

Dual Properties of Carbon Nanotubes Revealed

BNL, Columbia University research reported in April 28 issue of *Science*

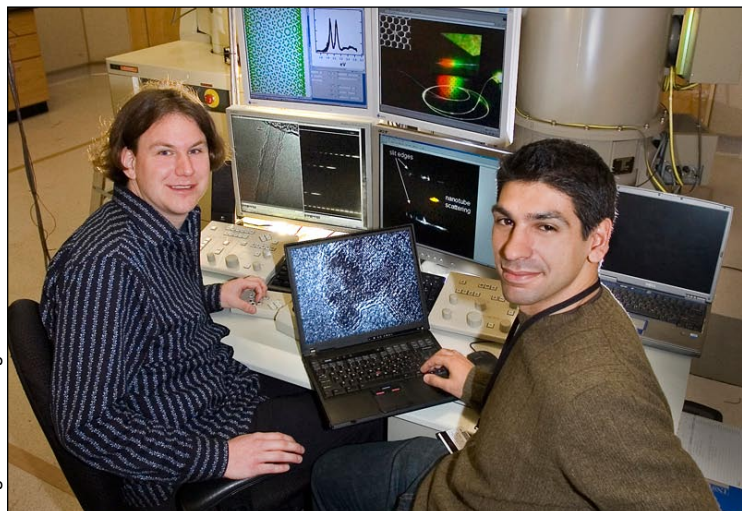
For the first time, researchers have directly measured the electronic structure of individual carbon nanotubes whose physical properties had already been determined. This new study, pioneered by researchers at BNL working with their colleagues at Columbia University, may help scientists determine the usefulness of carbon nanotubes in various applications, from microelectronics to mechanical, thermal, and photovoltaic devices. The research, which is reported in the April 28 issue of *Science*, was funded by the Office of Basic Energy Sciences within DOE's Office of Science, the National Science Foundation, and the New York State Office of Science, Technology, and Academic Research.

"This combined study technique allows us — for the first

time — to test some fundamental predictions about nanotube behavior," said Matt Sfeir, a physicist in BNL's Condensed Matter Physics & Materials

Science (CMPMS) Department and lead author of the study. "Understanding how these materials function on a basic

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Tobias Beetz (left) and Matt Sfeir review data in the electron microscopy lab at Brookhaven.

Student Researchers Talk at March APS Meeting Mentored by NSLS Scientists in Annual Effort

Each year, the National Synchrotron Light Source (NSLS) hosts several high school and college students, who come to the facility to perform research using its bright beams of x-ray, ultraviolet, and infrared light. This year, four of these students presented the results of their research at the March meeting of the American Physical Society (APS) in Baltimore, Maryland.

"The NSLS considers educa-

tion to be an important part of its scientific program and mission," said NSLS Interim Chair Chi-Chang Kao. "As is also evident by these talks, students at the NSLS are working on a wide range of exciting research topics."

All four studies were supported by the Office of Basic Energy Sciences within DOE's Office of Science, the first three also by the National Sci-

ence Foundation, the first also by a BNL-Stony Brook University (SBU) Seed Grant, and the second, also by The Welch Foundation.

Biom mineralization: Diatoms

Michael DiBiccari, a senior at Hauppauge High School in Hauppauge, New York, worked with NSLS biophysicist Elaine DiMasi. His project is part of

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Future Crystallographers Attend RapiData 2006 at NSLS

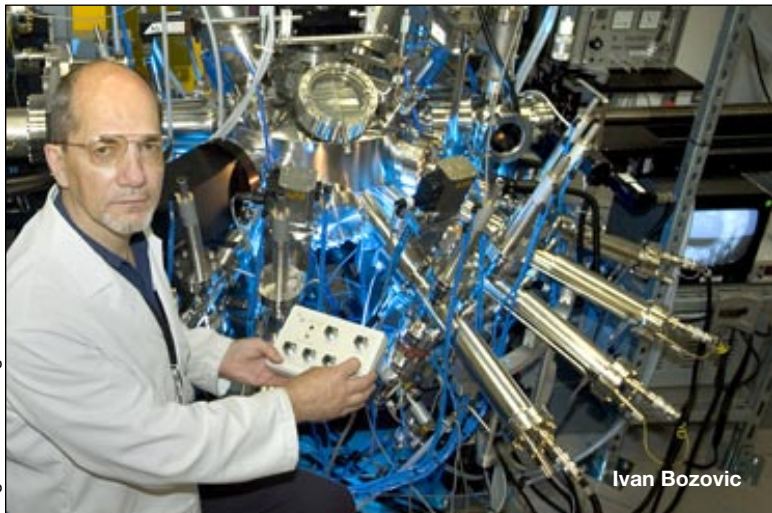
Once again this spring, 48 future crystallographers from around the world gathered at BNL for RapiData 2006. This week-long course is designed to introduce students to the best and latest equipment and techniques. The students also get to meet and learn from the leading developers of software for macromolecular x-ray crystallography.

The course has been offered annually from 1998 by BNL's Biology and National Synchrotron Light Source (NSLS) departments. It reflects the educational component of the PXRR (Macromolecular Crystallography Research Resource), funded jointly by the National Center for Research Resources — a branch of the National Institutes of Health

(NIH) — and DOE's Office for Biological & Environmental Research. The course's usefulness to the nearly 400 who have participated since its inception is apparent from the constant numbers of new students who sign up to participate each year. Many of these budding crystallographers are now becoming experts in the field

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415th Brookhaven Lecture Bozovic to Talk on Cuprate Superconductors



Ivan Bozovic

Superconductors — materials with no electrical resistance — can be used in electrical motors and generators, computer chips, wireless communications, and other applications in the electronics industry. Most superconductors have to be cooled to almost absolute zero before becoming superconducting, which is inconvenient and expensive.

But, although scientists do not yet fully understand why,

copper-oxide compounds, called cuprates, show superconducting properties at 163 degrees Kelvin, the highest temperature of any known superconducting material. Cuprates are therefore among the "high-temperature superconductors" of extreme interest both to scientists and to industry. Research to learn their secrets is one of the hottest topics in the field of materials science.

To learn how BNL's Ivan Bozovic, internationally recognized for his research in cuprates, is studying this problem, all are invited to attend the 415th Brookhaven Lecture, at 4 p.m. on Wednesday, May 17, when Bozovic will talk on "Atomic-Layer Engineering of Cuprate Superconductors," in Berkner Hall. Refreshments will be offered before and after the lecture, which is free and open to the public. Visitors to the Lab of 16 and over must carry a photo ID. To join the speaker after the talk for supper at a restaurant, contact Ali Lopez, Ext. 2590 or lopez@bnl.gov.

