

## Scientists Highlight Nanotech Applications at Media Roundtable — Part II —

**New ways to deliver drugs directly to tumor cells without poisoning the rest of the body**

**Beach umbrellas that absorb sunlight and allow you to plug in your laptop or cell phone**

**Quantum dots that produce multiple electrons per photon of absorbed light, increasing the efficiency of solar energy**

The items highlighted above are just some of the high-tech nanoscience applications reporters learned about at a special session hosted by the National Nanotechnology Coordination Office (NNCO) during the annual meeting of the American Association for the Advancement of Science in Boston on February 15. The session, organized by John Carter of DOE's Brookhaven Site Office and Audrey Haar of NNCO, brought reporters face-to-face with four of America's foremost nanotechnology experts for a wide-ranging discussion on nanotechnology applications in medicine and energy.

In the Bulletin, March 7, 2008, Part I of this report featured remarks by Altaf (Tof) Carim, DOE Office of Science and co-chair of the Nanoscale Science, Engineering & Technology (NSET) Subcommittee of the National Science & Technology Council; Robert Langer, Massachusetts Institute of Technology; and Emilio Mendez, Director of BNL's Center for Functional Nanomaterials (CFN). Mendez continues:

"DOE labs have also devised new ways to assemble and study nanomaterials," Mendez said. Scientists at Brookhaven are working on two main techniques: building nanomaterials from templates and getting them to self-assemble. One of the most exciting recent developments in self-assembly is a technique using complementary strands of DNA, to bring nanoparticles together to form stable 3-D crystals. Such ordered, crystalline structures would be essential for producing functional materials that take advantage of unique nanoscale properties such as enhanced magnetism, improved catalytic activity, or new optical properties.

Brookhaven's complementary facilities, particularly the National Synchrotron Light Source (NSLS) and the proposed NSLS-II, as well as facilities at other DOE nanocenters, will help scientists better understand these nanoscale materials and properties and ensure their uniformity, consistency, and reproducibility.

Consistency will be essential for materials to be used in a commercial setting, as demonstrated by the session's final speaker, Rick Hess, President and Chief Executive Officer of Konarka Technologies Inc., based in Lowell, Massachusetts. Hess described his company's development of organic solar cells, manufactured by printing "inks" made of light-absorbing polymers and nanoscale buckyballs onto sheets of plastic using techniques originally developed to produce Polaroid film. The polymers generate the current and the buckyballs carry it to electrodes for use.

So far, these cells don't have nearly the efficiency of silicon solar. But they are extremely flexible and lightweight, and the manufacturing process is much less costly than for traditional solar. Those properties make them extremely attractive for a wide range of applications where traditional solar wouldn't even be possible, Hess said.

For example, picture yourself sitting on the beach under a shady umbrella — only the surface of the umbrella is made of flexible plastic capable of generating electricity as it screens you from the sun's harmful rays. How much electricity? Enough to plug in your laptop or charge up your cell phone, for sure, Hess said. And they are working on ways to improve efficiency.

To ensure consistency and quality, Konarka relies on facilities supported by the federal government's National Nanotechnology Initiative at the University of Massachusetts at Lowell "to visualize the materials to be sure that we have created the structure we wanted and that the mix is right," Hess said.

In addition to powering beach umbrellas, plastic solar cells could be used in tents, awnings, stadiums, carports, or to bring electrical power to people living off the mainstream grid. The materials could also be used for wireless sensors for temperature and humidity, or even as shelf-life labels on grocery packages, Hess said.

The films can be made in any color, allowing users to specify which wavelengths of light (colors) are absorbed and which pass through — which might be useful for applications in wastewater treatment, where certain wavelengths are needed for biodegradation of wastes while others could be absorbed to generate electricity.

"It's amazing to see the many ways nanotechnology may find its way into our lives," DOE's Carter summed up. "I'm excited to be a part of the research effort that's making these important strides in addressing problems of critical importance to our nation and the world." — Karen McNulty Walsh

## Efficient Catalysts for Making Oxygen For Artificial Photosynthesis

Research could lead to more efficient, cleaner hydrogen production

Scientists at BNL and the Institute for Molecular Science in Japan are trying to mimic part of the complex natural process of photosynthesis with the goal of making non-polluting fuels such as hydrogen, for example, for use in fuel cells. In the March 10, 2008, web release of the journal *Inorganic Chemistry* containing a Forum on "Making Oxygen," the scientists report that they were able to mimic the "water oxidation catalysis" that occurs in natural photosynthesis.

DOE's Office of Basic Energy Sciences (BES) within its Office of Science funded this basic research at BNL. The research is part of the BES Hydrogen Fuel Initiative program.

Water oxidation, a step in photosynthesis, is one part of "water-splitting" — splitting water into hydrogen and oxygen, a very complex process that requires a large amount of energy from sunlight and metal catalysts to activate water molecules, which are very stable. It occurs as two separate "half" reactions: water oxidation produces the oxygen, along with protons and electrons; these protons and electrons are then combined to make molecular hydrogen.

"The water oxidation reaction is generally believed to be the 'limiting' process, meaning that if it is not catalyzed efficiently, it limits hydrogen production," said James Muckerman of BNL's Chemistry Department, co-author on the current paper. "You can't sustain hydrogen production without the protons and electrons generated by water oxidation. So, to make hydrogen from water for use in fuel cells, we must meet



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James Muckerman and Etsuko Fujita, Chemistry Department.

the challenge of performing efficient and inexpensive water oxidation."

