



Chang-Jun Liu (left) and Jin-Ying Gou

Popping the Cork On Biofuel Agriculture

Scientists identify enzyme that could help grow biofuel crops in harsh environments

Scientists at BNL have identified a novel enzyme responsible for the formation of suberin — the woody, waxy, cell-wall substance found in cork. While effective at keeping wine inside a bottle, suberin's most important function in plants is to control water and nutrient transportation and keep pathogens out. Adjusting the permeability of plant tissues by genetically manipulating the expression of this enzyme could lead to easier agricultural production of crops used for biofuels.

The research was led by Chang-Jun Liu and Jin-Ying Gou of the Biology Department who published their results with co-author Xiao-Hong Yu, also of Biology, in the *Proceedings of the National Academy of Sciences*, 106 (44):18855-18860, and online on October 19, 2009. The research was funded by the DOE-United States

Department of Agriculture Plant Feedstock Genomics program and by the DOE Office of Science.

Plants use different polymers in constructing cell walls, each with unique qualities essential for growth and survival. Suberin, the polymer analyzed in this study, is mostly located in the cell walls of seed and root systems. It moderates the substances that pass into the organism, acting as a barrier to harmful substances and microorganisms while facilitating the intake and storage of water and other nutrients.

"We sought to understand the synthesis of the 'wall-bound' phenolic component of different biopolymers, including this important suberin polymer, by identifying the enzymes responsible for their construction," said Liu. This information could...

See *Biofuel* on pg. 2



Maryann and John Skaritka

BNLer's Spouse Saved With Blood Donations

In September 2008, John Skaritka, an employee at the National Synchrotron Light Source II project, began on a journey with his wife Maryann that would make them both keenly aware of the importance of being a blood donor.

At that time, Maryann Skaritka was feeling tired, and her doctor ordered some routine

blood tests, suspecting that she might be anemic. The results of the tests required her to be admitted to a hospital, where she received three units of blood.

"At that moment, I truly realized the importance of blood donors," said Skaritka. But, after many additional tests, the doctors were still...

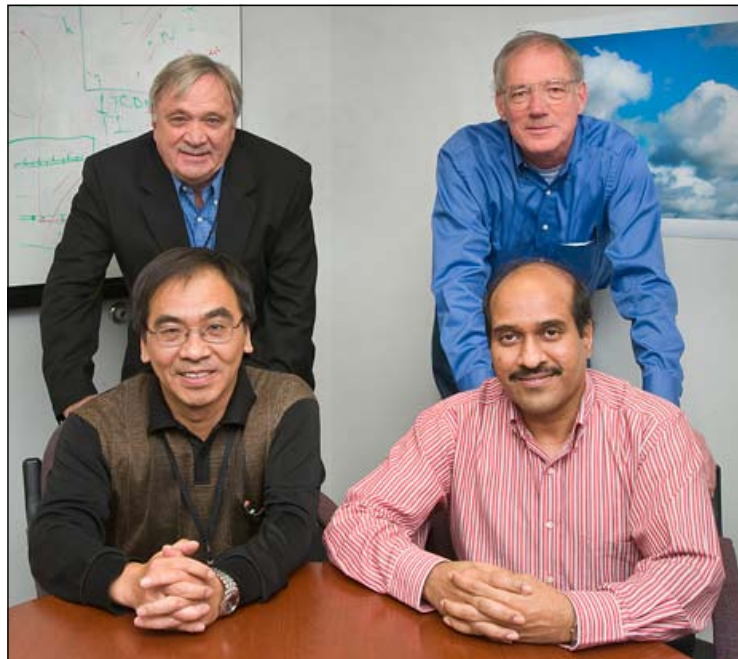
See *Save a Life* on pg. 2

BNL-Led Effort Pursues Innovative Ways To Improve Climate Modeling

On 23-24 November, 50 scientists from more than 10 leading climate research centers in Europe and the U.S. met at a "kick-off" workshop at BNL of the new "FASTER" (Fast-physics System Testbed & Research) project — a new multi-institutional project aimed at accelerating the evaluation and improvement of fast physics processes in climate models.

Leading the FASTER project is Yangang Liu of the Atmospheric Sciences Division (ASD) in BNL's Environmental Sciences Department (ESD). Liu, together with more than 20 scientists from 10 institutions, will work to accelerate improvements in climate models. The FASTER project is a major effort of the Earth System Modeling Program of DOE's Office of Biological & Environmental Research (BER) to bridge the research undertaken within BER's Atmospheric System Research Program to fully utilize the decade of measurements taken by ACRF (ARM Climate Research Facility) scientists. The project is co-managed by Kiran Alapaty of the Atmospheric System Research program and Anjali Bamzai of the Earth System Modeling program.

"Evaluating model performance and identifying and improving representation of fast processes — especially those related to cloud and precipitation processes — are complex in terms of both science and management. Scientists with many different areas of expertise, ranging from observations to theory to modeling, need to work in concert, and there are major bottleneck problems involved," said Liu. "To achieve our goal, we'll be building and maintaining a fast-physics testbed and using a 3M



Joseph Rubino D5371109

With FASTER Project leader Yangang Liu (front, left) of BNL's Atmospheric Sciences Division (ASD) in the Environmental Sciences Department (ESD) are: Kiran Alapaty (front right) of DOE's Atmospheric System Research Program, and (back, from left) Peter Daum, acting ESD Chair, and FASTER team member Bob McGraw, ASD acting head.

(multi-scale, multi-model and multi-institution) approach to tackle the 3M (multi-body, multi-scale, and multi-type) scientific complexity."

All the tasks will be done under the umbrella of the Brookhaven Climate Consortium formed for the FASTER project, Liu added.

"This new program is an important addition to the portfolio of climate programs that we have at BNL as it will enable us to enhance our climate modeling capabilities at BNL," said Peter Daum, acting ESD Chair. "We think that the partnerships that develop under funding from this program will open new avenues for collaborative climate-change research in the future."

"For us, this new program is

an exciting opportunity to apply our traditional areas of expertise, namely with the meteorological, microphysical, and chemical aspects of aerosols and clouds, by directing that process-level understanding towards the improvement of models for climate simulation," said Bob McGraw, ASD acting head, who is part of the project.

A vital resource that facilitates this work is the massive amount of climate research data collected by the ACRF since the early 1990s at locations from the tropics to the southern Great Plains to the Arctic. These data cover clouds, radiation, and many other geophysical variables, and are critical for this project.

