of Operation

Beginning Monday, November 24, the hours for the Brookhaven Café, located in the lobby of the Research Support Building (Bldg. 400) will be 7:30 a.m. to 3:30 p.m. (Mon. - Fri.). The new hours of operation address customer trends and additional operating costs.

LIANS Dinner Meeting, 12/2

Invited Speaker
Leonard Mausner:
Radioisotope Research

At the next dinner meeting of the Long Island Chapter of the American Nuclear Society (LIANS) on Tues., Dec. 2, the invited speaker will be Leonard Mausner of BNL's Medical Department, who will talk on "Radiation Research and Production at BNL." The meeting will be held at South Shore Restaurant, 388 Medford Ave., Patchogue, (631) 475-7926. Complimentary appetizers/cash bar will start at 6 p.m., dinner at 7 p.m., and Mausner's talk at 8 p.m. The cost is \$25/person. To reserve, leave a message with Arnie Aronson, Ext. 2606, by Mon., Dec. 1.

BERA Events, News

BERA Holiday Party. Fri., Dec. 5, 7-11 p.m. at the beautiful waterfront Miller Beach Surf Club. Open bar, *hors d'oeuvres*, dinner buffet, dessert and a DJ with dancing for only \$45/person. Get friends, family, and department together for this exciting evening! Tickets are at the BERA Store and must be purchased by November 21. Seating will be limited.

Toy Drive. The annual toy drive for children who will lack gifts over the holidays will be more needed than ever this year. Please drop new toys, not wrapped, at the BERA Store or at the Recreation Office in Bldg. 400.

Book & Gift Fair. Berkner Hall lobby. 10 a.m. – 2 p.m., Dec. 15 and 16.



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BSA Noon Recital: Piano, Violin Duo 12/10

Duo Prism, comprised of pianist Rieko Aizawa and violinist Jesse Mills, will perform in concert on December 10, at noon, in Berkner Hall. Sponsored by Brookhaven Science Associates, the company that manages Brookhaven Lab, the concert is free and open to the public. All visitors to the Laboratory age 16 and over must bring a photo ID. Both Aizawa and Mills are graduates of the Juilliard School. In 2006 they received first prize at the Gaetano Zinetti International Chamber Music Competition in Verona, Italy. They have performed throughout the United States and toured Italy in 2007. The Duo will perform works by Mozart, Prokofiev and Grieg.

Arrivals & Departures

— Arrivals —	
Nathalie Bouet.....	NSLS-II
Weixing Cheng	NSLS-II
Kuanping Gong.....	Chemistry
Ryoichi Miyamoto.....	C-AD
Michael Myers	C-AD
Richard Negron.....	C-AD
Zhihui Pan	CMP&MS
Leo Reffi.....	NSLS-II
Francine Militscher.....	PPM
Alonzo Werner, Jr.....	C-AD
Qiong Wu	C-AD
— Departures —	
Laura Barrio Pliego.....	Chemistry
Margaret Bullock ...	Staff Services
John Dubendorff.....	Biology
Huan Guo.....	Env. Sciences
Lonnie Muldrow.....	Site Services
Neville Williams.....	Lab Protection

CALENDAR

Friday, 11/21

***Hospitality Thanksgiving Dinner**
5:30 p.m. Recreation Hall. Hospitality Committee invites all to a Thanksgiving Dinner. Turkey will be provided. Please bring desserts and beverages to share. Contact Jennifer Lynch, Ext. 4894 or jlynch@bnl.gov.

— WEEK OF 11/24 —

Monday, 11/24

***BNL Art & Crafts Show**
11:45 a.m.-1:30 p.m., with 5-7 p.m. opening reception. Berkner Hall, Room B. All are welcome. See notice, pg. 4.

IBEW Meeting
6 p.m. Centereach Knights of Columbus Hall, 41 Horseblock Rd., Centereach. A meeting for shift workers will be held at 3 p.m. in the union office. The agenda includes regular business, committee reports, and the president's report.

Tuesday, 11/25

***BNL Art & Crafts Show**
11:45 a.m.-1:30 p.m. Berkner Hall, Room B. See notice, pg. 4.

Wednesday, 11/26

***BNL Art & Crafts Show**
11:45 a.m.-1:30 p.m. Berkner Hall, Room B. See notice, pg. 4.

Thursday, 11/27

Thanksgiving Day
Lab closed. Happy Thanksgiving Day to all.

