

TeraPaths Project: Escorts Priority Data Through Network Congestion

You can think of Brookhaven's TeraPaths project as an HOV lane to keep physics data from getting stuck in a traffic jam.

With the quickly approaching start-up of the Large Hadron Collider (LHC), a particle accelerator near Geneva, Switzerland, about 15 petabytes (15 million gigabytes) of data will be produced per year. The data from ATLAS, one of the LHC experiments, will be funneled in real time from the LHC directly to BNL, which is the sole ATLAS Tier 1 computing facility in the United States. From Brookhaven, the ATLAS data will be further distributed to Tier 2 computing facilities at universities across the country. But with such an immense computing load traveling through the complex LHC network, congestion and competition for resources are expected.

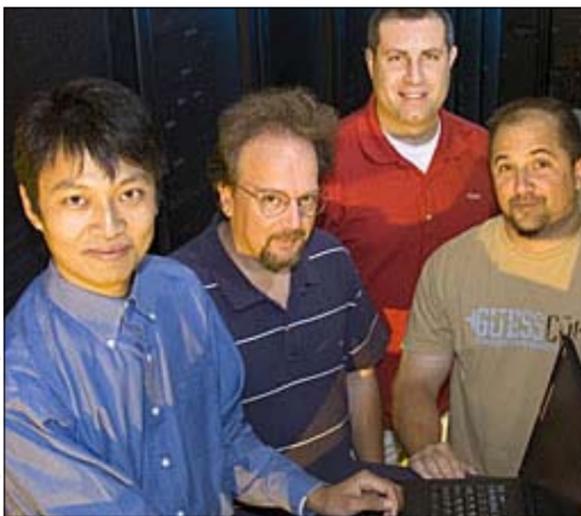
That's where TeraPaths comes into play. The aim of this research and development project, recently named one of the top five projects in the Division of Advanced Scientific Computing Research in DOE's Office of Science, is to supply efficient, reliable, predictable data movement in modern, high-speed

networks like the one used by BNL's Relativistic Heavy Ion Collider (RHIC) and the LHC. Members of the Brookhaven TeraPaths team include Principal Investigator Dantong Yu and Co-Principal Investigator and TeraPaths software architect Dimitrios Katramatos, both of the Physics Department; TeraPaths network architect Frank Burstein of the Information Technology Division (ITD); Shawn McKee, University of Michigan; Jay Packard, Physics; John DeStefano, Physics; and Scott Bradley, ITD. Collaborators include the University of Michigan, Boston University, the Stanford Linear Accelerator Center, the University of Chicago, and the University of Texas at Arlington.

Because the LHC network is a shared medium, its default transport behavior is so-called "best effort," which treats all data flows with the same level of priority. But in reality, some tasks require more bandwidth than others and certain data are critical and must be delivered by a specific deadline. Any congestion in the network due to traffic generated by a variety of sources such as media file-sharing, video streaming, large file downloading of lesser priority, users abusing the network accidentally or on purpose, or even an email containing a large file attachment, could potentially disrupt an

(continued on page 2)

The TeraPaths team, from left, Dantong Yu, Physics; Dimitrios Katramatos, Physics Department; John DeStefano, Physics; and Frank Burstein, Information Technology (IT). Not pictured: Scott Bradley, IT; Shawn McKee, University of Michigan; and Jay Packard, Physics.



Roger Stoutenburg 06/09/07

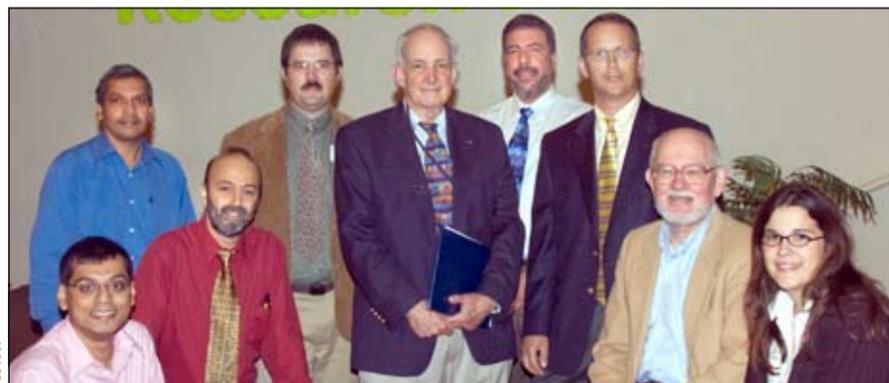
12th Annual Pine Barrens Research Forum Focuses on Water Resources, More

"Water Resources from the Ground Up" was the hot topic at the 12th Annual Pine Barrens Research Forum, held at Berkner Hall on October 11. This annual event is organized by the Central Pine Barrens Commission, the Foundation for Ecological Research in the Northeast (FERN), the Long Island Groundwater Research Institute (LIGRI), and BNL, coordinated at the Lab by Timothy Green of the Environmental & Waste Management Services Division, BNL's Cultural & Natural Resources Manager.

The meeting began with welcoming remarks from Michael Holland, Manager of DOE's Brookhaven Site Office; Sam Aronson, BNL Director; and Peter Scully, Chair, Central Pine Barrens

Commission and Regional Director, New York State Department of Environmental Conservation. This year's talks typically focused on issues associated with managing groundwater and surface water. Larry Liggitt, Director of Land Use & Technology Programs, New Jersey (NJ) Pinelands Commission, discussed issues for protection of groundwater, while simultaneously dealing with development and preservation of the NJ Pinelands habitats. Other groundwater talks examined the cleanup of contaminated groundwater affecting the Carmans River and the current status of groundwater resources on Long Island. On surface waters, speakers discussed continuing

(continued on page 2)



Speakers at the 12th Annual Pine Barrens Research Forum included: (from left) Vishal Shah, Dowling College; Murty Kambhampati, Southern University at New Orleans; (back) Brian Litt, Columbia River Gorge Commission; Tim Green, BNL; Larry Swanson, Stony Brook University (SBU); Jack Monti, New York Water Science Center; Steve Colabufo, Suffolk County Water Authority; Gilbert Hanson, SBU; and Angel Dybas, Cornell Cooperative Extension of Suffolk County. Not present are: Larry Liggitt, New Jersey Pinelands Commission; and Joseph Haas III, New York State Department of Environmental Conservation.