As Bozovic will explain, to make cuprates and other oxides of interest, he uses a state-of-the-art molecular beam epitaxy oxide system that he designed and built, which deposits numerous different materials, atom by atom, onto a substrate, to make multilayers of complex oxides. This technology has enabled the fabrication of

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NSLS/CFN Users' Meeting, 5/15-17

The 2006 Joint NSLS/CFN Users' Meeting will be held at Berkner Hall, Monday-Wednesday, May 15-17, with the theme of "Synergy in Science." All BNL employees are invited to the May 15 early morning plenary session, 8:30 - 11:45 a.m., free of charge. Speakers at this time will include Patricia Dehmer, Associate Director, Office of Basic Energy Sciences, DOE; and U.S. Representative Tim Bishop.

For more information, go to www.nsls.bnl.gov/users/meeting.

BNL 'Spycatcher' Foils Attempted Cyber 'Attack'



BNL's "Spycatcher" Diana Hubert with "007 Hutchins" of DOE's Cyber Red Team, here at the Lab to test safe computer practices.

Diana Hubert, Human Resources Representative in the Human Resources & Occupational Medicine Division (HROM), felt that something was "not quite right" last Tuesday, May 2, when a man came into the Human Resources (HR) Office and said that he was from the Lab's Information Technology Division (ITD).

The man told Hubert that he had a work order for a computer in the reception area. She did not recognize him, and asked his name. He said that ITD had sent him over. Although she could see that he was wearing a badge with a security clearance, Hubert still felt uncomfortable, so she called the ITD Help Desk to confirm his employment. When ITD said they did not know anyone with that name, Hubert went back to question the man again. This time, he gave her the name of a person in ITD to check with, who, he said, was the one who sent him to HR. Hubert made a second call to ITD, which confirmed that he was not sent over by anyone. When she returned to reception to question him further, he was gone.

It turned out that Hubert had done exactly the right thing. She had passed a test implemented by DOE's Cyber Red Team, a team contracted by DOE to test cyber security systems and practices at national laboratories. Had he not been stopped, the Red Team member would have installed a keyboard sniffer on the computer to try and capture passwords and sensitive information.

Says Frank Crescenzo, Deputy Manager of DOE's Brookhaven Site Office, "We have a lot of visitors at the Lab, and the DOE Cyber Red Team showed us an example of how someone could possibly breach computer security here. This was an important exercise that had a positive result. We all need to stay alert and practice computer security."

When Hubert found out that what had happened was part of a cyber security test, she said, "I'm glad that my gut instinct paid off. Bill Hempling, Director of HROM, is constantly reminding us to be on the lookout for anything out of the ordinary. This occurrence will certainly help me to remember the importance of computer security — especially in HR where we deal with important personal records."

Tom Schlagel, Director of ITD, praised Hubert's actions. "Cyber security is a top priority with DOE; a breach in security could be detrimental to Lab operations. We welcomed the visit of the Red Team because they were able to help us identify possible improvements. Everyone should feel free to question someone who says they have come to work on a computer. If you have any questions, ask for an identification badge and call the ITD Help Desk, Ext. 5522. Hubert's response is exactly what we hope all employees would do." — Jane Koropsak

CALENDAR
OF LABORATORY EVENTS

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

— EACH WEEK —

Weekdays: Free English for Speakers Of Other Languages Classes

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

Mondays: CIGNA Rep On Site

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

Mondays & Thursdays: Kickboxing

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

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

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

Tues. & Thurs: Aerobics

5:15-6:30 p.m., Rec. Hall. 10 classes for \$40, or \$5 per class, pay as you go. Pat Flood, Ext. 7866.

Tues. & Thurs: Aqua Aerobics

5:15-6:15 p.m. \$20 to attend once a week, \$40 to attend twice a week. For more information, call Ext. 2873.

Tues. & Thurs: Jazzercise

Noon-1 p.m., Rec. Hall. \$88 for twice-a-week eight-week session, you may use the membership at several Jazzercise locations. Christine, Ext. 5090.

Tues. & Thurs.: Ving Tsun Kung Fu

Noon-1 p.m., Brookhaven Center, North Room. \$80/month or \$10 per class, pay as you go. Taught by Master William Moy. Scott Bradley, Ext. 5745 or bradley@bnl.gov.

Tue., Thu. & Fri: Upton Nursery School

8:30 a.m.-noon, Rec. Hall. 2- and 3-day programs available. Kati, 821-4131.

Tuesdays: Welcome Coffee

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

Tuesdays: BNL Music Club

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

Tuesdays: Jiu Jitsu Club

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

Tuesdays: Toastmasters

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

Tues., Wed. & Thurs: Rec Hall Activities

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

Wednesdays: On-Site Play Group

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

Wednesdays: Weight Watchers

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

Wednesdays: Yoga

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

Wednesdays: Ballroom Dance Class

Brookhaven Center, N. Ballroom. Instructor: Giny Rae. New series starts 3/15. See notice, page 3. John Milner, Ext. 3853; Madeline Windsor, Ext. 5069.

Thursdays: Reiki Healing Class

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

Fridays: Family Swim Night

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

Fridays: BNL Social & Cultural Club

6-9 p.m., North Ballroom, Brookhaven Ctr., dance lessons, 9-11:30 p.m. general dancing. Rudy Alforque, Ext. 4733, rudy@bnl.gov.

Introducing the 2006 Brookhaven Council

The BNL Council, which is elected by the scientific staff, is a body that advises and makes recommendations to the Director about Laboratory policies affecting the scientific staff. The Council is particularly concerned with the maintenance of an atmosphere conducive to excellence in scientific research at BNL. The Council reports to the Director.

The term of membership is three years. New members normally begin service at the March meeting of the Council.

This year, the positions of Council Chair and Secretary are being shared between Steve Kettell and Graham Smith. Kettell serves as Chair from March 1 until August 31, then Secretary from September 1, 2006, until February 28, 2007. Smith, who serves as Secretary from March 1 to August 31, will take over as Chair from September 1, 2006 until February 28, 2007.