Friday, 11/28
Day After Thanksgiving
Lab closed. No Bulletin today.

— WEEK OF 12/1 —

Wednesday, 12/3

***443rd Brookhaven Lecture**
4 p.m. Berkner Hall. Aleksey Bolotnikov, Nonproliferation & National Security Department, will talk on "Gamma-Ray Detectors: From Homeland Security to the Cosmos." See story, pg. 1.

Thursday, 12/4

***United Way Holiday Auction**
11 a.m.-2 p.m. See pg. 2.

***United Way "Café Physique" Physics Demo**
3:45 p.m. Physics Seminar Room, Bldg. 510. \$7 donation. RSVP by 12/2 to Ext. 4887 or 3717.

Friday, 12/5

***United Way Holiday Auction**
11 a.m.-2 p.m. See pg. 2.

Saturday, 12/6

***Play About Madame Curie**
7 p.m. Berkner Hall. One woman play, *Manya: A Living History of Madame Marie Curie*. Open to the public. Visitors ages 16 and over must carry a photo ID. Refreshments and cash bar will be available. Tickets at \$10/adults, \$5/students, free under age 12, buy at <http://lipta.org>, or at the door. See pg. 2.

— WEEK OF 12/8 —

Tuesday, 12/9

***BNL Blood Drive**
9:30 a.m.-3 p.m. Brookhaven Center. See notice at left.

Wednesday, 12/10

Documentary Screening - 'Naturally Obsessed'
4 p.m., Berkner Hall. Film on trials faced by aspiring scientists, filmed in part at the National Synchrotron Light Source.

Friday, 12/12

***Michael Jazz Trio in Concert**
7 p.m. B'haven Center. See pg. 2.

— WEEK OF 12/15 —

Tuesday, 12/16

444th Brookhaven Lecture
4 p.m. Berkner Hall. Anatoli Zelenski, Collider-Accelerator Department. Note unusual day.

Classified Advertisements

To apply for a position, go to www.bnl.gov. Select "Job Opportunities," then "Search Job List."

OPEN RECRUITMENT – Opportunities for Lab employees and outside candidates.

POSTDOCTORAL RESEARCH ASSOCIATE - (REPOSTING) Requires a Ph.D. in theoretical elementary particle physics. The group has active programs in all areas of Particle Physics, including Standard Model and beyond and lattice gauge techniques. Applications must be received by December 31, 2008. The appointment is scheduled to begin October 1, 2009. Letters of reference should be sent under separate cover via email (preferred) to aaoponte@bnl.gov, or by mail to A. Aponte, High Energy Theory Group, Physics Department, Bldg. 510A, Brookhaven National Laboratory, Upton, NY 11973-5000, USA, but only after CV and application have been submitted. Under the direction of A. Soni, Physics Department. Apply to Job ID # 14668.

POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. in high-energy physics. The successful candidate is expected to play an important role in the collider physics program at BNL. Research will be on the ATLAS experiment at the LHC in Geneva, Switzerland. BNL is involved in many aspects of the ATLAS experiment. It is an ATLAS Tier-1 computing facility and is designated as one of the US ATLAS Analysis Support Centers. The Omega Group has significant responsibilities in ATLAS for Liquid Argon Calorimeter, Cathode Strip Chambers in Muon Spectrometer, High Level Trigger, Technical Coordination, as well as software development in several fronts. It is leading the upgrade of the liquid argon calorimeter read-out electronics, and is also deeply involved in the design of an all-silicon tracker. The physics analysis effort focuses on understanding the early physics potential at LHC, search for Higgs and supersymmetric particles. The successful candidate is expected to participate in some of these activities. When applying for this position, candidates should attach a CV that includes a list of at least three references (with email addresses). Under the direction of H. Ma, Physics Department. Apply to Job ID # 14669.