Roger Stoutenburg 06/09/07

Canadian Consul General Daniel Sullivan Visits BNL



Roger Stoutenburg 01/08/07

On October 17, Canadian Consul General Daniel Sullivan (third from left) toured BNL facilities during a visit sponsored by the Brookhaven Town Office of Economic Development as part of its international trade initiative. Sullivan met with Lab and Brookhaven Site Office management and toured the STAR detector at the Relativistic Heavy Ion Collider and the National Synchrotron Light Source. While on Long Island, Sullivan also visited Brookhaven Town offices, Stony Brook University, Motorola, and several businesses. With Sullivan are: (from left) Bill Christie, BNL; Canadian Deputy Consul General John McNab, Peter Bond, BNL; Brookhaven Town Director of Economic Development Raymond Donnelly, and Program Manager Bob Gordon, DOE Brookhaven Site Office.

Six BNL Scientists Awarded Tenure

Brookhaven Science Associates (BSA) granted tenure effective August 1 to six Brookhaven scientists. They are: Scott Berg, Physics Department; Dax Fu, Biology Department; Timur Shaftan, National Synchrotron Light Source II; Vivian Stojanoff, National Synchrotron Light Source Department; Flemming Videbaek, Physics; and Zhangbu Xu, Physics.

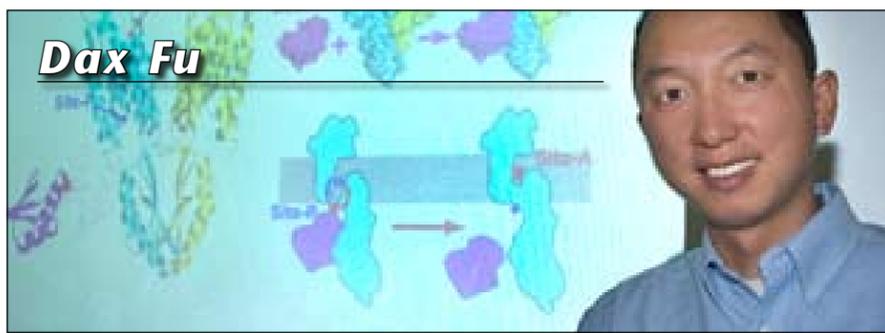
As described in the Scientific Staff Manual, a tenure appointment "constitutes recognition of independent accomplishment of a high order in the performance of original research or of other intellectually creative activity appropriate to the purposes of the Laboratory.

"Recognition may be earned through significant contributions to knowledge related to the purposes of the Laboratory and/or in furtherance of the aims

of the Laboratory, through continuing contributions of outstanding significance to productive uses of the facilities, or through outstanding and creative contributions to their design, development, and improvement."

Tenure appointments are granted by action of the BSA Board after a rigorous selection procedure overseen by the BSA Science & Technology Steering Committee. In making tenure decisions, the BSA Board is advised by members of the Brookhaven Council, an elected body that advises the Director on matters affecting the scientific staff.

A description of the accomplishments of each of the six recent tenured scientists, not in alphabetical order but as photos are available, will appear in The Bulletin, starting with Dax Fu, below.



Roger Stoutenburg 06/07/07

Dax Fu, a biochemist in the Biology Department, was recommended for tenure for his innovative research on membrane transporter proteins. These proteins facilitate the passage of molecules or ions across biological membranes, a process that is essential for life.

At Brookhaven, Fu's research has focused primarily on molecular mechanisms underlying the transport of zinc ions across biological membranes. Recently, Fu and BNL collaborator Min Lu determined the atomic-level structure of a membrane protein that regulates the movement of zinc ions into and out of cells. This finding may lead to a better understanding of the role

zinc plays in numerous biological processes, from nerve cell communication to insulin regulation.

In future research, Fu plans to focus on understanding the chemical principles governing selective binding and energized movement of zinc ions in membrane transporters. The human zinc transporter, known as zinc transporter-8 (ZnT-8), is exclusively expressed in insulin-producing cells, and its malfunction causes type-2 diabetes, which is expected to affect 30 percent of the American population born in the year 2000. Zn-T-8 may be an important drug target for diabetes, and Fu and his research team have filed a patent related to that possibility.

Fu received a bachelor's degree in biomedical engineering from Shanghai Medical University in 1987 and a Ph.D. in biomedical science from the Mayo Graduate School of Medicine in 1995. He took a postgraduate fellowship at the Johns Hopkins School of Medicine from 1995 to 1997, and followed with another postdoctoral position at the University of California at San Francisco, from 1997 to 2000.

After joining BNL in 2001 as an assistant biochemist, Fu was promoted to associate biochemist in 2002, was named biochemist in 2004, and received tenure as of August 1. He also is a faculty member at Stony Brook University.

— Diane Greenberg

Then and Now: Movers and Shakers

In 1947, moving was on everyone's mind: moving in, moving over to make space for the newcomers, or moving out to a more convenient location. Dormitories were set up in existing Camp Upton buildings. For example, Bldg. 475 first started as a dormitory, men in one wing, women in the other. Twenty-five apartments were made available on site to provide temporary housing for visiting and permanent BNL staff and their families. The apartments were constructed from buildings formerly used as one-story barracks. As the Lab found out where housing, office, or lab accommodations were needed but unfunded, entire old buildings were physically moved from one place to another, a solution that has been used over the years.

During some eras, such as the early 1960s, funding was available, construction was in the air. Groundbreaking for the Physics Building took place in March, 1960; by June 1961, the Nuclear Engineering Building on Rutherford Road, started in the late 1950s, was completed — and staff members were moved in. Groundbreaking for the Instrumentation & Health Physics Building was celebrated in September 1962, and on February 26, 1963, Chemistry Chair Richard Dodson dug through the snow on the ground to start off Building 555, which was to be occupied in early 1966.

These days, new state-of-the-art buildings are springing up along Brookhaven Avenue,



The Procurement & Property Management Division "movers and shakers" who moved everyone into Bldg. 400 are: (from left) Clarence Wilkens, Dina Tullo, William McPherson, John Blydenburgh, Bobbi Ilacqua, Benjamin Mastrocola, Marcelino (Junior) Santiago, and Wayne Cummings. Not in the picture is Charles Whiting.

creating new history. Just this year, the Research Support Building (RSB) and the Center for Functional Nanomaterials (CFN) celebrated initial occupancy. On the near horizon is the construction of the NSLS-II and the Interdisciplinary Science Building.