Noted Kettell and Smith, "Council members work diligently to provide the Director with advice that helps foster an environment conducive to excellent science. As elected representatives of the scientific staff we seek input for our advice to the Director. A part of our charge is to advise on tenure promotions within the scientific staff. At this time we



Roger Stoutenburgh D1780306

The Brookhaven Council is composed of: (from left) José Rodriguez, Chemistry Department; Arokiasamy J. Francis, Environmental Sciences Department (ES); Trevor Sears, Chemistry; Ronald Pindak, National Synchrotron Light Source Department (NSLS); Subramanyam Swaminathan, Biology Department; present Council Secretary Graham Smith*, Instrumentation Division; Benjamin Ocko, Physics Department; John Dunn, Biology; present Council Chair Steven Kettell*, Physics Department; Dmitri Kharzeev, Physics; Vladimir Litvinenko, Collider-Accelerator Department (C-AD); David Morrison (front), Physics; G. Lawrence Carr, NSLS; Robert Bari, Energy Sciences & Technology Department; Christopher Homes, Condensed Matter Physics & Materials Science Department; and David Schlyer, Medical Department. Not present are: Lawrence Kleinman, ES; and Dejan Trbojevic, C-AD.

*See information on exchange dates of these two positions in the accompanying article.

would like to encourage input to the search committee for a new director at <http://ws.cc.stonybrook.edu/bnl/DirectorSearchHome.htm>.

More information on the Brookhaven Council is available at www.bnl.gov/bnlweb/Admin/council.asp

Future Crystallographers Attend RapiData 2006

(cont'd)



Roger Stoutenburgh D0710506

The students and instructors, RapiData class of 2006

and sending others from their institutions to BNL to learn the initial steps of this highly specialized area of interest.

This year's course, which ran April 23-28, began with three days of lectures and tutorials taught by scientists from BNL, industry, academia, and other national labs. Then the beamline staff and other teachers guided the students through a marathon, 60-hour data-collection session, which eventually employed six NSLS beam lines for the whole time, and three others to help out as needed.

At the same time, nine different tutorials were underway. As usual, half of the students came with their own specimens to analyze, while the other half learned as observers.

Said Bob Sweet of Biology, who, with Denise Robertson and Alex Soares, primarily organized the course, "This program excites both the students and the teachers by providing a short 'total immersion' in this technology. Students learn how to obtain and process real data, learning how to locate and fix problems as they arise. It's a

gripping experience. About half a dozen of the students left with potentially publishable results. This is inspiring to everyone in the course.

"The students find that there is always a hands-on scientific supervisor available to give expert help, so they can set up experiments in the optimal way, or find out the next step without wasting time," continued Sweet. "We depend on so many team members for the program's success: many members of the PXRR (the Biology and NSLS Macromolecular Crystallography Research

Resource), NSLS staff members, and about 18 outside teachers."

In addition to the DOE and NIH funding, a special grant was provided by the International Union for Crystallography and the US National Committee for Crystallography to assist half a dozen Latin American students in attending the course. Additional support is provided by Brookhaven Science Associates, the NSLS, and several very generous equipment vendors and drug companies. For more information, go to www.px.nsls.bnl.gov/RapiData2006/. — Liz Seubert

(cont'd)

Student Researchers Talk at APS Meeting

a wider research effort on the study of biomineralization, the process by which living organisms produce minerals, such as shell and bone. He is studying diatoms — single-celled algae with outer shells composed of biosilica, a type of biomineral. DiBicari used x-rays to identify the atomic structure of the biosilica, which he then compared to the structure of synthetic silica. His results showed that the structures of both materials are identical.

Biomineralization of Protein Fibers

Samantha Palmaccio, also a student working with DiMasi, attends Sachem High School in Farmingville, New York. She investigated the biomineralization of protein fibers, which is one step in the process by which many organisms form shells. Recently, she studied the "growth" of the mineral calcium carbonate on a protein-fiber network. Her results showed that the strength of the mineral increases over time as it covers the fibers. This is unlike stand-alone calcium carbonate. Also, using a powerful microscope, she was able to study the crystal structure formed by the mineral.

Magnetic Nanoparticle Study

Additionally, two graduate students working at the NSLS gave talks on their research. Kathryn Krycka, from SBU, works with Kao and Sara Majetich of Carnegie Mellon University. Using an x-ray technique known as small-angle resonant x-ray scattering, she studied the size and internal structure of magnetic nanoparticles, which often consist of metal-only cores surrounded by thin

metal-oxide shells. This work is important for understanding the magnetic properties of nanoparticle systems. In her talk, Krycka discussed her work on cobalt-oxide nanoparticles.

Photon-Stimulated 'Auger' Decays


Raji Sundaramoorthy, a student of NSLS user scientist and collaborator Alex Weiss from the University of Texas at Arlington, worked with NSLS scientist Steve Hulbert. She was studying photon-stimulated "Auger" decays in solids, a type of multi-electron decay. In this process, an incoming x-ray photon creates a "hole," or positively charged electron vacancy, in one of the atom's core levels. The hole then is filled by an electron that jumps down from a higher electron orbital, which in turn causes an electron (the Auger electron) to be ejected from the solid. An Auger decay often results in a cascade of additional decays, leaving the atom ionized. At the NSLS, Sundaramoorthy closely studied this process in the compound manganese oxide, and compared her results, which she discussed at the March meeting, with a theoretical model. — Laura Mgrdichian

Plant Swap, 5/24

Bring plants and seedlings to exchange at the annual BNL plant swap on Wednesday, May 24 (rain date: May 25), at Berkner Hall's parking lot, 11:30 a.m.-1 p.m. No plants? Take something home anyway. Contact Beth Blevins, Ext. 6033.

2006 RHIC & AGS Annual Users' Meeting

June 5-9



The Relativistic Heavy Ion Collider (RHIC) & Alternating Gradient Synchrotron (AGS) Annual Users' Meeting will include three days of topical workshops followed by two days of plenary sessions on Thursday, June 8, and Friday, June 9. The plenary program will include the latest results from RHIC, AGS, and NASA Space Radiation Laboratory; reports from Washington; elections; awards; an Open Forum Meeting; thesis awards; poster session with prize for best student/post-doc poster; and a banquet. Workshops are scheduled Monday through Wednesday. An End-of-Run Party will follow the plenary session on Friday afternoon at 4 p.m. in the Building 510 courtyard.

For more information, with a complete list of workshops, go to http://www.bnl.gov/rhic_ags/users_meeting/.

Bozovic to Give Brookhaven Lecture (cont'd)



precise structures of practical interest that also allow some fundamental physics questions to be probed. The answers carry some surprises and provide strong constraints on the theory of high-temperature superconductors that Bozovic will discuss.

Ivan Bozovic, who joined BNL in 2003, is a senior materials scientist in the Condensed Matter Physics & Materials Science Department. He earned his Ph.D. in physical sciences from the University of Belgrade, Yugoslavia. He is a Fellow of the American Physical Society, a Fellow of the International Society for Optical Engineering, and recipient of the SPIE Technology Award, the M. Jaric Memorial Prize, and the Polaroid International Award for Microphotography, among other honors.