See *Climate Modeling* on pg. 2

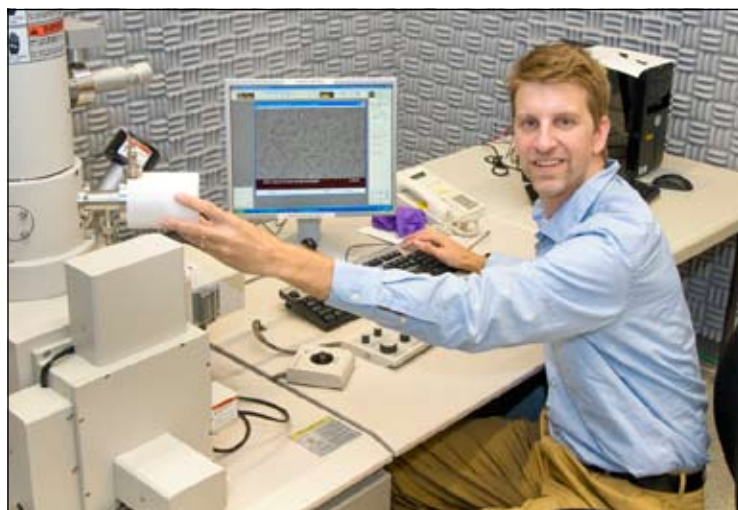
454th Brookhaven Lecture, 12/16

Self-Assembly of Nanostructured Electronic Devices

Given suitable atmospheric conditions, water vapor from the air will crystallize into beautiful structures that we call snowflakes. Nature provides many other examples of this spontaneous organization of materials into regular patterns — a process known as self-assembly.

Self-assembly works at all sizes and, under the appropriate circumstances, it can be a useful tool for organizing materials at the nanometer-scale. In particular, self-assembly provides a precise method for designing materials with improved electronic properties, thereby enabling advances in semiconductor electronics and solar devices.

On Wednesday, December 16, join Charles Black of the Center for Functional Nanomaterials (CFN) for the 454th Brookhaven Lecture, titled "Self-Assembly of Nanostructured Electronic Devices." 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 after the lecture. Visitors to



Joseph Rubino D10951209

Charles Black with a scanning electronic microscope at the Center for Functional Nanomaterials at Brookhaven National Laboratory.

the Lab ages 16 and older must carry a photo ID while on site.

To join Black for lunch at an off-site restaurant following the lecture, contact Lois Caligiuri, loisc@bnl.gov, Ext. 5415.

During this talk, Black will discuss examples of integrating self-assembly into semiconductor microelectronics, where advances in the ability to define circuit elements at ever-higher resolution have largely

fueled more than 40 years of persistent performance improvements. Self-assembly also holds promise for advances in the performance of solar devices, and he will describe recent experimental results from his group in the CFN exploring demonstrations of nanostructured photovoltaic devices.

Black earned a Ph.D. in physics from Harvard University...

See *Self-Assembly* on pg. 3

Don't Miss Inside Stories

- Meet BNL Retiree, WWII Vet Sorenson
- BSA 2010 Scholarship Application Date Extended to 12/30, matching SBU Scholarship for 2010 BSA Scholars at SBU

CALENDAR
OF LABORATORY EVENTS

- The BERA Store in Berkner Hall is open weekdays from 9 a.m. to 3 p.m. For more information on BERA events, contact Andrea Dehler, Ext. 3347, or Christine Carter, Ext. 2873.
- Additional information for Hospitality may be found at www.bnl.gov/hospitality/calendar.asp.
- The Recreation Building #317 (Rec. Hall) is located in the apartment area.
- Events flagged with an asterisk (*) have an accompanying story in this week's Bulletin.

— REGULARLY —

Weekdays: Free English for Speakers Of Other Languages Classes

Beginner, Intermed., Adv. classes, various times. All welcome. Learn English, make friends. See <http://www.bnl.gov/esol/schedule.asp> for schedule. Jen Lynch, Ext. 4894

Mondays: BNL Social & Cultural Club
Noon–1 p.m., Brookhaven Center, South Room, free beginners dance lessons. Rudy Alforque, Ext. 4733, alforque@bnl.gov

Mondays & Thursdays: Kickboxing
\$5 per class. Noon–1 p.m. in the gym. Pay as you go. Ext. 2873.

Mon., Tues., Thurs., & Fri.: Tai Chi
Noon–1 p.m., B'haven Cntr N. Rm. Adam Rusek, Ext. 5830, rusek@bnl.gov

Tuesdays: Zumba
Tuesdays, 12:15–1:15 p.m. Gym. Registration is required. Ext. 2873.

Tuesdays: Knitting Class
2–4 p.m. Rec. Hall. All levels of skill. Ext. 5090 for information.

Tuesdays: Toastmasters
3 monthly meetings: 2nd Tuesday: Noon, Berkner, Rm. D. 1st & 3rd Tuesdays, 5:30 p.m., Bldg. 463, Rm 160. Guests, visitors welcome. <http://www.bnl.gov/bera/activities/toastmstrs/>

Tue., Wed., & Thurs.: Rec Hall Activities
5:30–9:30 p.m. General activities, TV, ping pong, chess, games, socializing. Christine Carter, Ext. 5090

Tuesdays & Thursdays: Jiu Jitsu
6:30–7:30 p.m. Tuesdays: Brookhaven Center, Thursdays: Gym. All levels, 6 yrs. to adult. Tom Baldwin, Ext. 4556.

Tuesday & Thursday: Aqua Aerobics
5:30–6:30 p.m., Pool. Registration is required. Ext. 2873

Wednesdays: On-Site Play Group
10 a.m.–noon. Apartment area playground. Infant/toddler drop-in event. Parents meet while children play. Ext. 2873.

Wednesdays: Ballroom Dance Class
Classes at 5:15, 6:15, and 7:15 p.m., based on experience. North Ballroom, B'haven Center. Donna Grabowski, Ext. 2720.

Wednesdays: Yoga
Noon–1 p.m., B'haven Center. Free. Ila Campbell, Ext. 2206, ila@bnl.gov

1st Wednesday of month: LabVIEW
1:30–3 p.m., Bldg. 515, 2nd fl. Seminar Rm. Free technical assistance from LabVIEW consultants. Ext. 5304, or Terry Stratoudakis, (347) 228-7379

Thursdays: BNL Cycletrons Club
Noon–1 p.m., 1st Thurs. of month. Toni Hoffman, Ext. 5257

Thursdays: Reiki Healing Class
Noon–1 p.m., Call for location. Nicole Bernholz, Ext. 2027

Thursdays: Craft and Cooking Club
2 p.m. Rec Hall. Free. Ext. 2873.

Fridays: BNL Social & Cultural Club
Noon–1 p.m., B'haven Center, S. Room, free beginners dance lessons. 7:11:30 p.m. N. Ballroom, Dance Social, workshops. Rudy Alforque, Ext. 4733, alforque@bnl.gov

Fridays: Family Swim Night
5–8 p.m. BNL Pool. \$5 per family. Ext. 2873.

Fridays: Family Gym Night
5–8 p.m. Family gym activities. Free. Ext. 2873.