Co-author Etsuko Fujita, also of Chemistry, explains how the BNL team has been collaborating with Japanese scientists Koji Tanaka and Tohru Wada, who in 2001 discovered a novel catalyst that appears quite promising for water oxidation.

"We are combining theoretical and experimental studies to determine how this ruthenium complex with bound quinone molecules efficiently catalyzes water oxidation to form oxygen," she said.

To accomplish the water-oxidation reaction, Tanaka and Wada immobilized the ruthenium catalyst on an electrode, placed it in an aqueous solution, and applied a voltage, resulting in a rapid turnover for oxidizing water to oxygen. The research team, which also includes BNL's Dmitry Polyansky, continues to collaborate on further studies to understand the details of how the catalyst works.

The scientists have discovered that when the protons from two

water molecules are removed due to acid-base reactions in solution, four electrons are transferred to electron receptor sites in the catalyst. Once all the protons are removed, the theoretical calculations predict that an oxygen-oxygen bond is formed.

What makes their catalyst novel is that in most metal-based compound catalysts these electron receptor sites are located on the metal atoms, but in this ruthenium complex the receptor sites are on the quinone molecules. More theoretical and experimental studies will be needed to fully understand and improve the mechanisms of quinone-containing catalysts.

### The Benefits

Producing hydrogen from water would offer several benefits over current methods of production, including steam reforming of natural gas, which produces carbon dioxide along with the hydrogen. Heat derived from fossil-fuel combustion is currently used to drive the steam reforming process, resulting (continued on page 2)

## 434th Brookhaven Lecture, 3/19

### O'Brien on 'What We Have Learned So Far at RHIC'

The Relativistic Heavy Ion Collider (RHIC) is just completing its eighth year of physics operation at BNL. RHIC is one of the world's premiere nuclear physics research facilities, and during the past eight years, its physics program has emphasized the creation, observation, and explanation of nuclear matter created at temperatures and densities that last existed in the universe 13.7 billion years ago.

The RHIC accelerator and associated detectors were built to study the strong nuclear force that holds the quarks and gluons that make up the nucleus of an atom together. At the start of the project, scientists hoped to observe evidence for the creation of a new state of matter, a gas-like plasma of quarks and gluons. What they found, however, was quite different.

To learn about "What We Have Learned So Far at RHIC — What we set out to do, what we discovered, and why it is important," join Edward O'Brien, a senior physicist in the Physics Department as he talks on this topic for the 434th Brookhaven Lecture, to be held at 4 p.m. in



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Edward O'Brien

Berkner Hall on Wednesday, March 19. All are welcome to this free lecture, open to the public. Visitors to the Lab of 16 and over must carry a photo ID.

O'Brien has been a member of the PHENIX experiment at RHIC since it was established in 1992, and the PHENIX Director of Operations for the past seven years. In his lecture, he will discuss what RHIC scientists found — instead of what they expected to find — and how that finding both challenges the existing theory and gives the opportunity to gain new understanding about the strong force.

With a Ph.D. in physics from the University of Illinois, O'Brien joined BNL in May 1987. Before joining the PHENIX collaboration, he did research on both a neutrino oscillation experiment and a heavy ion fixed-target experiment at BNL's Alternating Gradient Synchrotron accelerator.

Refreshments will be offered before and after the lecture. To join the lecturer at a restaurant off site for supper after the talk, contact Mariette Faulkner, Ext. 4064, faulkner@bnl.gov, or Rachel Nieves, Ext. 3500, irachel@bnl.gov. — Liz Seubert



## 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 Committee events may be found at the Lollipop House and the laundry in the apartment area.
- The Recreation Building #317 (Rec. Hall) is located in the apartment area.
- Contact names are provided for most events for more information.
- 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](http://www.bnl.gov/esol/schedule.html) 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](mailto:alforque@bnl.gov)

**Mondays: Pilates**  
Noon-1 p.m. Rec. Hall. Ext. 5090

**Mondays & Wednesdays: Pilates**  
5:15-6:15 p.m. Rec. Hall. Ext. 5090

**Mondays & Thursdays: Kickboxing**  
\$5 per class. Noon-1 p.m. in the gym. Registration is required. Ext. 8481

**Mon., Thurs., & Fri.: Tai Chi**  
Noon-1 p.m., B'haven Cntr N. Rm. Adam Rusek, Ext. 5830, [rusek@bnl.gov](mailto:rusek@bnl.gov)

**Tuesdays: Hospitality Coffee**  
10:30 a.m.-noon, Rec. Hall lounge. All welcome. Ext. 5090

**Tuesdays: BNL Music Club**  
Noon, B'haven Center, N. Room. Come hear live music. Joe Vignola, Ext. 3846

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

**Tuesdays: Toastmasters**  
1st & 3rd Tuesday of month, 5:30 p.m., Bldg. 463, Rm 160. Guests, visitors welcome. [www.bnl.gov/bera/activities/toastmasters/](http://www.bnl.gov/bera/activities/toastmasters/)

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

**Tue., Thurs. & Fri.: Ving Tsun Kung Fu**  
Noon-1 p.m., B'haven Center, North Room. Taught by Master William Moy. Scott Bradley, Ext. 5745, [bradley@bnl.gov](mailto:bradley@bnl.gov)

**Tues. & Thurs.: Jazzercise**  
Noon, Rec. Hall. Ext. 5090.

**Tuesday & Thursday: Aerobic Fitness**  
5:15 p.m., Rec. Hall. 10 classes for \$40 or \$5 per class. Pat Flood, Ext. 7866, [flood@bnl.gov](mailto:flood@bnl.gov)

**Tuesday & Thursday: Aqua Aerobics**  
5:30-6:30 p.m., Pool. Ext. 5090

**Wednesdays: On-Site Play Group**  
10 a.m.-noon. Rec. Hall. Infant/toddler drop-in event. Parents meet while children play. Petra Adams, 821-9238.