— Liz Seubert

Berkner Hall Cafeteria Closed, 5/13-17 Center Club Open During Cafeteria Hours

Beginning Saturday, May 13, through Wednesday, May 17, the Berkner Hall Cafeteria will be closed due to the Science Fair on Saturday and the NSLS Conference beginning Sunday through Wednesday. Naylorson, the food service contractor, will relocate all food services during this time to the Center Club, Bldg. 30. The Center Club will be open during the same hours as the Cafeteria is typically open. A limited breakfast, lunch, coffee and snack menu will be available during these days.

• For more information, contact Andrew Seelin, Ext. 3024.

Carbon Nanotubes Revealed (cont'd)

level is key to controlling and manipulating them for future successful commercial applications."

Carbon nanotubes are capsule-shaped molecules only a few billionths of a meter (nanometers) in width. In nanotube form, many materials take on useful, unique properties, such as physical strength and excellent conductivity. Single-walled carbon nanotubes are the most widely investigated variety, but what makes them so interesting also makes them very difficult to study — several hundred distinct species exist, and each has dramatically different electronic properties thought to be linked to their unique individual structure.

Sfeir and his colleagues sought to look at both the structure of carbon nanotubes and their corresponding electronic properties using two existing techniques. The twist is that the two techniques would be used on each of the nanotubes studied, giving a more complete picture of the tubes' unique structure and behavior as well as greater knowledge about how they "transition" from semi-conducting to metallic in terms of their electronic properties.

The work started at Columbia with a technique known as reso-

nance Rayleigh scattering, which allows researchers to determine the nanotubes' electronic structure. Then, the labeled nanotubes were brought to BNL, where physicist Tobias Beetz, also of CMPMS, subjected them to electron diffraction studies using transmission electron microscopy. This gave the researchers complementary data on the nanotubes' physical structure.

After collecting these two sets of information from many different nanotube structures, researchers were then able, for the first time, to test theories of nanotube electronic transitions and confirm several assumptions made in previous models.

"One aspect we have verified is how small changes in the pitch of the hexagons on the nanotube sidewall, determined by how the nanotube grows, lead to systematic deviations in the electronic behavior in both semi-conducting and metallic structures," said Sfeir. "This predicted behavior, known as the 'family pattern,' had never before been directly tested, and our experimental results place it on a solid foundation that was previously lacking." — Peter Genzer

• For more information, see www.bnl.gov/bnlweb/pubaf/pr/PR_display.asp?prID=06-60.

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 31 days of when a qualifying event occurs. 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.

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.

In addition, depending on the situation, below are some items you may want to update when you have a qualifying event, although most of the following may be changed at any time: covered dependents for medical and/or dental coverage, life insurance beneficiaries, retirement plan beneficiaries, tax withholdings on Form W-4, address change, emergency contact(s).

For more information or to make a change to your benefits within the 31 days of the qualifying event, contact the Benefits Office, Bldg. 185, Ext. 2877, Ext. 5126 or call (800) 353-5321.

May Is Hispanic Heritage Club Membership Month

BERA Hispanic Heritage Club (HHC) seeks new members. Lab employees, retirees and immediate family members are welcome to join. Membership fees are \$10, with renewals due in May of each year. To join, send a check payable to "BERA Hispanic Heritage Club" with contact information regarding on-site or off-site address and telephone number to Carmen Narvaez, Bldg. 422. Proceeds from dues support special efforts such as the HHC Scholarship Fund. Contact Narvaez at Ext. 3254 or narvaez@bnl.gov.

Potluck Dinner, 5/20

Join the Hospitality Committee on Saturday, May 20, at 5 p.m. at the Recreation Building for a spring potluck dinner. There will be a DJ and dancing. Attendees are asked to bring a dish to share for six people.

• For more information, contact Lisa Yang at lisayang@optonline.net.

One-on-One Retirement Counseling: TIAA-CREF

A TIAA-CREF consultant will visit BNL on Thursday, May 25; Tuesday, May 30; and Wednesday, May 31, to answer employees' questions about financial matters such as: the importance of protecting assets against inflation, finding the right allocation mix, learning about TIAA-CREF retirement income flexibility, comparing lifetime income vs. cash withdrawal options, and more. For an appointment, call Arlene Lyons, (866) 842-2053, Ext. 4629.

One-on-One Retirement Planning: Vanguard

The Vanguard Group invites BNLees to spend 45 minutes one-on-one with a licensed representative on Friday, June 2, at the Lab to talk about financial issues. BNLees will learn about investing for long-term goals such as retirement; selecting funds for your savings; and making the most of the services and investment tools that are available. Schedule a 45-minute session online at www.meetvanguard.com or call 1-800-662-0106, Ext. 14500.

Sleep Apnea Support Group — Any Interest?

The Employee Assistance Program is considering starting a Support Group for employees who meet any of the following criteria:

- diagnosed with sleep apnea, compliant with treatment but would like support
- not diagnosed, but struggling to address a sleep problem
- have been through the sleep study but are not compliant with the treatment prescribed by the doctor
- affected by a partner's sleep behavior.

If you are interested in attending such a group, e-mail: nlosinno@bnl.gov and give a short description of your situation, by May 18. The time may be at noon, starting early June, ending in July, but include your suggestions for a preferred time, which may be more convenient for more participants. If you think you have sleep apnea and would like to come to the Occupational Medicine Clinic (OMC) for a short sleep screening prior to this proposed support group, e-mail nlosinno@bnl.gov. You may also take the short sleep self-test, "How Well Do You Sleep?" located at www.bnl.gov/hr/occmcd/EAP/default.asp and bring this with you if you schedule an in-person screening at OMC.

Attention, Parents of 3 and 4 Year-Olds! Register Your Child for the Upton Nursery School

Parents may enroll their children now for the Upton Nursery School, a not-for-profit, cooperative pre-school that meets at the Recreation Building in the apartment area. The school provides a warm, caring, and stimulating environment for three- and four-year-old children, offering certified and caring teachers, social and language development, academic readiness for kindergarten, and a multinational student body. Classes are forming now for the 2006-2007 school year. Three-to-five-year olds are being accepted for Tuesday and Thursday mornings, 8:30 a.m.– noon.

Open House, 5/23

Come visit the school on Tuesday, May 23, from 9 a.m. to noon at the Recreation Building. For more information or to register your child, contact Katalin Petreczky, 821- 4131, julika@optonline.net, and visit the school's website at www.bnl.gov/nurseryschool.

CALENDAR

— THIS WEEKEND —

Sat.-Wed., 5/13-17

***Eat at Center Club, Not Cafeteria**
During these days, the Cafeteria will only be open for Science Fair and NSLS/CFN User participants. See boxed notice below, left.