TIAA-CREF One-on-One Retirement Counseling

A TIAA-CREF consultant will visit BNL on Tuesday and Wednesday, January 5 and 6; and Thursday and Friday, January 21 and 22, to answer employees' questions about their financial matters. The consultant will help you: understand the importance of protecting your assets against inflation, find the right allocation mix, learn about TIAA-CREF retirement income flexibility, and compare lifetime income vs. cash withdrawal options. For an appointment, call 1-800-732-8353 or visit our micro-site at <http://www.tiaa-cref.org/bnl> and select "Set up a Meeting."

Save a Life from pg. 1

...unsure of his wife's diagnosis. Then, on January 29, 2009, it was determined that Maryann had thyroid cancer, which required surgery. After the initial surgical procedure, complications required two additional surgeries, all within a 14-hour period. During the third surgery, John anxiously waited on the news from the surgeon on his wife's condition. Finally, the surgeon appeared and told John that complications involved rupture of Maryann's jugular vein requiring her to receive transfusions totaling seven units of blood. For two days following surgery she was in an induced coma.

"Today I am doing fine — thanks to ten compassionate individuals who took a few minutes from their busy life to donate blood," said Maryann Skaritka. "I may not know who those individuals are, but they gave me the 'gift of life,' for which John and my family will be forever grateful."

Skaritka adds that his sons Daniel, age 21; David, age 19; and Matthew, age 17, are regular donors. "They now realize first-hand that a small sacrifice and one hour of your time can truly make a difference between life and death for someone," he said.

— Jane Koropsak

Arrivals & Departures

— Arrivals —

Prerana Kankiy C-AD
Dennis Kuhne NSLS-II
Kaushik Nanduri Physics
Michael Venegoni Lab Protec.

— Departures —

Pauline Pearson..... NSLS

Gorman-Metz Scholarship Alert

Application forms for the 2010 Gorman-Metz Scholarship are now available and can be picked up at the Diversity Office, Bldg. 400B. The competitive scholarship awards a one-time sum of \$5,000 each year to a student who has a disability and is matriculating towards a graduate or professional degree. Preference will be given to studies in science, engineering and math. (Students with disabilities attending undergraduate schools may apply. However, they will be given consideration only in years when there are no graduate applicants.)

Scholarship applicants who wish to undertake a course of study that does not fall within the above guidelines may be deemed eligible if the Gorman-Metz Scholarship Committee approves the course of study. To be eligible, the applicant must be the son or daughter of a current or retired employee of BNL, be the son or daughter of an employee who died while in regular service at BNL, or in the case of unrelated dependent children, eligibility will be established if the employee regularly claims the child as a dependent for income tax purposes, or if the stepchild normally resides in the employee's household. The applicant must also be a college senior who will graduate during the current academic year and who will enter graduate school the following fall. Current enrolled graduate students are also eligible. The closing date for receipt of applications is March 2, 2010. The scholarship will be awarded in May 2010.



Joseph Rubino D4751109

Participants in the FASTER (Fast-physics System TESTbed and Research) workshop of November 23 and 24

Climate Modeling from pg. 1

The workshop provided a great opportunity for all the investigators to scope out implementation of the effort. More importantly, excellent ideas on research and project management also resulted from the meeting, Liu said. Two examples were to form focus groups to tackle specific

problems as needed and to identify no more than six variables of top importance in climate model development as the first fox to chase by all the team members.

Said Alapaty, who visited BNL from DOE in Washington, DC, to attend the workshop and for discussions with Liu, Daum, and McGraw, "We

anticipate that the outcome from this project will lead to major improvements in climate models. The number of scientists who attended the first FASTER workshop is an indication of how important accurate climate change projections are now considered worldwide."

— Liz Seubert

Controlled Area Postings at RHIC Since Operations Began, 12/4

Operations for Run 10 at the Relativistic Heavy Ion Collider (RHIC) began on Friday, December 4, and are expected to continue until late May 2010. With the exception of the Collider Center (Bldg. 1005), adjacent parking lot, and Renaissance Road approaching Bldg. 1005, the entire RHIC site will be posted as a Controlled Area. The Controlled Area includes the road inside the RHIC ring, as well as the northern portion of Thompson Road. This portion of Thompson Road is closed to routine traffic.

All personnel must meet the following requirements before entering the posted Controlled Areas. Failure to comply could lead to a Reportable Occurrence and a Price Anderson Amendment Act (PAAA) violation.

- **Visitors or deliveries** may enter RHIC Controlled Areas only when accompanied by an escort whom has completed a training waiver form, and all visitors must be approved by the Collider-Accelerator Department (C-AD). Contact Ann-Marie Luhrs, Ext. 7007, at least one day in advance to request access.
- **Users and Lab employees** intending to enter the RHIC Controlled Areas without an escort must complete General Employee Radiation Training (GERT) and additional facility-specific training. Users should contact the RHIC & AGS Users' Center, Ext. 3333, and Lab employees should contact Luhrs.

For additional information, contact Raymond Karol of C-AD, Ext. 5272, or karol@bnl.gov.

Defensive Driving Course: Two Parts, 12/14 & 17

The next six-hour Defensive Driving (Point & Insurance Reduction) course will be held in two parts on Monday and Thursday, December 14 and 17, in the Brookhaven Center South Room, from 6 to 9:15 p.m. The course is open to BNL, BSA, and DOE employees, facility-users, and their families. The cost is \$38 per person. Preregistration is required. To register, call Ed Sierra, 821-1013, and leave a message. Or take a New York DMV approved course (Use code: "SAVE10" for \$10 discount) online: <http://www.lidrivesafe.com/>.

See Biofuel on pg. 2

...eventually be used to modify plants for agricultural purposes, including improved biomass production. "Knowing which enzymes do what may allow the properties of polymers to be tailored for specific purposes through either plant breeding or genetic engineering," Liu explained.

In this experiment, Liu and colleagues analyzed a strain of *Arabidopsis* (a common experimental plant) that had been genetically modified to disrupt the expression of a gene that codes for an enzyme now known as hydroxyacid hydroxycinnamoyltransferase (HHT). Chemical analysis showed that "knocking out" the HHT gene led to a deficiency of suberin phenolics, indicating that HHT is the enzyme responsible for biosynthesis of the polymer. Liu and his team then isolated the gene and expressed it in bacteria to further characterize its function.

The team also demonstrated that the HHT-deficient plants were much more permeable to salt in solution than their wild-type counterparts. This finding, together with the ubiquitous

presence of suberin in plant root tissues that control water and salt uptake, suggests that suberin plays an important role in the adaptation of plants to their terrestrial habitats.

Harnessing the mechanism responsible for suberin production might therefore allow scientists to create crop breeds tailored to thrive in specific — even harsh — environments, an important milestone on the road toward economically efficient biofuel production.

"Identifying the key biosynthetic enzymes and understanding suberin production may be particularly important for growing plants on the marginal soils that have been proposed for use in farming bioenergy crops," Liu said.