**Wednesdays: Ballroom Dance Class**  
B'haven Center, N. Ballroom. Instructor: Giny Rae. Starts September 12 and 19. Ext. 3845.

**Wednesdays: Weight Watchers**  
Noon-1 p.m. Michael Thorn, Ext. 8612

**Wednesdays: Yoga**  
Noon-1 p.m., B'haven Center. Free. Ila Campbell, Ext. 2206, [ila@bnl.gov](mailto:ila@bnl.gov)

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

**Fridays: Family Swim Night**  
5-8 p.m. BNL Pool. \$5 per family

**Fridays: Family Gym Night**  
5-8 p.m. Family gym activities. Free.

**Fridays: BNL Social & Cultural Club**  
Noon-1 p.m., B'haven Center, South Room, free beginners dance lessons. 7-11:30 p.m. North Ballroom, Dance Social, workshops. Rudy Alforque, Ext. 4733, [alforque@bnl.gov](mailto:alforque@bnl.gov)

## CIGNA Representative

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

## BNLers Win FY 2007 Spotlight Awards



Roger Stoutenburgh D1430208

For extending extraordinary efforts in response to the needs of their departments or divisions, the following 175 BNL employees, including those pictured above, were honored during fiscal year 2007 by Spotlight Awards: Glenn Anderson, Rick Backofen, Joan Barrow, Lorraine Barry, Ronald Beaman, John Benante, Cynthia Biancarosa, James Biancarosa, Jacob Blackford, Alfonso Borrelli, Linda Bowerman, Bill Brown, Charlotte Buck, Deana Buckallew, John Butler, Chris Cacace, Lois Caligui, Mary Campbell, Patricia Carr, Karen Cestra, Hucheng Chen, Shu Cheung, Cyndy Chisare, Cheryl Christie, Pam Ciuffo, Robert Colichio, LaRosa Collins, Greg Condemi, David Cortijo, Frank Cullen, Nils Danielson, Gary Danowski, William DeJong, David Derryberry, Lidia Didenko, Frank Donato, Kathy Doty, Susan Dwyer, Raymond J. Edwards, Dave Eling, Pamela Esposito, Subramaniam Eswaremoorthy, Beth Evely, Joseph Famiglietti, Nick Franco, John Galvin, Ralph Garappolo, Ed Gavin, Joann Giambalvo, Manuel C. Grau, Richard Greene, Lori Happich, David Harder, Felicia Hartsough, Claudia A. Hatton, Gregory Heppner, Warren Hirzel, Christopher Hollowell, Madeline Hughes, Stephen Jao, James Jardine, Glenn Jochen, Patricia Johnson, Sherry Johnson, Alan Jones, Linda Jones, Matthew Kessler, Sabine Kessler, Anastasia Kuczewski, Cheryl Ann Kuhn, Desigan Kumaran, Steven LaMarra, Mark Lavery, Rosalie Lawrence, Dewey Lederle, Michael Lenz, William Lenz, Eileen Levine, Karen Liebermann, Wai Lin Litzke, Nancy Lofaro, Ali Lopez, Jeanne Madaia, Jody Maddock, John Maraviglia, Daniel Martin, Leonard Masi, Chris Masullo, Bonnie McGahern, Mary McGrath, William McKeon, Mark McNeill, George Meade, Angela Melocoton, Tony Mendez, John Mingoia, John Moore, Starr Munson, Stuart Myers, Frank Naase, Charles Nielson, Jane O'Brien-Fox, Donna Occhiogrosso, Noreen O'Donnell, Maria Ohlsen, Jorge Oliva, Holly Olsen, Daniel Orsatti, Catherine Osiecki, Maria Pacella, Michael Paquette, David Pate, Edmund Pavlak, Robert Petricek, Jeanne Petschauer, Jean Petterson, Marc Pfeffer, Eileen Pinkston, Margherita Pirozzi, Gary Polonski, Peter Popken, Dennis Poshka, Maggie Rando, Marteenio Rankine, Margaret Reben, Arlene Rementer, Edward D. Richards, Kenneth Riker, Lydia Rogers, Christopher Salat, Paul Sampson, Anthony Santiago, Darlene Sappo, Mark Sardzinski, Nick Satterley, Helen Savage, Richard Savage, Steven Savatteri, Bill Schoenig, Thomas Seda, Craig Selvaggi, Liz Seubert, Freddy Severino, Colleen Shea, Fern Simes, Pooran Singh, Robert Soja, Lori Stiegler, Kenneth Sullivan, Thomas Tallero, Patrick Talty, Louis Tenreiro, Yatming Than, William Themann, Judy Thompson, Frank Told, Jim Trombacco, John Trunk, John Vaughn, John Walsh, Andreas Warkentien, Christopher Watts, Grace Webster, Daniel Wilson, Patriche Windley, Alexander Withers, Jay Woods, Mike Wooley, Thomas Wozniak, Andrea Wund, Youwen Xu, Bernard Yatauro, Frank Zafonte, Raymond Zaharatos, Dieter Zantopp, and Ronald Zapasek.