— WEEK OF 5/15 —

Mon.-Wed, 5/15-17

***NSLS/CFN Users Meeting**
8:30 p.m. Berkner Hall. All are welcome at the early a.m. plenary sessions, free of charge. For more detail, see page 1.

Mon.-Fri., 5/15-19

National Bike-to-Work Week
Also, Bike-to-Work Day, 5/19. See www.bikemonth.com.

Wednesday, 5/17

Introduction to Yoga Class
12:10-12:50 p.m., Brookhaven Center, North Room. As part of the Health Promotion Program's "Rise & Shine" Program, BNL's Ila Campbell will present an introduction to yoga class. Michael Thorn, Ext. 8612 or mthorn@bnl.gov.

***415th Brookhaven Lecture**
4 p.m. Berkner Hall. Ivan Bozovic of the Condensed Matter Physics & Materials Science Department will talk on "Atomic-Layer Engineering of Cuprate Superconductors." See page 1.

Friday, 5/19

Meditation Talk, Instruction
Noon-1 p.m. Berkner Hall. Clinical psychologist Cheryl Kurash will give this free talk on meditation. All are welcome. Contact: Michael Thorn, Ext. 8612 or mthorn@bnl.gov.

***Taipei Folk Dance Theater**
6:30 p.m. Reception, 7:30 p.m., performance in Berkner Hall. In honor of Asian Pacific American Heritage Month. Advance tickets only. See page 4.

Saturday, 5/20

***Hospitality Spring Potluck Dinner**
5 p.m., Rec. Bldg. DJ, dancing, attendees are asked to bring a dish to share for six people. Lisa Yang, lisayang@optonline.net.

— WEEK OF 5/22 —

Monday, 5/22

Asian Cultural Exposition
11:30 a.m.-2 p.m. Berkner Hall lobby. Displays from Asian cultures, Philippines Tinikling bamboo dance. All welcome.

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

Tuesday, 5/23

BERA Martial Art Clubs Expo
Noon. Berkner Hall lawn or lobby. Demos of Chinese Ving Tsun and Japanese Samurai martial arts. All welcome.

Wednesday, 5/24

Movie, Peking Opera Duo, 1924-77
6:30 p.m. Berkner Hall. *Farewell My Concubine* follows the lives of 2 Peking Opera School stars. Chinese with English subtitles.

Thursday, 5/25

Mast Distributors Demo
10 a.m.-4 p.m., Berkner Hall. Mast Distributors will present BNLees with their latest in electronic components from innovative electronics manufacturers. See www.mastd.com or call Annmarie Keenan or Hank Rosenberg at 471-4422.

Elder Law: Medicare Part D
Noon-1 p.m. Berkner Hall, Room B. Seminar by Nancy Burner, National Academy of Elder Law Attorneys, on "The New Deficit Reduction Act: Medicare Part D Prescription Drug, What Else Is New?" All are welcome.

Pre-school cooperative seeks part-time Head Teacher. Located at BNL, our small, fun, cooperative nursery school for 3 to 5 years olds is looking for an experienced, certified head teacher for a part-time position. The successful candidate should have at least six months' teaching experience, preferably as a Head teacher. We are looking foe an enthusiastic, sunny personality who is able to develop/enhance curriculum, manage a teaching assistant and parent helpers and work with the school's Board. The candidate will be expected to establish and maintain daily routine and should feel comfortable and confident with multinational children. Call (631) 821-4131 or send your resume and salary requirements to Search Committee, Upton Nursery School, P.O. Box 324, Upton, NY, 11973.

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/.

OPEN RECRUITMENT – Opportunities for Lab employees and outside candidates

TB3964. ADMINISTRATIVE SERVICES ASSISTANT (A-2) – Requires an AAS degree in secretarial science, at least 4 years' relevant experience, excellent communication skills, and the ability to work independently as well as in a team setting. Thorough knowledge of SBMS, MicroSoft Office products, PeopleSoft & Foreign Travel Management System for assigned area is desired. Will support a variety of skilled and complex secretarial tasks for the NASA's NSRL Long-Term Support Facility, Space Radiation Summer School, and the local NASA office. Responsibilities include both routine and non-routine administrative assignments which include, but are not limited to: preparing reports and correspondence; co-ordinating and scheduling appointments, teleconferences, and meetings including recording & distributing minutes; arranging seminars, travel (foreign and domestic); ordering and maintaining supplies, procurement requisitions, including pick tickets & shipping memos; coordinating with Building Manager for repairs/maintenance, co-ordinating with procurement administrative contact person for deliveries/shipping and with department administrative contacts for guests/visitors and human-resources-related paper work. Medical Department.

MK3679. ASSISTANT BIOLOGIST (S-1) – Requires a Ph.D. in a radiation science (cell/molecular biology preferred) and post-doctoral experience. In addition, experience in cell culture, good communications skills and willingness to work with US and international investigators from a variety of backgrounds is essential. A strong background and/or experience in radiation biology and previous experience in accelerator-based radiobiology, or in carrying out research away from home institution are desirable. Position is for a heavy ion beam line scientist to join a team providing expertise, support and guidance to NASA-sponsored radiobiology investigators and facilities support at the NASA Space Radiation Laboratory (<http://server.c-ad.bnl.gov/esdf/nsrl/index.html>) and at the Alternating Gradient Synchrotron (<http://www.bnl.gov/bnlweb/facilities/AGS.html>). This facility can provide charged particles from protons to gold for irradiation of biological and other specimens. Extended and irregular hours may be required; must live locally to provide off-hours support to Users, and must be willing to travel to national or international scientific conferences, or for collaborative research. The position offers opportunities for research supported by research grants on clustered DNA damages (for example, www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&opt=Abstract&list_uids=16109312&query_hl=3&itool=pubmed_docsum) and their biological consequences (www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=pubmed&dopt=Abstract&list_uids=16187755&query_hl=3&itool=pubmed_docsum) will be available, including access to the heavy ion beam. Under the direction of B. Sutherland, Biology Department.

MK3741. POSTDOCTORAL RESEARCH ASSOCIATE (reposting) – Requires a Ph. D. in chemistry or a related field, with experience in DFT and/or quantum chemistry calculations, and modeling of solid/liquid

interfacial processes. A strong background in physical inorganic chemistry is a plus. Will investigate photocatalytic water oxidation reactions on metal-oxide semiconductors modified to absorb solar light. In addition, will conduct basic theoretical and computational research toward the development of such semiconductor materials and catalysts, the investigation of their physical and chemical properties, and a mechanistic understanding of their water oxidation chemistry. Under the direction of J. Muckerman and M. Newton. Chemistry Department.