For example, if certain breeds can be created that are more adept at absorbing and storing water and nutrients, the crops could be farmed in drier climates — maybe even the desert. In addition, the team's finding that modifications in suberin phenolic production can alter plants' tolerance to salt suggests that

the newly identified gene might be used to generate crops able to grow under salty conditions.

These approaches to biofuel agriculture would leave more-fertile land open for food crops, helping to strike a much-needed balance between the nutrition and energy needs of the world.

Synergistic studies

Liu also studies the biosynthesis of lignin, the polymer mostly responsible for strength in plant cell walls. His work confirms that suberin polyphenolics and lignin — two structurally distinct but functionally relevant cell-wall polymers — share the same biosynthetic precursors but are produced using different enzymes. A coordinated effort to modify both polymers could potentially make plants easier to digest for the production of biofuels, while, at the same time, redirecting photosynthetic carbon to improve carbon-sequestration efforts. Liu's group is currently engaged in proof-of-concept experiments to demonstrate this approach.

— J. Bryan Lowder

Urgent: 2010 BSA Scholarship Alert

Deadline for Applications Extended to 12/30/09

Also, Matching \$2,500 Scholarships Available

For 2010 BSA Scholarship Winners Who Attend SBU

The deadline for applications for 2010 BSA Scholarships has been extended until December 30, 2009. If you have not already requested and received an application form, forms are available at the Reception Desk at BNL's Human Resources & Occupational Medicine Division, Bldg. 400B, or contact Leesa Allen at (631) 344-2700 to be sent an application form immediately. Completed forms must be sent to BSA Scholarships, Scholarship and Recognition Programs, P.O. Box 6730, Princeton, NJ 08541-6730, by Wednesday, December 30. All who have not already done so, please submit the yellow copy of the application form to Leesa Allen, Bldg. 400B, BNL.

Applicants must be secondary school seniors who will be graduated during the current academic year and entering college by fall 2010. To qualify, applicants must be: children of BNL employees who began regular, full-time, or regular, eligible part-time employment no later than November 16 of this year, and who are employed by BNL at the time the award is announced; or children of retired employees or employees who died while in regular service at the Lab. For stepchildren, and in the case of unrelated dependent children, including children of domestic partners, eligibility will be established if the employee regularly claims the dependent for income tax purposes; or if the child normally resides in the employee's household, which must include the two-year period immediately prior to applying for a scholarship.

BSA scholarships are in the amount of \$2,500 per year, awarded competitively and independently of financial need, and renewable for up to a total of four years of study toward an academic degree. Criteria for selection include: Secondary school academic record, school recommendation, scores for the SAT I, school and community activities, evidence of leadership, and creativity expressed through a variety of avenues. Selection is made by an independent committee appointed by Scholarships and Recognition Programs in Princeton, NJ. Thirteen scholarships will be awarded without regard to ethnicity. Two additional scholarships will be awarded to under-represented minorities (Black, Hispanic or Native American) achieving the requirements established for these scholarships. In the event that there are no awards to under-represented minority candidates in a given year, the remaining scholarships will be awarded without regard to ethnicity.

Stony Brook University Matching \$2,500 Scholarship Offer

This year, SBU President Samuel L. Stanley, Jr., who is committed to bringing the BNL and SBU communities closer together, has announced that the University will provide matching \$2,500 scholarships for all winners of 2010 BSA scholarships who are admitted to SBU and enrolled as full-time undergraduates. To be eligible for this extra scholarship, BSA scholarship winners must be registered full-time at SBU. For this year, the deadline for registration at SBU for 2010 BSA scholarship applicants has also been extended to December 30, 2009. For more information, contact Leesa Allen, 631-344-2700 or leesa@bnl.gov.

Meet A Different Kind of Santa

Waldemar Sorenson: BNL Retiree, WWII Veteran

When you first meet Waldemar "Walter" Sorenson, his beard, red jacket, and demeanor may remind you of Santa Claus, and in a way, he is. Sorenson is one of many Americans who gave us a special gift — the gift of military service for the preservation of freedom.

Sorenson, born in Southampton Hospital, is now 88 years old. He remembers his time in the infantry division of the U.S. Army vividly. "I was inducted at Camp Upton and shipped off to the South Pacific in 1942," he said. "I also spent time in Okinawa." He served in the military until 1946, when he returned to Camp Upton and spent a brief period in the convalescent hospital. "I remember those days distinctly," said Sorenson. "They were days of great friendship and patriotism."

But the Camp Upton site holds added memories for the World War II veteran. Six years after being discharged from the Army, Sorenson got a job at Brookhaven Lab in the Plant Engineering Division where he worked as a rigger from 1955 to 1982. "Those were the early days of the Lab and it was interesting to be part of the evolution," said Sorenson. "It was a great pleasure to return to the Lab this past November to participate in the Veterans Day ceremony."

Sorenson now lives in refurbished housing for veterans in Yaphank. He was living in Middle Island when his house burned down a little over two



Roger Stoutenburgh D1101209



Roger Stoutenburgh D1141209

Members of the Brookhaven Veterans Association and Suffolk County United Veterans, Inc. with Walter Sorenson (right) and his niece, Marie Zielinski (second from right) outside the refurbished housing-for-veterans location in Yaphank.

years ago. "I remembered seeing the sign for the Veterans Place, so I literally walked down there to see if they could help me," he said. "I told them that I had no roof over my head and no place to go. I moved in and have been there ever since."

Most of the veterans who stay at the Yaphank location are there temporarily while looking for jobs and trying to get back on their feet, but for Sorenson,

it's been the place he has called home for over two years.

BNL's Veterans Association Partners With Suffolk County Veterans To Refurbish Housing

Recently, the Lab's Veterans Association volunteered to refurbish and update the Yaphank location.

"The Brookhaven Veterans Association (BVA) partnered

Self-Assembly from pg. 1

...in 1996. He then worked as a Research Staff Member at the IBM Thomas J. Watson Research Center in Yorktown Heights, NY, from 1996 until 2006. Black joined the Center for Functional Nanomaterials at Brookhaven Lab in 2006, where he is a scientist and Group Leader for Electronic Materials. He has authored more than 60 published scientific papers, and currently holds 25 U.S. patents.

Holiday Dinner, 12/21

With Special Guest: Santa Claus

You are invited to a family Holiday Dinner on Monday, December 21, from 5 to 8:30 p.m. in the Recreation Hall in the apartment area. Special guest Santa Claus will visit with small toys for all the children. Jennifer Lynch, English for Speakers of Other Languages Coordinator, is organizing the dinner. She needs to know how many adults will be in your party, and how many children, and the children's ages. Please bring a dish to share. The children's dinners and a small toy will be provided. Respond to J. Lynch, Ext. 4894, jlynch@bnl.gov, or at Bldg. 400A before you come.

with Suffolk County United Veterans," said Scott Bradley, a member of the BVA and a coordinator of the refurbishing project. "We have worked at several locations. It's been very rewarding for us as individuals and as a group because we feel that we have made a difference for these veterans. I am most appreciative of BVA Commander Don Farnam and my fellow BNL veterans because without their volunteerism and support we couldn't have made this happen."