ASSISTANT PHYSICIST – Requires a Ph.D. in high-energy physics and at least two years of postdoctoral experience. The successful candidate must have demonstrated significant research accomplishments with extensive experience in detector R&D and physics analysis, and a promise for future achievements. The successful candidate is expected to play a lead role in the ongoing detector R&D effort and the physics data analysis focusing on the ATLAS experiment at the LHC. The Omega Group has significant responsibilities in ATLAS for Liquid Argon Calorimeter, Cathode Strip Chambers in Muon Spectrometer, High Level Trigger, Technical Coordination, as well as software development in several fronts. It is leading the effort to upgrade the Liquid Argon Calorimeter readout electronics and is deeply involved in the design of an all-silicon tracker. The physics analysis effort focuses on understanding the early physics potential at LHC, search for Higgs and supersymmetric particles. The Omega Group is also involved in the development of the Liquid Argon TPC in MicroBooNE experiment at FNAL, and a future large Liquid Argon TPC for a long baseline neutrino experiment at the Deep Underground Science and Engineering Laboratory (DUSEL). Applications should be received by December 20, 2008 or sooner to be given fullest consideration. However, applications will be accepted until the position is filled. The appointment will begin in mid-2009. When applying for this position, candidates should attach a CV that includes a list of at least three references (including email addresses) and a research statement. Under the direction of H. Ma, Physics Department. Apply to Job ID #14670.

POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in nuclear or high-energy physics. The Nuclear Theory Group has active programs in the theory of heavy ion collisions at ultrarelativistic energies, spin physics, and nuclear structure. The initial appointment would begin October 1, 2009. When applying for this position, interested candidates should attach a CV that includes a list of at least three references (including email addresses) and a list of publications. Under the direction of D. Kharzeev, Physics Department. Apply to Job ID #14677.

POSTDOCTORAL RESEARCH ASSOCIATE/BEAM INJECTION SYSTEMS (RA-1) - Requires a Ph.D. degree in Physics or a related discipline, with a focus on experimental accelerator physics and accelerator components and equipment for both circular and linear machines. The successful candidate will work with experienced accelerator staff scientists in the injection group for the NSLS-II synchrotron radiation facility, an ultra-low emittance next generation storage ring presently being designed at Brookhaven National Laboratory. Responsibilities include: participating in the set-up of a pulsed-magnet lab, help in the design and measurement of pulsed magnets for the beam transfer system of the NSLS-II facility, and investigating, in detail, the possibility of a novel injection scheme using

a pulsed-sextupole magnet. Must possess the ability to interface with technical staff, engineers and physicists to design pulsed magnet systems, evaluate the effect of the injection process on the stored beam in the synchrotron and participate in other aspects of synchrotron light sources. Familiarity with programming on C++, Matlab, Mathcad, and accelerator codes (e.g. MAD), interest in magnet design and familiarity with magnet design codes is highly desirable. Interest the following areas is preferred: accelerator and transport line design, beam injection and extraction systems, pulsed magnet design and measurement, accelerator diagnostics and machine parameter measurements, with an understanding of pulsed power sources and vacuum technology. Reports to the Injection Systems Group Leader, National Synchrotron Light Source II Project. Apply to Job ID# 14674.

STAFF SURVEY AND ALIGNMENT ENGINEER (P-5) – Requires a bachelor's degree in Geodetic or Survey Engineering with a minimum of five years' experience doing survey/geodetic adjustments of three-dimensional networks or an equivalent combination of education and experience. Excellent computer skills including computer-aided design, survey, and data analysis programs are required. Excellent written and verbal communication skills are required to direct the efforts of laboratory technical personnel and to interact with scientific and engineering staff. Programming skills (C++) and accelerator alignment experience is highly desirable. The Collider-Accelerator Department (C-AD) is responsible for operation, maintenance, and upgrade of the Relativistic Heavy Ion Collider (RHIC). The C-AD Survey Group provides overall direction and coordination of survey activities in support of construction and operational needs in the RHIC Complex. They provide Survey/Geodetic expertise in the areas of three-dimensional network adjustments, data acquisition, network design, component placement, data analysis, and bundle adjustments. The successful candidate will analyze, adjust, and integrate data from survey instrumentation including total station instruments, laser trackers, mekometers, optical tooling, and other survey and alignment equipment. Collider-Accelerator Department. Apply to Job ID# 14673.