MK3585. POSTDOCTORAL RESEARCH ASSOCIATE (two positions) – Requires a Ph.D. in nuclear or high-energy physics with experience in lattice gauge theory and numerical analysis. Thorough experience in software development for lattice QCD calculations and optimization strategies for massively parallel computers is required. Will be expected to participate in the implementation and further optimization of program packages used for lattice QCD calculations on new parallel computing platforms and shall participate in research projects of the Lattice Gauge Theory Group. Interest in finite temperature QCD is highly desirable. This position is with the Lattice Gauge Theory Group. Appointments will be made initially for 2 years. Under the direction of F. Karsch, Physics Department.

MK4201. - MANAGER, RESEARCH PARTNERSHIPS (M-2) - Requires a bachelor's degree in science, engineering or other technical discipline, and a minimum of 15 years' relevant experience that preferably includes 10 years' experience with Cooperative Research & Development Agreements (CRADAs), Work for Others (WFO), and business planning. Requires strong interpersonal, negotiating, critical thinking, and analysis skills. Knowledge of CRADA development and negotiations process, DOE processes and expectations, BNL budget processes, and managerial background are desirable. This position will report directly to the Assistant Laboratory Director for Policy & Planning. The incumbent will work with BNL researchers and managers, the Department of Energy, and external customers to establish and manage BNL's strategic research partnerships, ensuring support of the goals of the Laboratory's Sponsored Research Program. This includes managing all stages of the WFO process for both federal and non-federal sponsors, as well as CRADA development. For Federal WFOs, this consists of supporting the grants submission, tracking, and reporting processes. For non-federal sponsors, this includes negotiating terms and conditions for WFO for non-federal entities and CRADAs, and securing appropriate legal and managerial reviews. This position will also work as a key member of a team supporting the development of the Laboratory's strategic agenda by developing business planning and performance analysis processes. Director's Office.

MK3978. PATENT ATTORNEY (P-9, reposting) – Requires a JD and several years' experience in identifying, patenting, and licensing of inventions. Scientific background in materials, physics, and/or nanotechnology and prior industrial or technical experience preferred. Registration to practice before the USPTO and knowledge of all phases of IP strategy, patent prosecution, appeals, and licensing highly desirable. Will be responsible for the identification of new technologies and the evaluation of commercial potential of BNL-developed inventions in the areas of materials science and nanotechnology; obtaining patent protection on BSA owned technologies and the licensing of BSA owned inventions in the aforementioned fields. Additional job responsibilities include patent prosecution and patent licensing. Office of Intellectual Property & Sponsored Research.

NS3686. TECHNOLOGY ENGINEER (I-6) - Requires a bachelor's degree in computer science or closely related field and at least five years' experience in programming PLC's. Knowledge of RTP Controllers and Indusoft HMI are highly desirable. Knowledge of CRISP Process Control Software and cryogenic systems and instrumentation would be a plus. Experience with networking, switches, and serial communications is also important. Programming experience in C particularly in a distributed environment is also desirable. Will participate in the ongoing design, upgrade and operation of the RHIC Cryogenic Operations facility. Must be able to work well in an operations environment and perform as a member of a team. Must be willing to provide phone support from home when required. C-AD/RHIC Cryogenics. Collider-Accelerator Department.

Motor Vehicles & Supplies

05 HYBRID FORD ESCAPE - 4wd SUV, 30 mpg, safety pkg., 6CD, roof rk, hybrid/8-yr. warr., 22K mi. \$24,500/neg. 929-4295.

03 MAZDA MPV ES - van, V6, 7 pass., pwr. sliding drs., 6 CD, s/rf, side airbags, roof rk., 37K mi. \$14,950/neg. Ext. 7644.03.

TOYOTA TACOMA SR5 - ext. cab. 4x4, 3.4L, V6, 5spd, abs, a/c, all pwr., c/c, cd, new tires, ext. warr. 44K mi. \$17,990. Ext. 5195.

02 TOYOTA HIGHLANDER - 6cyl., awd, all pwr, m/rf, tv pkg., gar. open/hmlink, airbags, 100k warr. 68K mi. \$18,250/neg. Ext. 7277.

02 CHRYSLER PT CRUISER - a/c, c/c, all pwr., abs, a/t, = am/fm/cd, 24mpg, 66K mi. \$7,600/neg. Robert, Ext. 7859 or 312-6451.

01 LINCOLN LS - 4dr., loaded, 5cd, heated leather seats, dual temp controls, s/roof, alarm, 50K mi. \$14,000/neg. 871-0561.

01 VOLVO - 2.9L, blue, leather int., fully loaded, gar., orig. owner. 47K mi. \$12,850. Dennis, Ext. 5278.

00 TOYOTA ECHO - 4-dr. sedan, fuel effic., a/t, a/c, dual air bags, p/s, cd-stereo. 100K mi. \$4,600/neg. 909-1499.

00 FORD FOCUS ZTS SEDAN - 28-30 mpg, v.good cond., a/t, cd, c/c, abs, dual air bags, p/w. 81K mi. \$5,200. 286-1816.

98 CHEVY CONVERSION VAN - 5.7L, leather capt. chairs, TV/VCR/cass., hdpbns., excel. mech., 90K mi. \$9,000/neg. 363-7489.

97 MITSUBISHI DIAMANTE LS - 4-dr. sedan, 3.5L V6 a/t, a/c, p/w, p/b, am/fm/cd, orig. owner, lthr. int., 70K mi. \$5,000. 849-2520.

96 HONDA ACCORD LX - CA emiss., new Michelin, exhaust & batt. 129K mi. \$4,500/neg. Ext. 3913.

96 TOYOTA CAMRY LE - all pwr., high mileage, great station car. 584-5136.

96 CHEVY CORVETTE LT4 - stick, sport wheels. 41K mi. \$13,500/neg. 744-0702.

91 MAZDA MIATA - clean, new top/glass window, new clutch, runs well, cd, no rust. 152K mi. \$5,000. Frederick, Ext. 3498.

90 ACURA INTEGRA LS - 4cyl., 4dr., 5spd, a/c, am/fm, p/b, p/w, p/l, p/s; replaced: batt., axel, mstr cyl. 174K mi. \$500. Ext. 3725.

89 BUICK SKYLARK - lt. blue, 6cyl, a/t, a/c, p/w, p/l, am/fm/cass., vg cond. 112K mi. \$825/neg. Ext. 7915 or 929-0823.

87 SUBURBAN 2500 SERIES - runs well, well maint., needs some cosmetic work in/out. 135K mi. \$1,800/neg. 597-6874.

84 CHEVY CORVETTE - a/t, new tires, red. 41K mi. \$6,000/neg. 369-3721.

PICKUP CAP - 8' white, came off a 95 Ford. \$300 obo. Ext. 4843 or 727-6714.