## Plant Engineering Custodians Go Green

About three years ago, the BNL Custodial Services supervisors attended a seminar and trade show that promoted products, techniques and technology to go green. The supervisors decided it was time for change. By moving to Green Seal-certified cleaning products, the Custodial Services Group is establishing a program that will protect both people and the environment at BNL.

Currently, thirty percent of the custodial products purchased by BNL are Green Seal-approved, which means they are products designed to promote environmental quality. The goal of Green Seal, a nonprofit organization based in Washington, D.C., is to reduce the environmental impacts of the manufacture, use and disposal of products.

"We used to have over 80 chemicals in our inventory, but today we have reduced that number to 30," said Phil Baker, one of four Custodial Services supervisors in the Plant Engineering Division. "We've also been replacing our old equipment with new equipment that is considered 'green approved.' For example, our new vacuum cleaners have several filters that are replaced periodically so the custodians and the public can breathe cleaner air. Our new equipment is quieter and safer, too."

### Catalysts for Making Oxygen

in even more carbon dioxide as a byproduct, all of which contributes to global warming. Making hydrogen by splitting water would not add carbon dioxide to the atmosphere.

Also, hydrogen produced from natural gas contains residual carbon monoxide, which can "poison" the expensive electrodes in fuel cells, requiring their replacement. Hydrogen produced from water does not contain carbon monoxide, and



Joseph Rubino D1480208

Custodial Services Supervisors (from left) Phil Baker, Martha Bryant, Debbie Doyle, and Carl Booker display some of the green-certified products used by BNL custodians.

"Green products usually cost more than non-green products, however, some are concentrated or are made to last longer," Custodial Services supervisor Carl Booker said. "Some products we now use contain no chemicals, such as micro-fiber cloths that are used for dusting."

"We also use micro-fiber wipes for glass cleaning, damp dusting, and to remove fingerprints from surfaces," added Custodial Services supervisor Debbie Doyle. "These particular wipes can be used without chemicals and are good through as many as 1,500 washes. The micro-fiber wipes cut down on paper towel use, so waste is cut back."

(cont'd)

therefore does not subject fuel cell electrodes to poisoning.

"The ruthenium in our catalyst is somewhat expensive, so we plan to continue our studies with more economical catalysts incorporating less-expensive metals," Muckerman said.

Hydrogen made by water splitting could also be used directly for combustion in a future hydrogen-based economy.

— Diane Greenberg and Karen McNulty Walsh

## Meet Kerry Mirabella, Home Builder

Kerry Mirabella, senior project planning administrator in the Collider-Accelerator Department, works mostly at her desk at the Laboratory. But on certain vacation days, she can be found building homes in nearby neighborhoods. Mirabella is a volunteer for Women Build, a Habitat for Humanity program that enables women and girls to make a difference in their communities by building homes for families who need a helping hand.



Roger Stoutenburgh D261007

Mirabella first helped to build a house for Habitat in 2004, when she was part of an all-women team of volunteers who "blitz-built" a 1,008 square foot home in Bellport in six days. Before working at the building site, Mirabella attended a six-hour class with other volunteers, where they built a shed to practice construction skills.

"I worked on roofing, installed insulation, sheetrock, and vinyl siding," she said. "I was a single Mom for a long time, and during that time, I decided to get the kitchen remodeled in my home. To save money, I did some of the work myself. I tore down the sheetrock and old insulation, and ripped out linoleum. Actually, I tore down new sheetrock when I discovered one evening that the construction crew had mistakenly walled up my cat behind it!"

Last October, Mirabella helped build another Bellport home with an all-women construction crew. She prefers working on all-women sites because separating women as their own group allows them to do more and learn more, since men aren't there to help with the heavy lifting. Also, the more volunteers Habitat has, the more houses they can build, so it's important to use "womanpower" as well as manpower.

What does Mirabella get out of her hard work for Habitat? "It's a totally positive day for me. I arrive at a Habitat site and people are happy to see me," she said. "My work helps a family, and I see immediate results — a change in the building site in only one day." — Diane Greenberg

Note: Currently, says Mirabella, there are two more women-built homes planned for this year, and six other homes in progress. "We can do with all the help we can get," she says. See Mirabella's ad in "Community Involvement"

"We field-test everything," Doyle said. "If it doesn't work, we don't use it. Anything we use has to do the job it's supposed to do well, and we look for products that protect the worker, the customer, and the environment as much as possible." — Diane Greenberg

## 4th Annual Dr. Mow Shiah Lin Scholarship Call for applications

BERA's Asian Pacific American Association (APAA) is accepting applications for the 4th annual Dr. Mow Shiah Lin Scholarship, honoring the late Lin, a distinguished scientist in BNL's Energy Sciences & Technology Department.

In honor of Lin's research, remarkable achievements, and inventions, a one-time award of \$1,000 is granted each year to an Asian immigrant with a student visa who is matriculating toward a doctorate at an accredited institution of higher education on Long Island (including Queens and Brooklyn) in environmental & energy technology, biology, or chemistry.

The criteria for selection include academic records, references, career goals, and other factors deemed appropriate by the committee. The winner is chosen by a selection committee consisting of scientists at BNL and members of the APAA. The scholarship will be granted independent of financial need and without regard to other forms of aid to the student.