Through it all, there have always been the "movers and the shakers" — the people, now in the Procurement & Property Management (PPM) Division, who coordinate the moves and do the heavy work.

According to PPM's Patricia Jencius, the Lab's Traffic Manager, "There is always something to move." Jencius, who arranges the scheduled moves,

is the supervisor of the Lab's drivers and material handlers. "We move capital equipment, office furniture, bulk items, and deliver supplies around the site," said Jencius. "We are always busy."

Bill McPherson, a driver and materials handler who has been doing the job for about five years, said, "It took me three or four months to really learn the location of all the buildings at the Lab, but along the way I met many BNLers. Even now, every day I meet someone new. The moves have a domino effect: We move one group out of a building, and a new group into that same spot, and we're always ready to get the job done."

The July-August, 1947, *Isotopics* newspaper of BNL shows "John Binnington, Librarian, Mrs. Binnington and their two children, Thomas, 4, and Bree, 3, watching as the furniture is being carried into the on-site apartment."



What time does the next dorm leave for Brookhaven? The October 1965 *Bulletin Board* photo shows one of three "Spartan" men's dorms being towed from Columbia Street to be transformed into a "modern, up-to-date" men's residence, Compton House.



Charlie Wilkins, another driver and materials handler in PPM who works closely with McPherson, expresses the same sentiment. "I love everything about this job — the people, the work and the appreciation we get from the employees."

Moving occupants into the RSB and the CFN has kept this group very busy over the past

year, but they are always ready for whatever tasks they are assigned.

"We're always on the move and planning the next move," said Jencius. "It's great to be part of the positive changes at the Lab. I couldn't ask for a group of more dedicated, hard-working employees."

— Jane Koropsak

Benefit Notes: Qualifying Events

Changes to medical and/or dental coverage may be made during the benefits annual open enrollment. Also, certain changes may be made within either 30 or 60 days of when a qualifying event occurs depending on the event. Qualifying events include: birth or adoption of a child, marriage, divorce or legal separation, loss of dependent status (for instance, graduation, attainment of age limit,

or no longer a full-time student), death of a dependent, change in the place of residence or worksite or a spouse's gain or loss of employment. The Benefits Office will need documentation of the qualifying event. If the event results in a loss of coverage, and documentation is submitted within the allotted timeframe, coverage may be continued under COBRA.

For the change in benefits

to be approved, the qualifying event must closely relate to the requested change in benefits. For example, if a child is born, a participant may add the child to his/her medical coverage. The participant cannot drop medical coverage at that time.

Depending on the situation, when you have a qualifying event you may also want to update items such as: covered dependents for medical and/or dental coverage, life insurance

beneficiaries, retirement plan beneficiaries, tax withholdings on Form W-4, address change, or emergency contact(s).

Employees covering dependent children over the age of 19 as full-time students should be aware that full time students are only covered over the summer if the student attends classes on a full-time basis for both the Spring and Fall semesters. Otherwise coverage ends on the last day the child at-

tended an accredited college or university on a full-time basis. If there is a possibility that the child may not be in full-time attendance in the fall, contact the Benefits Office immediately to discuss continuation of benefits through COBRA.

For more information or to make a change to your benefits due to a qualifying event, contact the Benefits Office, Bldg. 400B, Ext. 2877, Ext. 5126 or call (800) 353-5321.

Dave Rahm Fest, 12/18

All are invited to celebrate an 80th Birthday Fest to be held on Tuesday, December 18, in the Physics Department to honor David Rahm.

A symposium will begin at 2 p.m. in the Large Seminar Room, with speakers who will include Sam Aronson, Robert Palmer, Veljko Radeka, Nicholas Samios, and Bill Willis. A dinner will be held at 6:30 p.m. Register at www.usatlas.bnl.gov/DR80 or contact Linda Feierabend, Ext. 4887 or feierabe@bnl.gov by December 3.

Arrivals & Departures

— Arrivals —

Andrew Broadbent NSLS II
Peter Davila NSLS
Shawn Grant Plant Eng.
Nicole Jenkins S&SD
Oshri Pelleg CMP&MS
Jamie Sims S&SD
Christine Surbrug Plant Eng.

— Departures —

James Lacy Plant Eng.

TerraPaths Project

important, multi-day data transfer. Therefore, not all data flows should be treated equally, said Yu.

"Say I'm a physicist, and I want to present a paper at a conference, but I only have four weeks left for analysis," Yu said. "I have a few hundred terabytes of data that need to be analyzed, but all of the computing resources in my data-hosting site are already booked up for several months. So I decide I want it shipped to a new site to do computing analysis within two weeks. That's possible with TeraPaths."

The TeraPaths project will allow the hundreds of US-ATLAS scientists to prioritize and protect specific data flows, and to schedule network bandwidth and usage through their choice of a user-friendly web interface, or a TeraPaths-aware application program interface. After a request is made, a path will then be "carved" to allow the data to travel unimpeded through the network. The Tera-

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Paths software achieves this end-to-end seamless network service provisioning by directly controlling the source and destination Local Area Networks (LANs), and by coordinating the software systems that manage the Wide Area Network (WAN) domains.

"Like a fire truck or police car on the road, these data packages will have higher priority," Yu said, adding that this "service guarantee" is an important step in ATLAS computing. Its introduction to the ATLAS community may give rise to even faster LHC physics discoveries.

Complete end-to-end network paths with bandwidth guarantees between BNL and the University of Michigan can now be established automatically. Furthermore, the TeraPaths team is working toward extending TeraPaths-enhanced network services to all US ATLAS Tier 2 sites and beyond.

— Kendra Snyder

Pine Barrens Research Forum

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issues related to the health of the Forge River, the effects of acid rain on water quality, and monitoring of buffering systems within pine barrens wetlands.

Leaving water issues, Brian Litt from the Columbia River Gorge Commission presented efforts to preserve Scenic Resources.

"This is an emerging issue for Long Island and the Central Pine Barrens as development continues to encroach on our natural areas," comments Green. "Finishing out the day was a unique talk by Dr. Vishal Shah from Dowling College," Green continues. "Dr. Shah has been working with FERN and others to develop a microbial fingerprint of the Pine Barrens. This work is beginning to identify unique characteristics of soil microbes within the Pine Barrens. This work is being linked to forest health monitoring conducted by FERN."