TECHNICAL RESEARCH ASSOCIATE/INJECTION PULSED SYSTEMS (T-6) – The Beam Injection Group at NSLS-II is seeking a highly skilled, experienced technician who will have responsibility to design and outfit a pulsed magnet lab. Working closely with scientists and engineers, and using specialized tools and materials, must precisely evaluate and measure the design of prototype pulsed magnets. This position will also be tasked to design and construct pulsed magnet drive systems and controls, as well as coordinate and expedite prototype fabrication of pulsed magnets and transmission lines. The successful candidate should be familiar with switching devices such as thyristors and SCRs, pulsed power systems and with safety procedures for high voltage, high peak power and energy storage systems. Must be a self-starter, possess imagination and ingenuity to try novel ideas and suggestions, and have the ability to develop a vendor base for the components needed for the lab. Requires an AAS degree or equivalent, at least ten years' experience in accelerator related electronics work, and knowledge of accurate high-speed single shot data acquisition techniques. Advanced computer skills, familiarity with pulsed power systems, and a bachelor's degree in electrical technology is highly desirable. Reports to the Injection Systems Group Leader, National Synchrotron Light Source II Project. ERAP eligible - \$1,000.00. Apply to Job ID# 14675.

TECHNICAL SUPERVISOR I (T-5) – Responsibilities include work planning, coordination, job training, ES&H review and interface with project engineers and scientific staff. Will direct vacuum group technicians for vacuum system construction, commission and operation. Requirements include an AAS degree in electro/mechanical technology or equivalent and at least eight years of experience with assembly, process, and operation of ultra high vacuum chambers, pumps and instruments; extensive experience with Laboratory ES&H policy, work procedures, and at least five years supervisory skills; excellent written and verbal communication and interpersonal skills, and good computer skills. Accelerator vacuum systems experience is preferred. Position reports directly to the National Synchrotron Light Source II Project Vacuum Group Leader. ERAP eligible \$1000.00. Apply to Job ID #14676.

OFFICE SERVICES ASSISTANT (CW-2) – (PART-TIME 60%) – Requires excellent communication and customer service skills, and knowledge of Microsoft Office products. Will provide primary support to the Housing Office and act as backup to the Transportation and Division Offices as required. Duties will include reservations, check-in/check-out of customers, data management, Guest Information System (GIS), and report generation. Will act as liaison with all residents and assist in the scheduling of housekeeping and maintenance services. Required hours to work are Sunday, Monday and Tuesday evenings 4:00 pm to midnight. Staff Services Division. Apply to Job ID # 14671.

Motor Vehicles

03 HONDA SHADOW - Spirit 750, National Cycle Windshield, Cobra Sissy Bar, Saddle Bags. 6600 mi. \$3,500/neg. 793-4568.

02 ACURA 3.5RL - metallic green, new tires/brakes. 41K mi. \$13,800/neg. Ext. 7484.

01 HYUNDAI ACCENT - 2dr., hbk, 5spd., 4cyl, am/fm/cd well maint'd 38 mpg. 95K mi. \$2,500/neg. Frank, Ext. 2022 or 433-9205.

01 BMW 330Ci - 6cyl, 3l, a/t, traction, c/c, p/s, p/w, p/l, p/seats, ABS, sde/fr. airbags, lthr, m/rf. 112K mi. \$10,500/neg. 331-3598.

00 TOYOTA COROLLA LE - a/t, loaded, orig ownr, non-smker, grt mpg, loc. Hartsdale, NY 42K mi. \$5,300/neg. 914-671-3417.

99 DODGE CARAVAN - 6 cyl., 7 pass., orig. owner, nds 2 tires, runs v/well. 113K mi. \$2,195/neg. Ext. 3381 or 744-4061.

99 SUBARU OUTBACK WGN - 5spd, awd, a/c, p/w, p/l, cd/tape, htd seats, gd. cond. nds gas tank., \$3,200/neg. 874-3652.

97 GMC SIERRA K1500 EXT. CAB - SLT Z-71 4x4 pckup 5.7L a/t 10k tow pkg lock diff. abs, new insp. 143K mi. \$4,000. 729-6396.

97 DODGE CARAVAN - v6,ac,c/c,p/w,p/l,p/b,abs,p/s,2-slide drs, 3 rws seats, 2 remove, fits a lot, 145K mi. \$2,000/neg. Ext. 7860.