Boats & Marine Supplies

15' BOSTON WHALER 1978 - \$2,500/ neg. James, 286-3962.

17' ISLANDS SAILBOAT - w/trailer, \$1,000; Yamaha 2 HP motor, \$800. Ext. 4176 or 286-3833.

24' PROGRESSION 24 LD - 250hp Merc w/40 hrs, LoadRite trailer, full equip, max 76 mph, 3 covers, \$40,000/neg. 646-207-0878.

26' CRUISERS INC. HOLIDAY 26 - 1986, full canv., wtr. htr., stve, refrig, head, shwr, slps. 6, eng. needs work. \$4,000/neg. 775-0724.

27' CHAPARRAL SIGNATURE - 1990 aft cabin, slps 6, camper back, a/c, h/c, shwr, hd, fully equipped. \$12,000. 588-1214.

27' PEARSON P27 - 1988, diesel, wheel, furling, wing keel (3/4" draft), H/C H2O w/shwr, aft cabin & head. \$17,900/neg. Ext. 2788.

Furnishings & Appliances

AIR CONDITIONER - 28,000 Btu, window-mtd. Friedrich, 2 yrs. left on service warr., \$950 neg. Tom, Ext. 3085 or 744-4535.

AIR CONDITIONER - through-the-wall/ window, 25,000 Btu, 220V, great cond. \$100. Chris, Ext. 2094 or 929-5008.

BASSINET - lg., wicker bassinet on wheels. \$30 obo. Joann, Ext. 7459 or 929-1981.

BED - qu. size, mattress, box spring & frame, \$200; 2 window AC units, gd. cond., \$25/\$30; carpet, \$75, more, 902-7495.

CAPTAIN'S BED - solid oak, good cond., incl. dresser, desk. Ask \$300. 839-8582.

DINING ROOM SET - glass tabletop w/pedestal, 4 fabric chairs, \$225; Leather love seat, \$200. Jerald, Ext. 3988 or 897-2266.

FURNITURE - King bed w/2 night stds., dresser w/mirror, sofa, loveseat, chair in Italian leather, more. See <http://tinyurl.com/otpyr>. Ext. 3397.

REFRIGERATOR - white Frigidaire, 18.2 cu. ft., 3 yrs. old, \$200. Ext. 2094 or 929-5008.

SOFA COVER - lg., med. blue, fits all types. \$30. Sue, Ext. 7235 or 399-7997.

WASHING MACHINE - Kenmore, 1 yr. old, like new. \$100. 727-1861.

Audio, Video & Computers

AUTO BASS SPEAKER - Pyle 12" "Toobz" spkr assembly, 600 watts. \$35. Ext. 5920.

CAR STEREO - Pioneer, 50W/channel, CDR/RW/MP3/WMA playback, satellite/ ipod compat., \$200. Ext. 7842 or 434-5824.

CD WALKMAN - Sony, portable, new, \$20; router, Linksys, 4 port, cable/DSL, still in box, \$50. Laura, Ext. 7842 or 434-5824.

DELORME STREET ATLAS USA - Xmap handheld ed., will work on your P/c & handheld, GPS compat., \$15. Ext. 3621.

TV - Hitachi 51", 4 yrs. old, excel. cond., ext. 3-yr. maint. pkg. recently completed. \$800. Jerald, Ext. 3988 or 897-2266.

TV/VCR COMBO - 13-in. Symphonic TV/ VCR combo w/remote, good cond., genitly used. \$100. Renee, Ext. 8278.

WIRELESS ROUTER - Linksys WRT54G Wireless-G, internet-sharing wireless 802.11g router w/4-port switch, \$40. Ext. 7174.

Sports, Hobbies & Pets

EXERCISE BIKE - Tunturi Recumb. F505 statnry. bike, pic avail. \$160 obo. Ext. 2155.

MOUNTAIN BIKE - Schwinn, men's, 26" alum frame, lightly used, \$80. Ext. 3319.

PARROT CAGE - 17wx17dx26h, blk w/plastic base, suit small parrot. \$20. 473-3604.

SNOWBOARD - Lamar Ultra 149cm w/LTD LT30 bindings, never used. \$175. 513-8275.

YANKEE TICKETS - 4, 5/18, 1:05 game vs Txns, main rsrvd sect. 8, row A, seats 12,13, 14,15. \$50 ea. Tirre, Ext. 3288 or 872-8972.

Taipei Folk Dance Theater, 5/19

The Taipei Folk Dance Theater, the first professional ethnic dance company in Taiwan, will perform in Berkner Hall on Friday, May 19, at 7:30 p.m. Before the performance, starting at 6:30 p.m., a reception will be held, along with an opportunity to view an exhibit from Taiwan. The event is open to the public. All visitors to the Lab age 16 and over must bring a photo ID.

Tickets must be purchased or reserved in advance. They are available in the BERA Store, Berkner Hall, on weekdays, 9 a.m.- 3 p.m. Tickets cost \$10 each, \$5 for children under 12 and students with a student ID. Tickets may also be reserved via telephone and picked up at the door on the evening of the performance. For reservations or for more information, call Ext. 7988.



Tools, House & Garden

LEAF BLOWER - Craftsman, 32 cc, runs well. \$25. John, Ext. 4028.

POND SUPPLIES - 2 Pondmaster Supreme 40w UV's, 1 new in box; Tetra Clear Choice PF-3 filter; Assorted liner. 775-6126.

TABLE SAW - Craftsman 10" w/new blade, gd cond. \$75. Shane, Ext. 7235 or 345-0063.

UMBRELLA - Budweiser, 6', red/white, brand new \$20. Sue, Ext. 7235 or 399-7997.

Miscellaneous

AIR CONDITIONERS - 8,000 Btu., \$150; 5,000 Btu., \$75; dehumidifier \$50; 2 coffee tables, \$50 ea. Steve, Ext. 4482 or 924-3678.

BIKES - 12-spd. Bianchi Premio w/computer for mph distance; 18-spd. Milano. Both have foot stirrups. Mitch, 584-5136.

DOUBLE STROLLER - good cond. \$50. Chris, Ext. 2094 or 929-5008.

LAWN TRACTOR - Ingersoll Model 220, hydraulic lift, 10 HP, 44" deck, excel. cond. \$900. Ext. 7686 or 878-0897.

OLYMPIC WEIGHTS - 350 lbs. w/bar & wt bench; other wts. w/bar & 2 curl bars. 584-5136.