Sorenson agrees. With help from BNL and the Suffolk County United Veterans, the Yaphank location is comfortable. "I'm considered the old-timer here," he said. "I thoroughly enjoy sharing stories over meals with the others in our large kitchen."

Joanne Massimo, who works for Suffolk County United Veterans, Inc. thinks that Sorenson is a pretty interesting guy. "At 88 years old he still keeps busy," she said. "We call him our resident groundskeeper because we often find him outside cleaning up the litter on the street or tending to the plants and flowers. He really takes pride in where he lives."

During the photo shoot with Sorenson, he openly carried an issue of BNL's The Bulletin in his pocket. He proudly said, "This is a copy of a recent Bulletin. I read them every week. I have enjoyed watching the Lab become the scientific leader it is today. I can honestly say I was proud to serve my country, and I've had a good life."

— Jane Koropsak

CALENDAR

— THIS WEEK —

Friday, 12/11

***Science-Based Shopping**
Noon-2 p.m. Bldg. 935. See below.

— WEEK OF 12/14 —

Tuesday, 12/15

Gift Wrapping Service
11 a.m.-2 p.m. Berkner Hall lobby. Bring your gifts to be wrapped, \$2, \$3 and up. Donations of paper, ribbon and boxes will be gratefully received. Contact Joanne Rula, Ext. 8481. All proceeds go to the United Way.

***Defensive Driving, Part I**
6 -9:15 p.m. Brookhaven Center. See notice on pg. 2.

Wednesday, 12/16

Gift Wrapping Service
11 a.m.-2 p.m. Berkner Hall lobby. See above.

Thursday, 12/17

***BNL Blood Drive**
9:30 a.m.-3 p.m. Brookhaven Center. Donors must be 17 to 75 years of age, in good health and weigh over 110 lbs. For more details, see pg. 4. Also, see story, pg. 1.

Gift Wrapping Service
11 a.m.-2 p.m. Berkner Hall lobby. See above.

***Defensive Driving, Part II**
6 -9:15 p.m. Brookhaven Center. See notice on pg. 2.

Friday, 12/18

***Science-Based Shopping**
Noon-2 p.m. Bldg. 935. See below.

— WEEK OF 12/21 —

Monday, 12/21

***Holiday Dinner for the Family**
5-8:30 p.m. Recreation Hall. See notice above, left.

Thursday, 12/24

***Brunch in the Cafeteria**
7:30-11:30 a.m. Berkner Hall Cafeteria. Regale yourself! See details below, left. Hot off the grill service and grab-to-go salads available until noon.

Christmas Eve Half Holiday
12:30 p.m. Lab closes. Happy Holidays!

Friday, 12/25

Christmas Day, Lab Closed
Happy holidays. No Bulletin this week.

— WEEK OF 12/28 —

Monday, 12/28

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

Remember

Be Olde Food Drive

This Holiday Season

Science-Based Holiday Shopping, 12/11, 12/19

Get part of your holiday shopping done while helping everyone learn more about science. Fun toys and unique gifts, all science-based, will be available at the Science Learning Center, Bldg. 935, on two more Fridays: December 11 and 19, from noon to 2 p.m.

Brunch in Berkner, 12/24

Spoil yourself — have brunch in the cafeteria, Thursday, 12/24, any time from 7:30 to 11:30 a.m. Choose from eggs, bacon/sausage, crab cakes, penne alla vodka, farfalle bolognese, fruit salad, assorted desserts and pastries, and more for \$5.95 plus tax per person. Hot grill services and salads-to-go will be available until noon.

Support the Lab's United Way Fund Drive

— See article on pg. 4. —

Classified Advertisements

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

LABORATORY RECRUITMENT - Opportunities for laboratory employees only.

ADMINISTRATIVE ASSISTANT (A-4) - Requires some form of secretarial or office administration training, plus eight years of experience (which includes two years at BNL in current or similar role) in substantive and relevant administrative record keeping and secretarial areas. Will report to the Director, Environmental Restoration Projects (ERP), operating with minimum supervision, utilizing initiative and discretion in handling complex matters. Must have excellent organization, communication, and interpersonal skills, and demonstrated ability to manage multiple priorities in an extremely fast-paced environment. Proficiency with MS Office products, including Word, PowerPoint, Excel, and Outlook is required. Will provide support to ERP Senior Managers, and will act as ERP point of contact and liaison for internal and external inquiries. Will handle all aspects of BSA discretionary budgets; review internal and external requests on Director's behalf, forwarding to appropriate staff for action and completion. Will record meeting minutes and track action items to completion; interface with senior Laboratory management and external stakeholders on sensitive and/or confidential matters; coordinate directorate-wide meetings and reviews; and serve as Records Management Coordinator and GIS administrator. On behalf of the Director-ERP, will track and follow-up on internal and external commitments and requests for information (including BSA, NYSEDEC, EPA and DOE). Will supervise a small BNL administrative workforce. Knowledge of BNL-type systems, such as ATS, CCTS, PeopleSoft Travel and WebReq desirable; and HR, accounting, and contracting experience, as well as knowledge of DOE policies, procedures and requirements in multiple functional areas, a plus. Environmental Restoration Projects Directorate. Apply for Job ID # 15134.

OPEN RECRUITMENT - Opportunities for Lab employees and outside candidates.

ASSISTANT/ASSOCIATE SCIENTIST (In-Situ Studies of Catalytic Chemistry) - Requires a Ph.D. in chemistry, physics, materials science, or a related field and at least two years of postdoctoral experience. A demonstrated record of successful experimental research in the broader field of catalytic chemistry is required. Previous experience in model catalysis studies or the probing of energy-relevant chemical processes is desirable. Expertise in specific experimental methods, such as STM, and other surface science sample preparation and characterization techniques (XPS, ISS, LEED, IRRAS) is a plus. The department seeks a full-time staff scientist in the area of in-situ studies on model catalysts. The CFN is a user-oriented research center with a scientific focus on energy-related themes, and with state-of-art facilities in materials synthesis, nanofabrication, and structural and functional characterization. Will be expected to develop a high-visibility experimental research program within the CFN's Interface Science & Catalysis Group, emphasizing the interplay between the structure, chemical composition, activity, and selectivity of model catalysts. World-class instrumentation, including a new Reactor Scanning Tunneling Microscope capable of simultaneously probing model catalysts at relevant pressures and temperatures, will be available. The appointment is anticipated at the Assistant Scientist level, but a more senior appointment may be considered for exceptionally qualified candidates. When submitting your electronic application, please include (in one document), your curriculum vitae, a list of publications and presentations, and a brief (maximum two pages) statement of research interests. Under the direction of P. Sutter, Center for Functional Nanomaterials. Apply for Job ID #15124.