With this scholarship, the Lin family hopes to make a difference for students who come to the United States, like Dr. Lin, to pursue higher education and achieve their research goals with the purpose of making significant contributions to the environment and improving the lives of all humankind.

Administered by the BNL Diversity Office, the APAA is now accepting applications for the Dr. Mow Shiah Lin Scholarship through May 31, 2008. School transcripts from the previous two semesters, two professional letters of reference, and an essay, which summarizes the objectives of the applicant's education program and long-range research goals, must be attached to the application. The essay should be concise, limited to one page, and double-spaced.

For more information or to obtain copies of the application form, contact the BNL Diversity Office via phone (631-344-6253) or email (sge@bnl.gov), or visit the APAA web site at [www.bnl.gov/bera/activities/apaa/](http://www.bnl.gov/bera/activities/apaa/).



Roger Stoutenburgh D0186002

## In Memoriam

**Albert Beaufre**, who joined the Department of Applied Science on September 8, 1975, as a development engineer I, and retired on April 8, 1983, as a research engineer I, died at the age of 89 on January 8, 2007.

**Edward Sayre**, who joined the Chemistry Department as an associate chemist on January 4, 1952, received tenure as a chemist in 1959, and was named a senior chemist in 1965, died at 87 on May 25, 2007. He retired on November 23, 1984, continuing as a guest researcher through 1985.

**Nicholas Parrinello**, who joined the Mechanical Engineering Department on July 1, 1964, as a senior designer, and retired as a senior design engineer in the Alternating Gradient Synchrotron Department on February 11, 1994, died at 76 on August 4, 2007.

**Joseph Murray**, who became a Plant Maintenance Division laborer on June 30, 1958, and retired as a rigger on July 15, 1986, died on September 23, 2007. He was 82.

**Seymour Protter**, who joined the Reactor Division on August 1, 1961, as a water treatment engineer II, died at age 86 on October 1, 2007. As a project engineer I, he had retired on August 31, 1988.

**Leroy Blumberg**, who joined the Accelerator Development Department on July 1, 1966, as an associate physicist, and retired as a senior physicist with tenure from the National Synchrotron Light Source Department on September 30, 1994, died at the age of 78 on October 12, 2007. He continued with research for four years as a guest scientist until 1998.

**Rodney Richter**, who became a technician B in the Department of Nuclear Energy on June 25, 1956, and retired as a technical associate II in the Department of Applied Science on April 30, 1986, died on October 19, 2007. He was 78.

**Patsy Andrisani**, who became a clerk III in the Supply & Material Division on October 16, 1957, died at 87 on November 1, 2007. He retired as an assistant stores keeper on September 30, 1986.

**Grace Custance Dryden**, who joined the Alternating Gradient Synchrotron Department as a clerk B on April 27, 1960, left the Lab 1970-75, returning as a secretary III in the Director's Office, died at 88 on November 14, 2007. She retired as a senior executive secretary on December 31, 1984.

**William Dunne**, who joined the Central Shops Division as a machinist on June 20, 1966, and retired on June 25, 1982, as a tool and instrument maker, died on November 20, 2007. He was 89.

**Joseph Damm**, who joined the Central Shops Division as an experimental machinist on November 29, 1954, and retired as a tool & instrument maker on July 2, 1974, died on November 14, 2007. He was 96.

**Leo Casey**, who became an offset technician III in the Photography & Graphic Arts (PGA) Division on August 26, 1957, died on November 19, 2007, at 83. He retired as PGA senior technical supervisor on February 21, 1997.

**Charles E. Brown**, who joined the Plant Engineering Division as a custodian on May 23, 1994, and retired as a Laboratory custodian on September 5, 2007, died on December 10, 2007. He was 69.

## BSA Noon Recital, 3/19 8-String Guitarist Paul Galbraith

At noon on Wednesday, March 19, internationally renowned musician Paul Galbraith, who is on tour from Brazil, will perform at Berkner Hall. Galbraith has worked since the 1980s towards expanding the technical limits of the guitar. His eight-string Brahm's guitar has proved the ideal instrument with which to interpret challenging classical transcriptions from his highly personal repertoire. These efforts have resulted in his critically acclaimed recordings of works by Bach, Haydn, Brahms and Debussy, along with his own arrangements of folk tunes from around the world. Sponsored by BSA, the company that manages BNL, this free concert is open to the public. Visitors to the Lab of 16 and over must carry a photo ID.



## Parent Volunteers Needed

Parent volunteers are needed to help prepare for "Take Our Children to Work Day," which will be held on Thursday, April 24. Contact Ernie Tucker, Ext. 5735, [tucker@bnl.gov](mailto:tucker@bnl.gov), or Liz Gilbert, Ext. 2315, [gilbert@bnl.gov](mailto:gilbert@bnl.gov) for more information.

## Reimbursement Account Deadline

According to the Internal Revenue Service, contributions to health care or dependent day care accounts not used by the end of the calendar year will be forfeited. So, do not forget to use up balances within all 2007 reimbursement accounts by claiming expenses incurred in 2007. To do so, submit claim forms by March 31, 2008.

## Camera Club Meeting, 3/20

The next meeting of the Camera Club will be held noon-1 p.m. on Thursday, March 20, in Berkner Hall, Room C. Henry Kahnhauser will demonstrate the popular program Adobe Elements. Beginners and nonmembers are always welcome. For more information, call club president Ripp Bowman, Ext. 4672.