94 VOLVO STATION WAGON - full accessory pkg., tan lthr interior, white ext & drivetrain. reg, maint. 280K mi. 653-5350.

94 CHEVY PICK UP - w/cab, 8 cyl, lt. bl, gd. cond. \$3,000/neg. 727-1506.

92 DODGE NEON - ask, \$700/obo, runs well. 123K mi. \$700/neg. Ext. 7266.

SERVICE MANUAL - 1997 Pontiac Grd Prix/Buick Century Regal, 3 book set. Ask \$20. Ext. 2425.

Furnishings & Appliances

ANTIQUE FAINTING COUCH: - Victorian, upholstered. Carved oak trim, excellent condition. \$400. Susan, Ext. 2888.

COMPUTER DESK - excel. cond., blond color, \$30, u-pic-up, pix avail. 754-7863.

DR HUTCH, TABLE & CHAIRS - beige lacquer set:hutch 65"Lx82"Hx20"D,table 72"Lx42"W w/2inserts,incl. cust. pad,8 cush chairs, \$600. Susan, Ext. 7414.

DINING RM SET - beige lacquer, hutch 65"Lx82"Hx20"D; table 72"Lx42"W w/2 inserts, cust. pad, 8 cush chairs. Ext. 7414.

HIGH RISER - w/mattress, 2 yrs old, hardly used, \$100. Ext. 2716 or 878-2425.

INFLATABLE BED - Q/size w/frame \$20. Tom, Ext. 7578.

LIVING ROOM SET - 1/couch, 1/love seat, 2/end tables, 1/coffee table, \$250/ all. Ashi, Ext. 3387 or 245-5297.

VACUUMS - 6 vacs for sale. four Eureka two Dirt Devils.\$15-\$25. 631-924-3522.

Audio, Video & Computers

ALTO SAXAPHONE - Yamaha YAS-23 in excel cond. \$575/neg. 929-4978.

CELL PHONE - Verizon Voyager, orig/\$400+ w/out contract. used 1 wk, no scratches, got co. phone, ask/250. Ext. 2565.

HITACHI 55" PROJ TV - std res. proj TV 55" screen, works fine, 55"x47"x27". \$50 or best offer, you pick up. Achim, Ext. 4750.

MONITOR - 19" Flat Screen, by Compaq, w/integr. spkrs, new in box, \$100. Ext. 3884.

WII GAME - All Star Cheer Squad, use w/ or w/o Wii balance board, \$40. Ext. 8709.

WIRELESS SECURITY CAMERA - w/ pan & tilt base, motn. sensr, VCR cmndr, aud/vid recvr. new in box. \$30. Angela, Ext. 7397.

Sports, Hobbies & Pets

ICE SKATES - 2 Pr Bauer Elite sz 6 little used, excel cond \$15 ea. 422-1033.

PROWLER TRAILER - '05, Fleetwood, 32' quad bunks, slps 10, tow bar/ hitch incl., mint, h/t/ac, full bath, new awng. 807-9916.

TENT - IKEA Koja tent. new, blue & white. for children 3 & up. \$10. Angela, Ext. 7397.

Tools, House & Garden

2 BOOKSHELF STEREO SYSTEMS - Fisher 1500 slimline single cd/radio; Aiwa 3 CD/radio, \$25/ea. Ext. 5090 or 828-2172.

CHINA - dinner service for 12, blue/yellow/white, photos avail., Palace Garden by Coventry China, \$100. Ext. 5090 or 828-2172.

CRAFTSMAN'S ITEMS - Circ. saw, \$20; lantern \$10; camp stove \$10; fishing tackle \$5, Weber Q Grill, \$100. 793-4568.

FIREPLACE TOOLS - black, new in box, 4/pw w/ ball handles, \$20. Ext. 7397.

SNOW BLOWER - Sears, attachment for model 1000 riding mower, 2 stage, like new cond., \$300. 245-4757.

Miscellaneous

FIRE WOOD - fire / stove wood, 8inch to 15 inch lengths. \$250.00 delivered. Michael, Ext. 5262 or 631-284-2277.

HOOKED ON PHONICS - Baby ed. ages 3-18 mos., new in box. \$25, 2-story 13ft. escape ladder, fully assembl, \$25. Ext. 7397.

MEDICAL PILLOW/ - Donut/pillow for lower spine injuries, ask/\$20. Ext. 2852.

PRINTS - French outdoor scenes, all different. 2ftx2ft. Antique black/gold frames. 4 avail. \$10/ea. Ext. 7397.

TREADMILL - DP, single speed adjustable incline, gd cond. \$50. Al, Ext. 7859.