POSTDOCTORAL RESEARCH ASSOCIATE (Theoretical Physics) - Requires a Ph.D. in theoretical physics. The group has active programs in several areas, including spin physics of QCD, lattice QCD, the phenomenology of heavy ion collisions at ultrarelativistic energies, and the Color Glass model. This position would be in the area high energy and/or nuclear theory in the RIKEN BNL Research Center. Under the direction of A. Baltz, Physics Department. Apply for Job ID #15125.*

POSTDOCTORAL RESEARCH ASSOCIATE (Lasers/Optics) - Requires a Ph.D. in physics or engineering with a background in lasers and optics. Will work closely with scientists but has the responsibility in designing and constructing a drive laser system for a photo-injector. The laser system will be synchronized to a master clock at ~10 MHz but runs at ~400 kHz repetition rate at ~780 nm with an average power ~4 Watts but scalable to 50 Watts with future upgrade. Must have hands-on experience in building and characterizing high-power ultrashort-pulse fiber and solid-state lasers. Experience with various optics and laser simulations is essential. Under the direction of T. Rao, Instrumentation Division. Apply for Job ID #15129.*

POSTDOCTORAL RESEARCH ASSOCIATE (THz Dynamics) - Requires a Ph.D. in physics with experience in optics and infrared or THz spectroscopy of materials. Experience

in the field of superconductivity or working with ultra-fast Ti:sapphire lasers is highly desirable but not required. Will be responsible for: 1) developing and conducting studies of materials using the strong-field THz pulses produced at the NSLS Source Development Lab linac; 2) participating in scientific studies and supporting researchers at NSLS infrared beamlines, especially for time-resolved studies of materials in conjunction with a Ti:sapphire system. Under the direction of G.L. Carr, National Synchrotron Light Source. Apply for Job ID #15128.*

ASSOCIATE PHYSICIST (S-2)/ PHYSICIST (S-3) - X-RAY OPTICS -The National Synchrotron Light Source II Project (NSLS-II) seeks a qualified physicist to lead the research and development effort in high-resolution x-ray crystal optics. Responsibilities include theoretical evaluations and experimental verifications of novel optical schemes for achieving ultra-high energy-resolution in inelastic x-ray scattering experiments, and general oversight of crystal fabrication, processing, and thermal management on crystal x-ray optics. Requires a Ph.D. in physics or related field, at least four years of experience in synchrotron x-ray optics design and applications, excellent knowledge and hands-on practical experience in dynamical x-ray diffraction theory and experimentation, in-depth knowledge in high-quality crystal fabrication and processing for x-ray optical applications, excellent written and oral communications skills, and the ability to interact effectively with a diverse group of scientists, engineers, and technical staff. Experience working in a synchrotron environment or as a project leader in synchrotron x-ray experiment design, execution, diagnostics, and reporting, and knowledge of high-precision angular positioning design and applications is highly desirable. Reports to the Inelastic X-ray Scattering Beamline Group Leader. National Synchrotron Light Source II. Apply for Job ID# 15120.

RESEARCH RF ENGINEER - I (P-9, 2-year term, reposting)- Requires a bachelor's degree in electrical engineering or physics and 10 years experience in the design and analysis of complex high speed analog and digital electronics. An advanced degree is highly desirable. The candidate must demonstrate the application of advanced principles and demonstrate expertise with electronics design analysis tools and laboratory measurement techniques. Must also have the ability to read and create complex schematics, design and evaluate circuit boards, test and troubleshoot to the component level, and work closely with the technical staff in the design, fabrication and integration of analog and digital RF systems. Experience in programming of FPGA based signal processing and Programmable Logic Controllers (PLC's) is also required. The candidate will integrate the high speed analog and digital systems with high power RF systems and will test and commission these systems. Additional responsibilities will include conceptualizing, planning, and conducting research for the development of high speed analog/digital RF circuits including fast RF interlocks and I/Q modulators, creating system schematics and wiring diagrams, overseeing short-run production and the testing and debugging of systems; and will have experience in the operation of RF test equipment including network analyzers, spectrum analyzers. This position is with the NSLS-II RF group which is responsible for the development of RF systems from 500 MHz to 3 GHz and from low level signal processing (milliwatts) to high power RF transmitters (megawatts). National Synchrotron Light Source II. ERAP Eligible \$1000. Apply to Job ID# 15012.

APPLICATIONS ENGINEER - Control Systems (I-6/I-7) - National Synchrotron Light Source seeks an Applications Engineer who will develop, test, and integrate control applications and provide program support for the NSLS accelerator control system. Will communicate with engineers and scientists to determine project specifications, prepare project schedules, determine resource needs, and resolve project issues. Proficiencies in C/C++ and networking programming are required. Knowledge and experience of accelerator or beamline control systems, especially EPICS, are highly desired. Proficiency in vxWorks/RTxMs programming, Labview programming, microcontroller programming, and experience with Eclipse are also preferred. Will have strong analytical and problem solving skills, as well as excellent communication skills to work with a diverse group of scientists and engineers. Requires a BS degree (MS degree preferred) in computer science, physics, or equivalent, and a minimum of 3 years experience in software development. Position responsibilities include: EPICS software development and integration of detectors to beamline controls; vxWorks driver/applications development and program support for the NSLS accelerator control systems. Will be placed at the Applications Engineer or Advanced Applications Engineer level depending on depth and variety of experience in the programming languages specified. ERAP Eligible \$1000. National Synchrotron Light Source. Apply for Job ID #15133.

SUPERVISOR, CONSTRUCTION INSPECTION - MECHANICAL (T-6) - Requires an AAS in mechanical construction technology or equivalent training and a minimum ten years of experience in the construction of mechanical systems involving HVAC, plumbing, pipe fitting and fire protection. Familiarity with architectural, civil and elec-

trical systems construction will help ensure success. Will be responsible for inspecting and coordinating all phases of mechanical systems construction work and functioning as liaison with Laboratory staff in coordinating daily construction effort. Specific duties include the monitoring, inspection, coordinating and accepting the workmanship, materials and equipment of assigned fixed priced construction projects, assuring that all work called for by the contract documents or applicable codes, have been satisfactorily completed. Modernization Project Office. Apply for Job ID #15123.

CUSTODIAN (LG-1, Temporary) - Under general supervision, performs general cleaning and housekeeping duties in all Laboratory buildings. Site Services Division Apply for Job ID # 15139.

*NOTE. BNL policy states that Research Associate appointments may be made to those who have received their doctoral degrees within the past five years.

Motor Vehicles & Supplies

03 FORD ESCAPE XLT - 79K mi. XLT Prem Sprt Util, 4dr, O/S V6, 4wd, m/rf, r/rk, rmg brds, tow hitch CIs-II. \$9,500. 276-4150.