TICKETS - Mets, Tue. & Fri. games, 2 seat, LOGE Sec 5, Row G, face value. 751-7023.

WEDDING GOWN - white satin size 10, the W1 "White One" brand, \$250. Ext. 3621.

Community Involvement

US TRANSPLANT GAMES - sponsor Team Liberty and get 3 raffle tickets for a new Corvette. \$25. See www.transplant-games.org. Richard, Ext. 7013.

Happenings

WALK-A-THON - on 6/4 at Long Beach boardwalk to raise money for Louis Cuomo who was diagnosed w/cancer at 16 months. Noelle, Ext. 3293.

Free

COMPUTER, MORE - Pentium 166, 15' mon., spkrs., 128MB RAM, 4GB HD, printer, Win95, software, Tony, Ext. 8450.

IGUANA - 2 1/2 ft. long, needs a home. 886-1591.

KIDDIE POOL - step 2 w/slide, nds. pwr washg., you pick up. Ext. 5567 or 281-2463.

Wanted

BERA STORE HELP - reliable store clerk needed Tuesdays, 9 a.m.-3 p.m.; Summer Sundays, 11 a.m.-3 p.m. Christine, Ext. 5090.

DOGGIE DAY CARE - for 2 female Maltese, affec., housebroken, spayed, need human companionship, 8 a.m.-5 p.m. Ext. 2922.

DRIVEWAY FILL - aggregate, broken concrete, blacktop, stone. Richard, Ext. 7235 or 345-0063.

FRUIT, VEGGIE LOVERS - to join group at BNL who get fresh-picked organic produce delivered weekly, June thru Nov. from local farm. Fee for 26 weeks is \$405. For info, Ruth Comas, comas@bnl.gov, Ext. 3545.

TEMPORARY ROOM - 3-5 nights/wk, May-Aug., for doctoral student & intern studying in Pine Barrens, call for details. 917-482-3705.

VENDORS - hand-made crafts or specialty items for BNL Market Day, Wednesdays, June-Sept 30. Joanne, Ext. 8481.

WOOD CHIPS - will pick up. Joann, Ext. 7459 or 929-1981.

For Rent

COOPERSTOWN - summer weekly rental, 4-bdrm. house, 7 mi. to center of town. All new appl., w/d, fully furn., sleeps 8 comft. \$875/wk. Rick, Ext. 3005 or 874-9639.

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

FARMINGVILLE - 1 lg. bdrm. in house, share bath w/1, full kit., elec incl., avail. now. \$450/mo. Ben, 513-8275.

LAKE GEORGE - lakefront cottage, 3 bdrm., 1 bath, 2 decks, gas grill, screend prch, out-dr f/p, dock, canoe. Huletts Landing. Avail. 7/1-8, 8/12-19. \$1,700/wk. 518-747-7821.

MANORVILLE - 1 bdrm., eik, lots of closets, 1st. flr., quiet, priv., incl. all. \$1,000/ mo. Annamarie, 878-8967.

MATTITUCK - lg. grd-flr apt. on water, l/r kit. combo, lg. bath, bdrm., spare rm., all new painted, no smkg/pets, great view, quiet area. \$850/mo. Ron, 298-5625.

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

NORTH PATCHOGUE - room(s) in house w/sec. alarm, pkg, pvt. ent., furn, incl. util., shared kit./bath, min. 3 month stay. \$500/ mo./neg. 447-6899 or revstewart@aol.com.

PORT JEFFERSON - share 4-bdrm., fully furn. Victrn. house, heart of Village, w/1 other pers. + 1/2 util., sublet avail. June-Aug., gd. for vstg. schlr. \$1,050/mo. 444-1007.

PORT JEFFERSON STATION - share 2-bdrm apt. avail. 6/1/06-3/07, l/r, 1 bath, lg. eik, balc, a/c, all rms. but bdrm. furn., hi spd. l-net rdy, util. not incl. \$730/mo. 678-8061.

RIDGE - 3-bdrm. house on .5 acre, l/r, kit., fin. bsmt., gar., no pets, avail. now, + util. \$1,650/mo. 924-4147.

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

ROCKY POINT - 1-bdrm. apt., sep. unit, enc. porch, 2 blocks from beach, + sec. & util., no pets. \$750/mo. Herb, 744-5282.

SHOREHAM - 2 lg. bdrms & l/r fully carpeted, kit., full bath, cable, pvt. ent. on cul-de-sac., no smkg./pets, 8 mi. to BNL, avail. in July. \$1,200/mo. 445-7838.

SHOREHAM - Jun, Jul, Aug rental, ranch, 3-bdrm., 1 bath, l/r, den, kit., w/d, 1-car gar., lg. yd, utilis. extra. \$1,800/mo. 258-4607.

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

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

For Sale

CENTEREACH - 4-yr.-old Center Hall Colonial, 5 bdrm., 2-1/2 baths, eik, gt room, d/r, fin bsmt., f/p, 1st flr laundry, 20 min to Lab, 5 mi to SBU. \$509,990. 981-2471.

CENTEREACH - 3-bdrm. ranch, 2 baths, eik, l/r, d/r, fam. rm. w/fp, fin bsmt., cac, heated semi-IGP, igs, htd. tile flrs, skylights, hot wtr. htr., deck. \$449,000/neg. 871-0561.

EAST QUOGUE - new 2/2 condo up unit, 1-car gar., sr. commty, cust closets, 42" cabinets, tiled baths, cac, maint. free, excel. cond. \$629,900/neg. 723-0770.

MILLER PLACE - comfortable 4-bdrm. Col., lg. eik, d/r, l/r, fam. rm., 2-1/2 baths, gar., wooded lot, 20 min. to Lab & SBU. \$475,000/neg. 473-4715.

PORT JEFFERSON - historic Victorian in ctr. village, 4 bdrm., 2 bath, 2-l/r, gas f/p, d/r, renov. eik, pool, waterfall views, attic, gas heat, cac. \$759,000/neg. 804-4662.

PORT JEFFERSON STA. - hi-ranch, mint+, 3 bdrm., 2 bath, updated kit, l/r, windows, office, fully renov. bath, new roof, grt location. \$419,999/neg. Ext. 3327 or 331-6725.

SHOREHAM - sprawling 5-bdrm. 2-bath ranch, move-in cond., new appl., driveway, cac, heating syst. & hwh, f/p, igs, fenced yard, 18x18 shed. \$369,900, Ext. 2145.

SHOREHAM - Dutch Colonial, 4 bdrm, 2 bath, d/r, l/r, lg. fam. rm., wood flrs., new lg. kit., new appls., 1-car gar., igr, fenced yrd., family n'hood. \$510,000/neg. 258-4607.

On-Site Service Station