## BERA Events

**Tax Assistance Workshop** for Visiting Foreign Nationals Berkner Hall, Room B, noon, Mon., March 17. To register, contact Christine Carter, [ccarter@bnl.gov](mailto:ccarter@bnl.gov).

**Stretching Clinic** for BERA/Recreation participants, Fri., March 21, noon, in the Gym. Learn basic stretching to play safely!

**Atlantic City** trip to Resorts Casino International, Sat., April 5. The luxury coach departs BNL 9 a.m. (note revised time), and departs Resorts at 8 p.m. \$25/person. Casino offers \$21 slot cash and \$5 food.

**New York City** trip, Sat., April 12. Depart BNL 9 a.m., drop off at mid-town Bryant Park. Depart, 5 p.m. \$10 charge, adult or child.

**Fishing Trip** with Capt. Bob, Saturday, May 17. Meet at Mattituck dock at 7:45 a.m., return 3 p.m. \$60, reserve at BERA Store.

## TIAA-CREF One-on-One Retirement Counseling

A TIAA-CREF consultant will visit BNL on Thursday, March 20, and Wednesday, March 26, 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 Suzanne Leone, (866) 842-2053, Ext. 4601.

## Kane Daily Band Rock, Blues Concert, 3/28

The Kane Daily Band will perform on Friday, March 28, at 7:30 p.m. at the Brookhaven Center. Sponsored by the BNL



Photo courtesy of Mark Kopko

Music Club, the concert is open to the public. All visitors to the Lab age 16 and over must bring a photo I.D.

Best known for classic rock, rockabilly, and blues performances in the New York area, the Kane Daily Band features Daily on lead guitar and vocals; George Ellert, an experienced, enthusiastic bass player; and the talented Al Henneborn on percussion.

Tickets for the show are \$10 in advance and \$12 the day of the show. Tickets may be purchased through [www.ticketweb.com](http://www.ticketweb.com), at the BERA Store, or the door. Seating is limited, and advanced ticket purchase is recommended. For more information, call 631 344-5139.

## Defensive Driving Course in Two Parts, 3/17 & 20

The six-hour Defensive Driving (Point & Insurance Reduction) course will be held in two parts on Monday and Thursday, March 17 & 20, in the Brookhaven Center South Room, 6 p.m.-9:15 p.m. The course is open to BNL, BSA, and DOE employees, facility-users, and their families. The cost is \$38/person. Preregistration is required. To register, call Ed Sierra, 821-1013, and leave a message, with your phone number. For more information, call Sarah Wiley, Ext. 4207.

## CALENDAR

— WEEK OF 3/17 —

Monday, 3/17

**\*Tax Assistance Workshop For Visiting Foreign Nationals**  
Noon. Berkner Hall, Room B. Mark Israel, Director, Internal Audit & Oversight will lead a tax assistance workshop for visiting foreign nationals, sponsored by BNL's Quality of Life/Recreation Program. For more information and web links, go to <http://www.bnl.gov/hospitality/calendar.asp>.

**\*Defensive Driving, Part I of II**  
6-9:15 p.m., B'haven Center. \$38. Part II on 3/19. Preregistration required. See p. 2.

Wednesday, 3/19

**\*BSA Noon Recital**  
Noon. Berkner Hall. Paul Galbraith will interpret works selected from Bach, Haydn, Brahms or Debussy, and his own arrangements of folk tunes, on his eight-string Brahm's guitar. All are welcome to this free concert, open to the public. Visitors of 16 or over must carry photo ID.

**\*434th Brookhaven Lecture**  
4 p.m. Berkner Hall. Edward O'Brien, Physics Department, will speak on "What We Have Learned so Far at RHIC: What we set out to do, what we discovered and why it is important." All are welcome to this free talk, open to the public. Visitors to the Lab of 16 or over must carry photo ID. See story, p. 1.

**\*Defensive Driving, Part II**  
6-9:15 p.m., Brookhaven Center. \$38. Preregistration required. See below, left.

Saturday, 3/22

**\*BERA-IAA Holi, Festival of Colors**  
2 p.m. Berkner Hall. The BERA Indo American Association celebrates Holi with song, dance, music. Tickets of \$5/adult, \$3/child, include a snack of samosas or pizza at the Recreation Hall. See p. 4.

— WEEK OF 3/24 —

Monday, 3/24

**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.

Friday, 3/28

**Employee Lunchtime Tour: BGRR**  
Noon-1 p.m. Berkner Hall upper lobby. The next Employee Lunchtime Tour will take participants to the Brookhaven Graphite Research Reactor (BGRR), to learn some of its history and the plans for its future. Meet the group at Berkner to be taken to the BGRR; the tour will return there by 1 p.m. For more information, contact Elaine Lowenstein, Ext. 2400.

**\*Kane Daily Rock, Blues Band**  
7:30 p.m. Brookhaven Center. Sponsored by the BNL Music Club. Tickets: \$10 in advance, \$12 at the door. See left.

## BREA Annual Luncheon, 6/4

The Brookhaven Retired Employees Association (BREA) Luncheon Committee announces that the fifth Annual BREA Luncheon will be held on Wednesday, June 4, at the Three Village Inn in Stony Brook. Hold the date: information on reservations will follow.