On the following day, the Forum hosted a day-long field trip along the Carmans River

to highlight both the historic and the natural resource issues facing this river. Starting at Cathedral Pines County Park, participants discussed issues affecting the headwaters of the Carmans including road-runoff and invasive species. As the field trip moved downstream, issues related to fisheries management, dam removal, historic use of the river and future planning were discussed. Halfway down the river the group visited a groundwater remediation sight that is protecting the Carmans River from MTBE and other contaminants coming from a local commercial area northeast of the river. Final stops included Southaven County Park, Wertheim National Wildlife Refuge and the Manor of St. George where history of the river and current management issues were discussed.

As Green summed up, "More than 300 years of history and management of the Carmans were covered in a single day!"

Rundlett, Beckman Co-Chair BNL Food Drive

The BNL Food Drive has a new co-chair. Current co-chair Linda Rundlett Guest, User & Visitor Center has been joined by Maria Beckman of the Safety & Health Services Division, following the retirement in June of previous Food Drive co-chair Rita Kito from the Budget Office.

Says Rundlett, "We all at the Lab thank Rita for her dedication given for so many years. She was a tireless advocate in helping keep the Food Drive rolling along. Now, even though she's retired, she still comes on site and drops off food or picks up cans and bottles for recycling, using the recycling money to purchase more food for Interface. I will miss working alongside Rita, but I am looking forward to working with Maria Beckman."

Rundlett explains that all BNL's food drive donations are collected and stored for pickup once a month by the Town of Brookhaven's Interface Program. The food is then distributed to local needy families. Since 1998, the Lab has partnered with the American Physical Society (APS) in collecting non-perishable food items for the community. "The efforts of BNL and the APS have helped to contribute over 16,000 pounds of food to local charities," Rundlett says. "We're a good team."

Beckman is pleased to join the BNL Food Drive effort. "The volunteer work I perform at Thee Island INN soup kitchen in Middle Island has made me acutely aware of the need for food among the poor, homeless, and elderly living in this area," she says. "It is not unusual for someone with a family to come to the soup kitchen for food because they have nothing to feed their children. It is really heartbreaking when someone tells you that they have not eaten for two days. You cannot help but count your

BNL Food Drive volunteers include: (front, from left) Linda Rundlett, Maria Beckman, Barbara Maddaloni of the American Physical Society, Linda Greves, Carol Rooney, and Rita Kito; (back, from left) Bob Kiss, Paul Sparrow, Bruce Weatherell, and Frank Kito.



Roger Shoulenburgh D0971007

own blessings and want to help in any way possible, such as the BNL Food Drive."

Beckman also expresses her admiration for other BNL Food Drive volunteers behind the scenes. "They consistently remind and encourage people in their departments to donate all year round, and they deliver the donated food to a central collection point on site once a month for pickup and distribution. Without their dedication,

there would not be a BNL Food Drive program," Beckman says.

"In addition, this is the third year I will be involved with the United Way campaign volunteer work program," Beckman continues. "During the campaign, United Way captains are encouraged to establish food collection boxes. Becoming a BNL Food Drive co-coordinator is a natural combination of these two efforts, and I am looking forward to working with

Linda and the volunteers."

Concludes Rundlett: "We are pleased and grateful for all contributions to the BNL Food Drive. An estimated 259,000 Long Islanders are hungry, including nearly 93,000 children and 39,000 seniors. The donations enable us to help many people in our own back yard. One hundred percent of donations go toward food. We appreciate the generous spirit of BNL employees." — Liz Seubert



American Physical Society (APS) food drive volunteers include: (back, from left) Matt Eager, Marie Rupolo, Kathy Occhino, Gini Van Schaick, and Liz Siddons; (front, from left) Jill Gargano, Maria Asaro, Sharon Lensky, and Chrissy Rupolo. Not present are Nancy Jeans, Mary Ann Kirchner, Jeanne Scicutella, Jane Throwe and Barbara Maddaloni. "The APS has been partnering with BNL in the monthly Food Drive almost since it began", says Maddaloni, who leads the APS effort. "We have approximately 150 employees, and a bin is set up in our lunchroom to collect non-perishable items. We also circulate an envelope monthly for monetary donations which are used by 15 volunteers who take turns in buying the food. Occasionally we have a donated raffle to supplement these collections. It's a great cause."

Controlled Area Postings During RHIC Operations

The Collider-Accelerator Department (C-AD) will soon be restarting the Relativistic Heavy Ion Collider (RHIC), which is expected to operate until the end of May 2008. During this period, the entire RHIC site, including the inner road, will be posted starting on Monday, 11/5, as a Controlled Area, excepting Bldg. 1005, the adjacent parking lot, and the approach road to Bldg. 1005. In addition, the northern portion of Thompson Road is posted as a Controlled Area and closed to routine traffic. All personnel must adhere to the posted requirement.

The following requirements must be satisfied before entering the posted Controlled Areas. Failure to comply could lead to a Reportable Occurrence and a Price Anderson Amendment Act (PAAA) violation:

1. *Unescorted Access requires up-to-date General Employee Radiation Training (GERT) and facility specific training. Experimenters: call the RHIC & AGS Users' Center, Ext. 3333, for help. BNL Employees: contact Ann-Marie Luhrs, Ext. 7007, for help.*
2. *Escorted Access may be granted by contacting Ann-Marie Luhrs, Ext. 7007. Escorts must complete a Training Waiver Form and the escorted entry must be approved by C-AD. Call at least one day prior to the escorted access. Escorted access may be for visitors or deliveries.*

Defensive Driving Course in Two Parts, 11/8 & 15

The six-hour Defensive Driving (Point & Insurance Reduction) course will be held in two parts on consecutive Thursday nights: November 8 and 15 in the Brookhaven Center, 6 p.m.-9:15 p.m. The cost is \$38 per person. Preregistration is required. To register, call Ed Sierra, 821-1013, and leave a message. Include your phone number.

Wanted: BNL Art, Crafts for Fall Show, 11/19-21

Art and craft works are very welcome for the upcoming BNL Art and Crafts Show to be held at Berkner Hall, Monday to Wednesday, 11/19-21, 11:45 a.m.-1:30 p.m. An evening reception with refreshments will be held on Monday, 11/19, 5-7 p.m. BNL employees, retirees, facility users, guests of BNL, and family members all may contribute. Exhibits for the show must be brought to Berkner Hall, Friday, 11/16, 2-4:30 p.m. Send your name, home phone, BNL contact name, BNL phone ext., type of art or craft, and title of work, by Monday, 11/12, to Bob Chrien, Bldg. 510A, or chrien@bnl.gov.