BNL Art & Crafts Fall Show, 11/19-21

The art of Lab glassblower Barry Lafler (below) will be among the works of many talented BNLeers at the annual BNL Art and Crafts Show, to be held at next week at Berkner Hall, Monday to Wednesday, November 24-26, 11:45 a.m.-1:30 p.m. An evening reception with refreshments will be held on Monday, November 24, 5-7 p.m. All are invited to attend this free exhibit.



Roger Stoutenburgh D1951008

TWIN MATTRESS/BOX SPRING - Serta, firm, vg cond, frame incl, orig. \$600, ask \$60, extra Serta mattress, \$30. 645-1349.

WOOD SWING SET - Creative Playthings, 2 swings, buoy ball, picnic table, fort, 6 yr old \$300 you take down. 645-1349.

XMAS TREE - artificial, 7'h, assembly req., has all branches/ instructions, stand incl., \$20. Sal, Ext. 7254.

Car Pool

RALEIGH, NC - share drive for Thanksgiving and Christmas holidays, email jsun@bnl.gov. Jingchuan, Ext. 2560.

Community Involvement

THANKSGIVING HOSTS - Stony Brook U. host-family program needs families to host SBU international students for turkey day. Rhona Goldman, 751-7257.

Happenings

CHINESE AUCTION - Sachem North Arrowettes, 11/14 at 6pm, Samoset MS, 51 School St., Lake Ronkonkoma. Ext. 7516.

CONCERT - Fri., 11/21. 7 p.m. Shoreham-Wading River Library. Free. Music to Proust's *Temps Perdu*: Debussy, Hahn, more. Soloist, L. Rosenthal. Ext. 2346.

FUNDRAISING EVENT - Crowning Glory Ministries Inc. will be selling cakes & pies for the Holiday season. Call for details. Tiffany, 846-8419.

HOLIDAY CONCERT - 12/5/08 @ 7:30 pm; Shoreham-Wading River HS Auditorium by SWR Community Band; Free Admission; Enjoy! 821-8116.

TOYS WANTED - Cycletrons are collecting for Little Flower, kids ages 14-17, need by 12/5, drop at BERA Store. Toni, Ext. 5257.

Free

AMERICAN BULLDOG - White/tan patches - 4 yrs old, 110 lbs, very friendly, all shots. 897-7744.

PUPPY - female Rottweiler in need of a loving home. 775-6057.

ROTTWEILER PUPPY - Low of cost, needs loving home. Ext. 8593.

Wanted

ARTIFICIAL CHRISTMAS TREE - any height/cond., must be green, free is gd., I will pic up. Don, Ext. 7237 or 929-6571.

BLANKETS/QUILTS - Clean, gently used for needy families at Thee Island INN Soup Kitchen, Middle Island. Barbara, Ext. 2098.

CANDY FOR ADOPT-A-PLATOON - If you have any new or Halloween candy & can donate for our troops for Christmas, please call. Joyce, Ext. 4229.

CHESS EXPERT - capable of playing multiple games simultaneously for East End Arts Council Fundraiser. Peter, Ext. 7657.

Lost & Found

FOUND - a little girl's silver bracelet w/an Olivia the Pig charm. Maria, Ext. 4961.

ITEMS TURNED IN TO LOST & FOUND - Black Land's End jacket; garage key; jag key, more. Ext. 5090.

For Rent

BELLPORT VILLAGE - on Great South Bay, view of Fire Island, cozy 2 bdrm, 1 bath, eik, gas stove, w/d, part furn., util. incl. \$1,400/mo. 289-4641.

CENTER MORICHES - 3 bdrm, 1.5 bath house, eik, d/r, l/r, den, garage, bsmt, beach & boating rights. 1 mo. security \$1,900/mo. 846-4331.

E. SETAUKET - 2 bdrm.,incl. all, priv. ent, part. furn., walk to shops, no smkg/pets/sec., \$900/mo. Ext. 7496 or 828-8509.

EAST ISLIP - 2 bdrm, l/r, d/r, kit., bath. heat and hot water incl., sep. gas/elec.

\$1,400/mo./neg. Joseph, 516-903-2013.