03 FORD ZX2 ESCORT - 47K mi. grey cloth int, 4cyl, a/c, ps, am/fm/cd, great cond/gas mi. \$4,100 neg. Al, Ext. 7859.

00 FORD RANGER - 121K mi. XLT, 4WD, Auto, Black, Cap, Excl. Cond., photos avail. \$6,900. Ext. 7186 or kwilson@bnl.gov.

97 CHEVY MALIBU - 112K mi. Black, no rust, a/t, c/c, CD/MP3, well maint, runs, drives v. well. \$1,750 neg. 917-209-9594.

COSCO CAR SEAT - v/gd cond, ask/\$30; www.walmart.com/catalog/product.do?product_id=8054494. Avnish, Ext. 8026.

SKI RACK - Fits Dodge Caravan Factory r/rack; holds 4/pr skis; locking, \$50. Bill, Ext. 2906, 929-6189 or behrens@bnl.gov.

TIRES - Bridgestone Dueller H/T D684 II, 235/60R18, all seas. 1 tire 3 mo old, other tire, half tread left; no rims, \$80/both. Ext. 7386.

TIRES - 4/Brstone B420 P195 75R14 M+S; 2/Firestone T&Cntry P185 75R14 rdial snw; on Vivo 240 rims, \$20/ea; \$100/all. 929-6189.

Furnishings & Appliances

25" TELEVISION - Sharp. 689-9771.

CHILD BUNK BED/DESK - All wood, desk pull out bed lists/\$1659.45, ask/\$600, 379-0742 or rrje4019@msn.com.

OAK 3-PC COFFEE TABLE SET - w/ carved details on the edges and turned legs. \$400 for all (will not separate). 474-7271.

PARTIAL CONTENTS OF HOUSE - king bdrm, full bdrm set, easy chr, bkcases, desk, etc., all like new. Call for details Ext. 4872.

PICTURE FRAMES - 5, wood frames, glass fronts. 13"x17". Some dings. \$3/ frame. \$10/all. mdrosenthal@bnl.gov.

ROLLING KITCHEN CART: - White tile top on white/nat wood cabinet, 24Wx18Dx33H. \$40. 878-9020 or siverzt@bnl.gov.

SONY TRINITRON 21 - Flat Scrn TV. CRT. excel. w/Sony Univ Rem control, Free stand. \$50/neg. 418-6922, Chaudhary@bnl.gov.

YANKEE HANDPAINTED BIRDHOUSES - Xmas ornaments, glass items, \$25/\$50. Ron, 379-0742 or rrje4019@msn.com.

Audio, Video & Computers

DELL INSPIRON - 640M LAPTOP PC - Intel Core 2 Duo, 1.86 GHz, 2GB ram, 106GB hd, more. \$250. Ext. 4427, estein@bnl.gov.

NORTON 360 3.0 - CD only in sealed sleeve w/Activitn Code. No Box. \$30. Ext. 3485.

USED XBOX GAMES - Various, rated "E" or "T". \$3/ea obo. 3 used Xbox controllers \$10/ea. more. Susan, Ext. 7427.

Free

15" CRT MONITORS - Two. 689-9771.

PLATFORM BED - Custom Oak platform bed with 2 drawers. Chris, Ext. 2326.

Sports, Hobbies & Pets

BOWFLEX MOTIVATOR - w/lat pulldown & leg ext, excel cond/\$450. 878-1303.

GOLF BALLS - 100 used golf balls, \$20 for all or 20 cents apiece. Golf ball signed by Tiger Woods 50 cents. 757-0160.

HORSE FOR SALE - 10 yr old, 16.1 hand chestnut gelding, No vices, \$20K/neg. Mary, Ext. 6344 or phraner@bnl.gov.

PROFORM TREADMILL - Sear's Proform Crosswalk GT w/ power elevation. Grt for training. Excel cond \$100 BO. Ext. 4925.

PUPPY - yokie puppy 900\$ neg. 4 months old female, all shots akc papers. June @ 631-206-1565. Brian, 344-4241.

SADDLES - Western, reasonable, many to choose from, local to lab in Ridge. Wayne, 516-818-4295.

SKI BOOTS & BINDINGS - Salomon SX61 boots, sz ~9, & Salomon Quadrax bindings, \$20. Ext. 7570 or hulbert@bnl.gov.

Miscellaneous

INTERIOR DOOR - single panel, solid pine, prehung, rough opening dimensions 32"x, 83" tall. \$50. Andrew, Ext. 4408.

KITCHEN SINK - Stlss steel, rectangular, w/ faucet, sprayer, vgd cond. Mk offer. Ext. 3927.

LAUDA WK-230 RECIRC. CHILLER - Minimal usage. 0.4 KW, 6 Amps, 110V/50 Hz, 115V/60Hz. Ask \$999. Vince, Ext. 5539.

MINK COAT - Full length - Sz M (10-12) Ask \$500. Ext. 7187 or niksa@bnl.gov.

PERFUME - "Truth," Calvin Klein, spray, br new in box & wrap, 3.4 oz., \$25. Purchased Sept 2009. Kathleen, Ext. 7114.

SUITCASES - Amer. Tourister, lge, vg cond. 31"x21"x11," black, \$25/ea. 689-9771.

Liz Seubert, editor
Joe Gettler, staff
Roger Stoutenburgh, photographer

BNL Blood Drive, 12/17

BNL's next blood drive will be held on Thursday, December 17, from 9:30 a.m. to 3 p.m. in the Brookhaven Center. Donors must be 17 to 75 years of age, in good health and weigh over 110 lbs. Restrictions may apply to individuals from the UK 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." If you do not have access to a computer, call Liz Gilbert, Ext. 2315. See story on pg. 1.

Please Pile U. Way Donations Higher

"My family lost our home in a fire. The United Way helped us find housing, put food on the table, and get back on our feet by paying our first month's rent."

"At 80 years old, I fell and broke both wrists. I was very afraid. The United Way helped me get a home health aide each day."

Imagine needing to buy medication for your sick child, but your other child is hungry. You don't have enough money for both. Through the United Way, people who can't afford medication can use the FamilyWise prescription drug discount cards.

Just these few examples help to explain why, each year, many BNLeers pledge to give either a one-time gift, or a weekly or monthly donation from their paycheck. This year, so far, 279 employees from the Lab's payroll of about 3,000 people have pledged a total of \$103,663. But the Lab could give more — all desperately needed. If 2000 more BNLeers sent in the equivalent of 50 cents a week, many more people could be helped. Please send in your pledge form to Liz Mogavero, Bldg. 510A. If you have lost your form, it is downloadable at <http://intranet.bnl.gov/unitedway/default.asp>, or call Sarah Mahler, Ext. 4207. On behalf of all Long Islanders helped by United Way-supported agencies, thank you so much.

BERA Events

Buy tickets at the BERA Store. Coaches leave from the Brookhaven Center. The Store will be closed December 24 through January 3.

International Motorcycle Show: Sunday, 1/24. \$20 per person includes bus and admission. Leave BNL at 8 a.m. and leave the Javits Center in New York City at 4 p.m.