St. Martin's Pot Luck Dinner Party, 11/10

The BNL Hospitality Club and the German School of Long Island cordially invites you and your guests to the St. Martinsfeier and Pot Luck Dinner, to be held on Saturday, November 10, 4:30-8 p.m., at the Recreation Hall. Visitors to the Lab age 16 and older must bring a photo ID. The party will include: St. Martin's story, singing with lanterns, potluck dinner and dessert, and children's games. Bring a lantern for each child and a dish to share for dinner or dessert. For more information and to give an idea about how many will attend the party, contact Simone Oppenheimer, 929-0043 or soppenheimer@optonline.net .

BWIS Wine & Cheese Party, 11/29

All BNLers are invited to the Brookhaven Women in Science (BWIS) Wine & Cheese Party on Thursday, November 29, 5:15 p.m.-7 p.m. in the Recreation Hall, Bldg. 317. BWIS holds this event annually to thank all who have supported BWIS programs, to welcome new members, and to introduce the new executive board to the Lab community.

Both men and women are welcome to join BWIS. The group's primary mission is to promote the advancement of women in the scientific professions. For more information about BWIS, go to www.bnl.gov/BWIS/. For more information about the November 29 event, contact Kathryn Clifford, Ext. 2776, or kclifford@bnl.gov.

LabVIEW Basics — I & II, 12/3-7

A five-day training course on National Instruments LabVIEW (LV) Basics I and II will be offered at BNL from Monday to Friday, December 3-7. The course, which introduces the LV environment, features dataflow programming and LV architectures. In the LV Basics I part of the course, participants will learn about the development of tests and measurements, data acquisition, instrument control, and data logging. Then, in LV Basics II, participants will learn to design complete stand-alone applications.

The cost of \$1,834 per person will be paid by the participant's department/division. For more information, contact Chris Herbst, herbst@bnl.gov or Ext 5304.

CALENDAR

— THIS WEEKEND —

Friday, 11/2

***Halloween Dance Party**
7 p.m.-midnight. BERA Social & Cultural Club sponsors a dance party with live music by Lil' Cliff & the Cliffhangers. Admission \$20 for advance tickets, \$35 at the door. Cost includes the cold hero buffet, cookies, refreshments, band, complementary dance lesson 7-8 p.m., etc. Contact Rudy Alforque, Ext. 4733 or rudy@bnl.gov for more information.

— WEEK OF 11/5 —

Thursday, 11/8

***First of Two-Part Defensive Driving**
6-9:15 p.m. Brookhaven Center. Defensive driving course in two parts, Part II will be on Thursday, 11/15. \$38/person. Call Ed Sierra, 821-1013. See notice below, left.

Friday, 11/9

BJ's Wholesale Club at Berkner
11 a.m.-2 p.m. Berkner Hall lobby. BJ's representatives will enroll new memberships at discount: \$38.03 for 2 cards, 15 months; normal fee is \$48.88/12 months.

Saturday, 11/10

***St. Martin's Pot-Luck Party**
4:30-8 p.m. Recreation Hall. All welcome to the pot luck party sponsored by the BNL Hospitality Club and the German School of Long Island. See more detail below, left. Contact Simone Oppenheimer, 929-0043.

— WEEK OF 11/12 —

Monday, 11/12

Veterans' Day Holiday
BNL will be closed in observance of the Veterans' Day. Holiday. No Bulletin will be printed this week.

Thursday, 11/15

Talk on Senior Citizen Task Force
12:10 p.m. Hamilton Seminar Room, Bldg. 555. Sponsored by the Brookhaven Retired Employees Association, Suffolk County Legislator Steven Stern, Chair of the Veterans & Senior Committee, will talk on "The Suffolk County-Wide Senior Citizen Task Force." Stern will focus on senior issues such as affordable housing, accessible transportation, and long-term care. All are welcome. Visitors to the Lab of 16 and over must carry a photo ID.

***Part II of Defensive Driving**
6-9:15 p.m. Brookhaven Center. See above, 11/8

Saturday, 11/17

***Diwali, Festival of Light**
2:30 p.m. Berkner Hall. The BERA Indo America Association welcomes all to Diwali to celebrate the culture and tradition of the Indian subcontinent. Music, dance, the arts; Indian snacks and dinner. Tickets \$15 for adults, children 5-11, \$9. See website of how to reserve, etc., on p. 4.

— WEEK OF 11/19 —

Mon.-Wed., 11/19-21

***BNL Art and Crafts Show**
11:30 a.m.-1 p.m. daily, Berkner Hall, Room B. Opening reception today, Mon., 11/19, 5-7 p.m., refreshments. See notice at left.

Fall Back!

This Sunday, November 4, you may get up at 2 a.m. to change your clocks back, and, maybe later, check your smoke and carbon-monoxide alarm batteries. Rejoice in the extra hour to sleep, mourn the extra evening darkness. Optimists may think yellow: spring will come, with daffodils.

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

LABORER- Performs wide variety of manual labor tasks on roads, grounds or building maintenance. May perform unskilled tasks assisting mechanics. Operates such equipment as power lawn mowers and pneumatic tools. Send resume to dianah@bnl.gov.

SR. ADMINISTRATIVE SERVICES ASSISTANT (A-3) - Requires high school diploma with formal secretarial or office administration training or equivalent, plus six years of relevant experience which includes two years at BNL in the current or similar role or a BA degree in a related field. Excellent oral and written communication skills are required, as is knowledge of MS Word and significant experience with Excel. Will be responsible for the coordination of Scientific Advisory Committee for Radiobiology activities including Calls for User Proposals and related correspondence. Will provide input to the database of all users and proposals, and order all supplies, services and equipment for the NSRL and AGS Radiobiology facilities. Will coordinate initial visits of new users to BNL. Biology Department. Send resume to dianah@bnl.gov, referring to Position No. DH 3907.

OPEN RECRUITMENT - Opportunities for Lab employees and outside candidates.

POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. in physics, materials science, or a closely related field. Demonstrated ability to perform independent research on thin films, surfaces, or nanostructures using scanning tunneling microscopy (STM) is expected. Documented experience in STM imaging, tunneling spectroscopy, sample and tip preparation is mandatory. Experience in ultra-high vacuum epitaxial growth of thin films or nanostructures by magnetron sputtering or thermal/electron beam evaporation is desired. Research focuses on preparation of TiO₂ thin films and nanostructures, and investigation of the mechanisms of substitutional doping of TiO₂ with different impurities. Under the direction of E. Sutter, Center for Functional Nanomaterials. Send CV to felicia@bnl.gov referring to Position No. FH 4017.

POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. in a physics, materials science, electrical engineering, or chemistry. The research project involves using self-assembly methods as tools for nanostructuring thin film materials, with the goal of understanding and optimizing the performance of energy conversion devices. This project is laboratory-intensive. Much of the work involves developing unconventional fabrication approaches based on self-assembly techniques, as well as device fabrication, characterization and measurement. The well-qualified candidate will have significant experience and interest in thin-film processing using both conventional microfabrication techniques, and knowledge of self-assembly processes. Expertise in nanometer-scale materials characterization and analysis (SEM and AFM), as well as electrical device test and measurement experience are important, although outstanding and motivated candidates of all backgrounds will be considered and are encouraged to apply. Under the direction of C. Black, Center for Functional Nanomaterials. Send CV to felicia@bnl.gov referring to Position No. FH 4018.

POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. in nuclear physics with considerable experience in gamma spectrometry and nuclear decay. A deep understanding of low-energy nuclear physics, a solid research background documented with a publication list in refereed journals, and good programming skills in Java, C++, HTML and SWL; familiarity with ENSDF is also desirable. Candidates with extensive experience in theoretical nuclear structure, such as shell model, IBM, QRPA, Hartree-Fock calculations, will also be considered. Candidate will be involved in the research and development of the evaluated nuclear structure data file ENSDF, in the development of related data services and web inter-

faces. This position will also require some work on software development supporting the maintenance and web access of several key nuclear structure databases maintained by the National Nuclear Data Center (NNDC). Under the direction of P. Oblozinsky, Head of the NNDC, Energy Sciences & Technology Department. Send CV to felicia@bnl.gov referring to Position No. FH 4119.

POSTDOCTORAL RESEARCH ASSOCIATE - Requires a Ph.D. in nuclear physics or nuclear engineering and a strong interest in low energy nuclear reaction data. A solid background in nuclear reaction physics with neutrons up to about 200MeV and capabilities of using complex nuclear reaction model codes for nuclear reaction data evaluations and strong programming skills are also required. Familiarity with physics of neutron resonances, low energy nuclear reaction models (optical, statistical, direct, pre-equilibrium), and mathematical statistical techniques are desirable. Candidate will be involved in the analysis of neutron reaction cross sections and cross section covariances (uncertainties), including development of the covariance evaluation methodology and procedures. This would cover both the resonance and fast neutron energies. The produced evaluations will be eventually included in the Evaluated Nuclear Data File, ENDF. Under the direction of P. Oblozinsky, Head of the NNDC, Energy Sciences & Technology Department. Send CV to felicia@bnl.gov referring to Position No. FH 4120.

MECHANICAL PROJECT ENGINEER I (P-9) Requires a BSME with a minimum of ten years experience in designing and analyzing components such as those used in particle accelerators and/or beamlines. An advanced degree in engineering, proficiency with FEA software (such as ANSYS), and registration as a NYS Professional Engineer is desirable. Must have the ability to work effectively with a diverse group of people, coordinate fabrication, assembly, and installation efforts, and complete tasks effectively on schedule. Responsibilities include the engineering analysis, and structural and thermal design of accelerator and scientific research equipment. Will plan, design, develop and use new or improved mechanical engineering equipment and techniques for the solution and completion of technical and research projects and will provide engineering direction, assistance, and oversight for ongoing operations. National Synchrotron Light Source Department. Send resume to tuck@bnl.gov referring to Position No. TB3273.

CLEANROOM TECHNICIAN/TECHNICAL ASSOCIATE I (T-5) Requires an AAS or technical institute degree in an appropriate discipline or at least 15 years relevant professional experience; BS degree desirable. Must have experience operating and supporting fabrication tools and processes in a cleanroom environment. Responsibilities include developing and performing fabrication processes such as lithographic patterning, material deposition, wet/dry etching and thermal processing. Tasks associated with facility support include ordering/stocking cleanroom supplies, performing routine maintenance procedures, and interfacing with vendors and contractors for scheduling tool maintenance and repairs. This position will involve frequent interactions with external facility users and assisting with their training and nanofabrication needs. Center for Functional Nanomaterials Department. Send resume to tuck@bnl.gov referring to Position No. TB 4019.

PUBLIC AFFAIRS REPRESENTATIVE (A-4, reposting, ERAP eligible) - Requires a minimum of a bachelor's degree in journalism, science, or related field, or equivalent experience. Excellent writing, interviewing, reporting, and desktop publishing skills required. Responsible for broad duties relating to internal and external communications activities, including translation of complex scientific and operational news for employees, media, and general public. Will assist in the writing and production of the Laboratory's weekly staff newspaper and biweekly employee e-newsletter. Will also communicate scientific research, operational news, and Laboratory priorities through the production of fact sheets, brochures, magazines, web content, and press releases. Computer literacy a must; experience with Adobe InDesign highly desirable. Community, Education, Government & Public Affairs Directorate. Send resume to morales@bnl.gov referring to Position No. RM3994.

HAZARDOUS WASTE MANAGEMENT TECHNICIAN - (Term appointment) Requires an AAS in chemistry, physical sciences, or equivalent experience. Responsibilities include but not limited to the pick-up, packaging, transportation, storing and bulking of hazardous and radioactive wastes. Additional responsibilities include completing and maintaining certifications required for the operation of the Waste management Facility. Ability to operate handling equipment and obtain a DCL. Environmental and Waste Management Services Division. Send resume to dianah@bnl.gov referring to Position No. DH 2969.

Motor Vehicles & Supplies

00 MAZDA PROTEGE LX SEDAN 4D - 4 cyl, 1.6ltr, rem. start, a/t, ABS, air bags, sun roof, a/c, p/s, p/w, p/l, tilt wheel, c/c. 95K mi. \$6,500/neg. Ext. 5656 or 727-8467.

00 CHEROKEE 5TH WHEEL 275B - orig. owner, bunks, all opts, more, smkg/pet free, kept covered, excel. cond. \$10,800/neg. Maryellen, Ext. 2979 or 929-8294.