## Arrivals & Departures

— Arrivals —

Edward Cheswick..... NSLS II  
James De Groff..... Plant Eng.  
Jinho Lee ..... CMP&MS  
Don Rawlings.... Dep. Dir. For Ops

— Departures —

None

## 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/](http://www.bnl.gov/HR/jobs/).

To apply for a position, go to [www.bnl.gov](http://www.bnl.gov). Select "Careers at Brookhaven" then "Employment Opportunities."

### LABORATORY RECRUITMENT - Opportunities for Laboratory Employees

**MANAGER, RESEARCH OPERATIONS OFFICE, EENS DIRECTORATE (M-1)** Requires an advanced degree or professional certification in a scientific or safety-related discipline and a combination of 15 years of relevant technical and managerial experience. Proven leadership skills as well as excellent written and oral communication skills are required. Comprehensive knowledge in industrial safety, industrial hygiene, safety engineering, hazards analysis, chemical management, quality management, environmental management, OSHA Standards, work planning and controls and Integrated Safety Management is highly desirable. Must have the ability to work in a fast-paced office with changing priorities, must possess strong organizational and decision-making skills and must have excellent interpersonal skills. Will be responsible for developing, implementing and monitoring the EENS programs in worker safety and environmental protection to assure compliance with all applicable BNL and DOE requirements. Substantial expertise in areas of EENS research is strongly desirable. Will oversee the continued development of the EENS Integrated Safety Management Program which incorporates ISO 14001 and OHSAS 18001 criteria. In addition, will also be responsible for leadership and direction in areas of infrastructure management; work planning, staff training, property management, quality assurance, and self-assessment. Will report to the Associate Laboratory Director for Energy, Environment & National Security, and will be accountable to the Department Chairs for ES&H performance within the Directorate. Energy, Environment & National Security Directorate. Apply to Job ID # 14398.

**ADMINISTRATIVE SERVICES ASSISTANT (A-2, term appointment)** - Requires formal secretarial or office administration training or equivalent, plus four years of relevant experience or a BA degree in a business field. Requires working knowledge of basic database skills; strong analytical, communication, and interpersonal skills; and proficiency in MS Office. Knowledge of PeopleSoft and BTMS required. A working knowledge of INS documents, badging, dosimetry badges, intellectual property agreements, and knowledge of Laboratory policies and procedures is a plus. Working under the direction of the manager of the Guest, User, Visitor (GUV) Center, candidate will coordinate the notification, collection, and documentation of computer use agreements for guests of the laboratory on behalf of ITD. Candidate will also perform GUV responsibilities which include issuing guest and visitor appointments and check-in. Position may require working non-traditional business days and/or hours. GUV Center/Director's Office Apply to Job ID #14407.

**OPEN RECRUITMENT** - Opportunities for Lab employees and outside candidates.

**ASSOCIATE LABORATORY DIRECTOR** - Energy, Environment & National Security (EENS) - Brookhaven National Laboratory seeks an Associate Laboratory Director (ALD) to provide leadership and oversight for three departments: Energy Sciences & Technology, Environmental Sciences, and Nonproliferation & National Security. Qualifications include an advanced degree and a distinguished research career in the physical sciences or engineering, accompanied by proven experience in the management of a significant research program in a federally-funded environment. Demonstrated ability to work with multiple sponsors at the federal, state, and municipal level, as well as private industry, is highly desirable, as is experience with international organizations. Candidates must obtain and maintain a DOE Q clearance. Responsibilities include linking directorates and taking advantage of BNL's

unique facilities; developing internationally recognized programs that are aligned with the mission of the Department of Energy, participating in Lab-wide planning for new programs and user facilities; maintaining and enhancing excellence and productivity; outreach to universities and supporting collaborations between industrial partnerships and end users; and being responsible for improving safety, operational, and environmental performance. Major funded programs include nuclear safety, nuclear materials, safeguards, climate sciences, and homeland security. Additional duties will include developing areas of scientific focus, including climate science studies, using a new supercomputer facility, advanced radiation detector development and testing, energy storage, and end use of biofuels. New programs are developing in renewable energy and energy efficiency with focus on biofuels, solar energy, catalysis and complex materials. BNL is an equal opportunity employer committed to workforce diversity. Director's Office. Apply to Job ID #14406.

**ASSISTANT PHYSICIST - X-RAY OPTICS (S-1)** - Requires a PhD in Physics or a related discipline. Two years' postdoctoral experience at a synchrotron radiation facility is highly desirable. Knowledge or experience in x-ray scattering, dynamical x-ray diffraction theory, x-ray focusing/collimation mirrors, setup/control of diffractometers, is desirable. Will work with research group that is focused on achieving 0.1 meV energy resolution for inelastic X-ray scattering. The selected candidate will specifically assist with developing ultra high energy resolution optics in the hard x-ray regime. Candidates must have excellent written and oral communication skills and be able to interact effectively with a diverse group of scientists, technical staff and users. The selected candidate will report to the NSLS-II Inelastic X-ray Scattering Group Leader. National Synchrotron Light Source II Project. Apply to Job ID #14400.

**ACCELERATOR PHYSICIST (S-1, S-2, S-3)** - Requires a PhD in physics or engineering with a successful track record in the development of electronic and optical instrumentation, as well as in fast electronics and feedback systems. Must have expertise in diagnostic instrumentation for accelerator systems. Experience with fast electronics, feedback system design, and synchrotron radiation optics is highly desirable. Reporting to the NSLS-II Accelerator Physics Group Leader, the selected candidate will participate in the design, testing, and commissioning of the diagnostic and feedback systems for the NSLS-II accelerators. In addition, the candidate will have the opportunity to carry out R&D to advance the state-of-the-art of beam instrumentation such as x-ray beam position monitors or bunch-by-bunch transverse feedback. National Synchrotron Light Source II Project. Apply to Job ID #14403.