FARMINGVILLE - bright 1 bdrm., tiled kit. & bath, lg. l/r, closets, carpet, thermo.,10 mi. to Lab, priv ent, prkg., no smkg/pets, \$875/mo. incl. all. 732-7324/516-909-7501.

ISLIP TERRACE - gd. level, lg. studio, sep. ent., WIC,DW, prkg., new paint/carpet, no smkg/pets, 1.5 mo. sec. \$880/all. \$880/mo. 224-3474.

KEY WEST, FL - t/share, priv. beach, pool, hot tub, kit., w/d, gym, vcr, deck over water, gar, 2/units 2/wks, Apr 11-25, 2bdrm 2bath sleeps 2-6. \$900/wk./neg. 929-8741.

MASTIC - professional wanted - 5 mins to BNL, 1BR duplex apt w/ pvt ent. New applis; W/D; all util incl. No pets/smoking., sec. req'd. \$1,500/mo. 281-1812.

MEDFORD - 2 bdrm, grnd level apt., quiet st., eik w/new appl., 15x10 bdrm, 20x25 l/r, f/p, lg bath & closets, heat/water/cable incl., sep elec., pvt. ent. \$1,400/mo. 734-8866.

MIDDLE ISLAND - 1 bdrm, remodld, l/r, full kit. & bath, bsmt apt, incl. all. 10 min. to BNL. priv. ent/drwy, no smkg/pet, int/ phone incl, 1 mo. sec. \$850/mo. 672-2451.

ORLANDO, FL - a wk. avail. at Vistana Resort in Orlando for the wk., of Dec. 26-Jan 2, it is a unit in the fountains area, sleeps 8. \$900/wk. Diane, Ext. 8122.

PATCHOGUE - Newly renov 1st flr apt for singl professional. Water view, easy access to train. No pets/smokers. Cable incl. \$1,300/mo. nicoleceleste@gmail.com 559-0797.

RIDGE - Lge 1 bdrm/1 bath, 7 min. to Lab, heat & AC, all utils, washer & dryer, cable TV, priv entr & dr/way. \$1,150/mo. 236-9114.

RIDGE - lg, clean, 1 bdrm apt w/ose, minutes to Lab. l/r/eik, gd bath, bdrm, gd closet space, office/study area, car pool, avail. immed. \$1,050/mo. 252-3356.

ROCKY POINT - 2 bdrm. apt., heat, hot water incl., off-st. prkg, s/facing, walk to stores, 15 min. to Lab, mcbennet@umich.edu. \$1,200/mo. Marcus, 734-649-5800.

RONKONKOMA - 3 bdrm. apt., 15 min. to BNL & SBU, 2 min to LIRR, 1 hr to NYC, mod kit., l/r, quiet ddend st, priv. drwy, util. not incl. \$1,675/mo. 664-8291.

SHIRLEY/SOUTH HAVEN - 4bdrm Victorian, 2.5 bath, Cath'l ceiling, l/r, d/r, fam. rm, eik., Indry w/d, full bsmt, lg deck, 1 acre, 1 mo. sec. \$2,600/mo. 286-3204.

SOUND BEACH - 1 bdrm, cozy apt., sep. ent., rustic setting, no pets, all util. incl., avail. 12/1. \$850/mo. 516-798-2347.

WADING RIVER - 1 bdrm. w/full bath, kit. dining area, lg. l/r, sep. ent., 1st flr., incl. util., no pets/smkg. 1 mo. sec. & refs. \$1,050/mo. 929-5642.

WADING RIVER - 2 bdrm apt, 1 bath, full bsmt, walk to priv beach/state park, util. not incl. \$1,200/mo. Theresa, Ext. 2284.

For Sale

SMITHTOWN - great old home on dd end, family n'hood, nr. town, schl, etc., income prod, plus 4 bed, 2 bth,d/r, 2 out bldgs., low taxes. \$439,000/neg. Ext. 5090.

In Appreciation

To all my friends in Biology: Thank you all for your generous contributions for the walk-a-thon for my niece Kandy. It will never be forgotten. — Linda De Masi

Elaine and I thank our friends and colleagues at BNL for their well wishes during my recent illness. Your response reinforces the fact that BNL is more than just a workplace. We are a large extended family. Thank you all. — Elaine & Derek Lowenstein

Services

A list of services supplied by employees is on the web after all the ads, or call Ext. 2346. Services are neither screened nor recommended by the Bulletin.