99 HONDA CIVIC - a/c, am/fm, cd, p/l, excel. cond., runs well, orig. owner. 153K mi. \$5,000/neg. Ernie, Ext. 7406.

99 MITSUBISHI ECLIPSE - 4 cyl 2 dr. am/fm/cd, a/t p/w p/l. 135K mi. \$3,500/neg. Joe, Ext. 3034.

98 FORD EXPEDITION XLT - 4wd, 5.4 liter, 3rd seat, leather, 6cd, loaded, white/tan, immaculate cond., KBB value \$8,100. 128K mi. \$5,900. Rich, Ext. 7294.

97 HONDA ACCORD LX - 2 dr. coupe, 4 cyl, 5 spd. man. tr., fwd, t/deck, am/fm, alarm w/rem, p/s p/w p/b, wh 163K mi. \$3,200/neg. 363-6561.

86 LINCOLN LSC - blk, full pwr., new exh, lthr int., s/roof. 89 mi. \$1,800. 516-724-2642.

Car Pool

MEETS IN PLAINVIEW - Established 3-person car pool looking for 4th person, 8:00 to 4:30 shift. Ron, Ext. 6068.

Community Involvement

SCALLOP DINNER - Cutchogue Methodist Church, Election Day, seatings at 5, 6 & 7 PM. Scallops, all the fixins, \$19. Robert, Ext. 2451.

Happenings

SOUND SYMPHONY - concert Nov. 17, 7:30 p.m., Wm Floyd HS; Copland, Dvorak, Schubert; \$10, under 12 free. Mona, Ext. 5056.

HOLIDAY WONDERS - Beacon Theatre, 12/18-26. Chinese performing arts: Chinese & Western traditns, huge dance ensembles in Chinese & English. BNL empl. disc code: HLIY15PG(w/day shows), HLID10PG(w/end shows) Tkt sale: (212)695-7469 On-line: <http://holidaywonders.net>.

Free

KITTENS - 2 males, 1 striped, 1 black, 6 mo. old, neutered, shots and litter trained. Need a home. Barbara, 928-8112.

MATTRESS/BOX SPRING - queen size set w/frame, Spring Air, excel. cond. U pick up in Port Jeff. Ext. 4575 or 987-4511.

Wanted

BASEBOARD HEATERS - elect., any size. Sandra, Ext. 2922.

FREE TURKEY COUPONS - will be incl. in holiday food baskets for the needy. Send to M. Beckman, Bldg. 120. Ext. 5483.

For Rent

BROOKHAVEN - room in house on quiet acre, 9 mi from Lab; cable TV, Internet, Central AC, washer/dryer, use of house, util incl. \$475/mo. Sidney, 286-4028.

CENTER MORICHES - waterfront, 85' bulkhead, 2 bdrm., 2 car gar., .5 acre, no pets, sec. & credit check, \$1,800/mo. 487-4201.

GREENACRES, FL - 55+ furnished condo, 2 BR 1 Bath, 2nd Floor, washer, dryer, near heated pool, clubhouse. 2007-2008 seasonal rental. \$1,350/mo. Ext. 4340.

MANORVILLE - 2 bdrm., 2 bath, furn., townhouse, Silver Pond Comm., incl. wtr, club fees, int., basic cable, avail. 11/10, for 6 mo. period. \$1,400/mo. 878-8442.

MASTIC - 1 br, l/r, kit., full bath, priv. ent., no smkg/pets, sec. \$1,000/mo. 399-6367.

MASTIC - 2 bdrm. house, 1/r, d/r, kit, 1 bath, w/d in bsmt., no smkg/pets, util. not incl., 1 mo. sec., avail. immed. \$1,300/mo. Ext. 6033 or 447-6250.

ROCKY POINT - 2 bdrm, full bath, l/r w/ fp, eik, deck, cable tv, ref. req. Patrick, 718-746-3987.

ROCKY POINT - 1 bdrm. apt., kit., l/r, bath, pvt. drwy/ent., no smkg/pets, 1 mo. sec., all util. incl. but elect. \$795/mo. 821-3287.

SHIRLEY - all renov. 3 bdrms house w/2 bth, new kit, l/r, furn/dr, den, deck, new carpet, nr. shopping, 7 min to Lab, 1/mo sec. \$1,750/mo./neg. 335-4907 or 383-7693.

SHIRLEY - 1 rm., 13/12 stove kitnet, full bath, sep ent, furn, tv elect, cable, c/a, heat/all incl. 1 mo sec., 14 min. to Lab 5 min to stores, no smkg/pets. \$650/mo. Ext. 8321.

SHIRLEY - 1 rm, 14/11, microwave kitnet, full bath, sep ent, furn, tv, elect, cable, c/a, heat, wireless int, all incl. 5 min to stores/15 min to Lab, 1 mo. sec \$600/mo. Ext. 8321.

SHOREHAM - l/r/br combo, eik, walk in closet, bath w/shower stall, off st. prkg., own sep. ent., elect., cable, heat incl., + 1 mo. sec. sm. well behaved pet okay \$825/mo. 849-2593.

SHOREHAM - Share a house w/professional, part furn'd bdrms., 7 mi. to BNL, internet & TV incl., no smkg/pets, single preferred. 413-1966. \$600/mo. 744-3543.

ORLANDO, FL - FI. T/Share at West Gate resorts, Orlando, min to Disney world, Condo slps 8. Sun.-Sunday rental, call for details. \$850/wk. Ext. 5263 or 375-7959.

KISSIMMEE, FL - priv. vac. home 5 min. to Disney, 5 br/4 bth, pvt. spa/pool, game rm., 11/25-12/1 or 12/8-15; \$145/nt + taxes; www.family-vacation-homes.com \$1,000/wk. Carrie, 889-5303.

For Sale

BELLPORT - 4-BR. ranch, 2 bth, l/r w/dble opening fp to den, d/r, eik, oak flrs, screened deck on priv. yard, laundry rm, fin. bsmt w/4th BR, bar, full bth, 2 rms; gar, 2 sheds, sprinklers, gt. cond. \$425,000; 949-7797.

BERA Social & Cultural Club Events Halloween Party Tonight 11/2; Christmas Party, 12/14

On Friday, November 2, the BERA Social & Cultural Club (S&C Club) will hold a "Halloween Dance Party," at the Brookhaven Center, with live music by "Lil' Cliff & the Cliffhangers." Prizes will be awarded for the best Halloween costumes!

Admission is \$20 if paid before 10/26, \$25 by e-mail reservation, and \$35 at the door. Only 200 tickets will be available. Tickets cover a buffet dinner, 7-8 p.m.; free swing dance lesson, 8 p.m.; the band, 8:30-11:30 p.m.; DJ music between sets and until midnight.