Ski Weekend at Stowe, VT: Jan. 29-31. Three-day ski trip includes transportation on Port Jeff Ferry, lift ticket for two days, two breakfasts, a prime-rib buffet dinner, lodging 2 nights at Commodores Inn, indoor pool, jacuzzi, fireside living room, sports lounge, free shuttle to town. \$414/person (single), \$362/person (double), \$328/person (triple), \$310/person (quadruple). Full payment due by Jan. 4. Note BERA Store closing times above.

WALL MURALS - Any wall, any size, kids theme to livingroom or den beach scene. Price to size, detail. 379-0742.

WET WILLY SEA KAYAK - custom, "Spirit" flagship model, 17"x24"w, swede form, 13.5"h, 59lbs, excel, \$2,500/neg, 281-7873.

Community Involvement

BNL MUSIC CLUB - Enjoy music? Like working behind the scenes? BNL Music Club seeks volunteers to help organize musical events. Joseph, Ext. 3846.

Happenings

MIRACLE ON 34TH STREET - 8 tkts, at John W. Engeman Theater, Northport 12/26, 3 p.m. \$54/ea (reg \$60/ea). Ext. 7941.

RADIO CITY BUS TRIP - to see SHEN YUN Performing Arts, 2/20 @ 2pm, \$83/pp, bus dep. 10:30am. George, Ext. 4033.

YVETTE SINGS HOLIDAY SHOW - 12/13th 2 pm, Sunday, Mastic Moriches Shirley Library, Free Concert: w/Bob, piano/guitar, Brian/percussion. Yvette, Ext. 5591.

Wanted

MATTRESS & SOFA - full & Twin sz, clean, sofa, in gd cond. ykwak@bnl.gov.

MICROWAVE - inexpensive, less than \$40, Thanks. Jim, 860-460-7713.

NEW/GENTLY USED - all for 76 families living in 1 local area shelter. Women/Men's clothing, small hsehold items, Ext. 3161; Toys, Books for kids, Ext. 2449.

VOLUNTEERS NEEDED - to wrap gifts, Dec. 15-17, betw 11a-2p. Please call to sign-up. Joanne, Ext. 8481.

For Rent

NAPLES, FL - 2br/2ba all furn condo in gated golf community. Spec rate for Jan 2010. \$2,400/mo. denice, 523-7870.

CENTEREACH - Rm in 5 bedrm 2.5 bath hse, laundry, yard. want clean friendly pref fmlle grad-student, post-doc. \$480/mo, utils not incl. gouldhouse09@gmail.com.

MASTIC - 1 bdrm, full bath, eatin kitch, den, own ent & drvwy, 1 mo. sec. 10 min to lab, all incl no pets/nosmk. \$850/mo. joe mondi, Ext. 3499, 219-7241.

MIDDLE ISLAND - 2 bdrm cottage, newly renov., own entr., 15 min to BNL, no smkg. \$1,300/mo. Deborah, Ext. 3648, 846-4760.

MIDDLE ISLAND - 1 bdrm apt, gated comm, Artist Lake Dr, after 12/25, incl heat/gas, elect/cable etc, not incl, free gym/pool/more. \$1,100/mo. 646-263-3707.

MIDDLE ISLAND - new spac. 1 bdrm apt. sep ent. lrg EIK, full Bath, LVR, C/AC no pets no smoking Utilities INC 1 month sec. \$1,200/mo. 516-769-5370.

MILLER PLACE - Furn. Col. house in prof. resid area 8 mi. to BNL. TV/Heat/AC. Wire/wireless Internet. Own bdrm. All incl. Resp/ non-smoker. \$675/mo. 744-8386.

PATCHOGUE - cottage, large bedroom, 2 bath, garage, washer/dryer. Newly renovated. Private. Non-smokers, no pets, 1-yr lease, + sec. \$1,050/mo. 475-5543.

PATCHOGUE - Studio/Loft apt, exc. for 1 person. Private. 15 min to Lab. Utilities included, 1/2 month security. No pets. \$900/mo. Beth, 758-0830.

PORT JEFF STATION - ~10'x12' Room in house, full kitch, dw, wd, occupies are SBU grads Avail Jan. \$505/mo. Stephen Webb, sdavis.webb@gmail.com.

ROCKY POINT - 1 bdrm, 2nd flr, priv drwy, incl some util, no smkg/pets. \$795/mo. 821-3287.

ROCKY POINT - 1 bdrm upper unit, kit, bath, l/r, balcy, quiet co-op comm, nr stores, Indry rm on prem, prkg, no smkg/pets, cac, incl gas/water. \$1,150/mo. 806-5965.

SHIRLEY - lg 1 br bsmt apt, suit for one, nr beaches/parks/freeways/lrr/lab, all incl, 1 mo rent/sec, no smkg/pets. \$700/mo. Ext. 3846.

SHOREHAM - cosy one bdrm apt., cathedral ceilgs, w/w, pvt. entr. Kitchen/LR combo, MBR, bath. Avail Mid Jan. \$850/mo. Susan, 821-0767 or slattuca@bnl.gov.

SOUND BEACH - all renv, 2 bdrm hse, lg l/r w/skylights, full bath, eik, nr beach/stores, +util, non-smkr. \$1,400/mo. 332-7800.

SOUND BEACH - Hi-Ranch, 2-bdrm., 2-bath, 1-car grg., 2-kitchens, deck w/ rftop, walk to beach, 20 mins. to BNL, excl. utilities. \$1,300/mo neg. Cecilia, 974-1220.

WADING RIVER - 1 bdrm apt, eik, lg l/r, full bath, priv ent, 10 min BNL, utils incl. single non-smkr only, no pets 1/mo/sec. \$1,000/mo. 929-3419.

N. MYRTLE BEACH, SC - 2bdrm, 4 bed, 2.5 bath, Townhouse on golf course w/ comm pool, daily/wkly/mo rates avail. \$590/wk. Chris, 516-660-0290.

For Sale

RIDGE - Horse-lovers paradise! 4 bdrm/ 2 bath Mother/Daughter Col. adj. to NYS land. 2 stall barn paddock. CAC, IGS. \$449,999. Richard, Ext. 6183, 924-6199.

SHOREHAM - 4 bdrm., 2.5 bath Col., frrml l/r & d/r, den w/fp, fin. bsmt, 12 x 20 deck, igs, new grnite cntrs & applis, SWRSD, more, 7 mi to Lab. \$479,000 neg. 821-3320.

In Appreciation

Thanks to all who sent in wine corks, I have plenty to complete the gift for my brother now. Thanks again! - Melanie Theisen

Service Ads

From tutors for writing or math to house-cleaners, bricklayers, computer fixers, photographers, more, BNLeers provide amazing services. For a list, see pg. 5 of the pdf of this issue, www.bnl.gov/bnlweb/pubaf/bulletin/default.asp or call 344-2346 for a paper copy.