Also, save the date of December 14 for the Club's Christmas Party, with the 20-piece "Bill Wilkinson & the Long Island Sound Orchestra," at \$25 for advance tickets, which include buffet supper, refreshments, and music.

Ballroom Dance Lessons: New Series, 11/7

Three new six-week sessions of weekly ballroom dance lessons, sponsored by the BNL Ballroom Dance Club and given by instructor Giny Rae at \$30 per person for each session, will start on Wednesday, November 7. Beginner/intermediate Quick Step lessons will be held 6-7 p.m. and intermediate Samba, 7-8 p.m. Also, a six-week beginner-only class (three weeks of Swing and three of Cha-cha) starts 5:15-6 p.m. If you have never danced before, try now!

Classes are held at the Brookhaven Center North Ballroom. Lessons are open to all BERA members: BNL employees, retirees, official BNL visitors and their immediate families (spouse and children). Each member may bring one guest. For more information, call Arup Ghosh, Ext. 3974; Vinita Ghosh, Ext. 6226; Donna Grabowski, Ext. 2720; Gail Donoghue, Ext. 2838; or Kathleen Tuohy, Ext. 3845.

Celebrate Diwali — the Festival of Light, 11/17

The BERA Indo American Association (BERA-IAA) will hold Diwali — the Festival of Light — on Saturday, November 17, starting at 2:30 p.m. in Berkner Hall. The program will showcase the rich culture and traditions of the Indian subcontinent through music, dance, and the arts, performed by professional and amateur artists. Authentic Indian snacks will be served during the intermission; a semi-formal Indian dinner will follow the cultural program.

Tickets are \$15; children 5-11: \$9; children 2-4, \$5; infants: free, but must be registered in accordance with safety regulations. For more details, visit <http://www.bnl.gov/bera/activities/iaa/diwali2007>. All reservations (including modifications and cancellations) must be made through this site. Reservations will be confirmed only after the full payment is received. Payments can also be made through PayPal using credit cards. For more information, go to www.bnl.gov/bera/activities/iaa, or e-mail bera-iaa@bnl.gov.

Hospitality Bus Trip to Manhattan, 12/16

The Hospitality Committee invites all BNLers and their families to spend a day in New York City to sightsee or shop, starting from the drop-off point of Rockefeller Plaza. The bus will leave the Recreation Hall, Bldg. 317, on Sunday, December 16, at 9 a.m. and leave the city at 6 p.m. The cost is: \$10, adults; \$5, children 2-12. Reserve places with Joanne Rula, Bldg. 400, 344-8481 or jrula@bnl.gov. Reservations and payments must be made in advance.

Events, Trips — Go It With BERA! See Legally Blonde on Broadway, Tomorrow!

BERA Policy — all trips listed must have prepaid, non-refundable reservations which can be made at the BERA Store in Berkner Hall, Ext. 3347, open weekdays, 9 a.m.-3 p.m. Prices all include the cost of the coach bus, which will depart from the Brookhaven Center.

- Broadway Show: *Legally Blonde* - Sat., Nov. 3. Mezzanine seats. \$76 per person. Dep. Lab, 9 a.m., dep. NYC, 5 p.m.
- Shopping Trip to Reading, PA - Bargains! Sat., Nov. 10. 2 buses available. \$10. Dep. Lab, 8 a.m., dep. Reading, 5 p.m. See www.discoverourtown.com/PA/Reading/Shopping-1044.html
- NY Islanders vs. Boston. Sat., Nov. 24. Brookhaven Town/SUNY Stony Brook night. \$56 includes bus. Dep. Lab, 5 p.m., game at 7 p.m.
- Radio City Christmas Spectacular - Sun., Dec. 2. 11:30 a.m. show time. \$75. 2nd Mezz. Seating. Dep. Lab, 8 a.m., dep. NYC 4 p.m.
- BERA Holiday Party - Fri., Dec. 7. Tall Grass Country Club, Shoreham, 6-11 p.m. \$55 incl. five-hr party, DJ, cocktail hour, dinner, open bar.
- Intl. Motorcycle Show - Jacob Javits Center, NYC - Sun., Dec. 30. \$16 includes bus. Dep. Lab, 9 a.m., dep. Javits, 4 p.m.

EAST MORICHES - Ranch, 3 bdrm, 2.5 bath, cathedraled l/r, f/p, tile, radiant heat, fini. bsmt, covrd porch, patio, 1/2 acre, landscaped, cul-de-sac, low taxes \$415,000/neg. 882-0519.

FANTINEKILL - 1890 restrd Farmhouse w/ wrap porch, orig. detail, 1.5 acres, guest cottage, barn, nr. stream. <http://tinyurl.com/2nokdn> \$279,000/neg. Ext. 2922.

MEDFORD - Spacious 4br, 3bath, lr, dr, new EIK w/granite counters, cust. cabinets & hard wd flrs. Fully landscaped w/large pond. 15 min to Lab. Pics avail. \$389,000/neg. Ext. 6047.

BOYNTON BEACH, FL - 55+ condo, pre-foreclosure, 2nd. flr. priv. ent., 1800 sf, 2/2+ den, clubhouse, pool tennis. \$189,900 516-495-0817.

SOUTH ROYALTON, VT - 2 homes on 3.5 acres, incl. furn., + extras, priv., 1st: 2 bdrm, 1 bath, finbsmt, gar, wbs, w/d; 2nd: 1 bdrm, 1 bath, bsmt, washer, wbs, pics avail \$330,000/neg. Ext. 7125 or 466-8637.

In Appreciation

For supporting BNLS Adopt-a-Platoon program. Write a holiday card to let the troops know that you appreciate their service & sacrifices. See BNL AaP website for suggested items to contribute. Beef Jerky is a favorite request! — Maria Beckman

"The Farmer Family thank BERA and all those who attended the Dedication of "Farmer's Fields." It was a great honor that was bestowed on Tirre, and he would have greatly appreciated it, as we all do. A very special thank you to Patrick Browne, Rich Scheidet, Ralph Garapolo and the lovely Mrs. Christine Carter. — Linda and the Farmer family

* The Bulletin greatly regrets that this announcement has been printed later than was expected by the Farmer family, because the original notice was mislaid. (Some ads had to be omitted for lack of space. Call 344-2346 for paper copy.)