**PROJECT ENGINEER I - CRYOGENIC (P-9)** - Requires a BS degree in mechanical engineering and at least ten plus years of relevant experience. An advanced degree is highly desirable. Knowledge of cryogenic system design, analysis, materials and manufacturing processes is required, as well as considerable experience in cryogenic system specifications, drawing standards and engineering codes. Strong communication skills and ability to work closely with a diverse group of scientists and engineers are essential. Responsibilities will include leading the cryogenic engineering effort for the superconducting RF cryogenic system of NSLS-II to be built at BNL. The system will consist of a 900W helium refrigerator/liquefier and a 3000 liter dewar feeding up to six RF cavity cryostats, along with associated valve boxes, transfer lines and helium recovery systems. In addition the successful candidate will review and update design specifications, cost-estimates, and schedules; prepare procurement documents for the cryogenics system; develop layout drawings and installation plans for the cryogenic subsystems; and provide engineering support for setting up an RF test facility. The candidate will also commission and operate the system and supervise maintenance and upgrades. Will report to the NSLS-II Mechanical Engineering Group Leader. National Synchrotron Light Source II Project. ERAP eligible: \$1,000.00. Apply to Job ID #14402.

**SENIOR TECHNOLOGY ENGINEER - INTERACTIVE RELATIONAL DATABASES (I-8)** - Requires a BS in Physics, Electrical Engineering or Computer Science or equivalent experience and a minimum of eight years of experience in control system applications of which five years is essential in open source Rich Internet Application technologies, including Apache, Linux, scripting languages (PERL, Python, JavaScript and/or Ruby), as well as relational database applications including SQL programming experience, JAVA, Web Services, and JavaScript and AJAX technologies. The successful candidate will have superior analytical and problem-solving skills and considerable experience of functioning in a lead developer role. Strong communication skills and the ability to work effectively with a diverse group of scientists and engineers are critical. Responsibilities include: working with a team to provide the design and development efforts for interactive relational database applications; gathering requirements, prototyping user interface applications, and deploying site-wide web-based services. Experi-

ence in the development and deployment of collaborative software projects, relational database systems, version control systems and the implementation of work flow systems is highly desirable. IT Controls Group, National Synchrotron Light Source II Project. ERAP eligible: \$1K. Apply to Job ID #14399.

**PLUMBER A (Two positions)** - Under minimum supervision lays out, constructs or installs, repairs, and maintains water and gas distribution systems, related facilities and auxiliary equipment and equipment utilizing water, gas and heat distribution services. Plant Engineering Division. Apply to Job ID #14404.

### Motor Vehicles & Supplies

05 CHEV BLAZER - ZR2, 4.3L, 4x4, excel. cond., loaded, 6 dsk cd, cowl induction hood, extras, 32K mi. \$15,500. 820-2122.  
03 CHEVY BLK. TRAILBLAZER - M/roof, excel. cond. 59K mi. \$11,000/neg. 204-0984.  
03 HYUNDAI TIBURON - 6-spd manual, sports pkg, fully equipped, mint cond., red. 30K mi. \$8,000/neg. 929-0961.  
01 CHEVY C350 DUMP RACK TRUCK - Diesel, 27K mi. \$17,100/neg. 204-0984.  
00 FOREST RIVER CHEROKEE 275B - 5th wheel trailer, mid-profile, bunks, sleeps 8, R/bath, big slide, all opts., \$9,995/neg. Ext. 7160 or 929-8294.

00 NISSAN MAXIMA - GXE 4dr. 6cyl 222h. p. a/c a/t abs c/c. Garaged, all maint. recs. Avg. cond. 118K mi. \$3,700/neg. 428-3224.  
99 ISUZU RODEO - 4wd, 6 cyl, at, a/c, cass/cd, c/c, p/l, p/w, 24mpg, 1 Ownr. Excel cond. 117K mi. \$4,200/neg. 734-2593.  
98 DODGE 1500 PICKUP - white pickup w/cap, 5 spd, excel. cond. 78K mi. \$5,800/neg. John, Ext. 5318 or 563-6596.  
97 DODGE CARAVAN - a/c, p/w, rem keyless ent., rec. NYS inspt., orig. owner, runs well. 145K mi. \$2,900/neg. 404-7009.  
96 INFINITI Q45 - gm, beige int, loaded, nds minor wk, body grt shpe. 138K mi. \$3,000/neg. Robert, Ext. 4798 or 235-3440.  
94 OLDS CUTLESS CIERA - 4 dr, a/t, a/c, p/w, p/l, p/s, p/b, c/c, am/fm/cass., new batt. excel. cond., must sell. 84K mi. \$3,200/neg. 839-6327.  
91 JEEP CHEROKEE - 4wd, 6 cyl, a/c, orig. owner, grt beach truck! 170K mi. \$1,250. 375-3035.  
88 BUICK REATTA - collectable, 2-seater, sSport coupe, V6, a/t, loaded, grt cond. \$3,500/neg. Ben, 687-0454.  
23 FORD T-BUCKET - need work, 350 mi. \$10,000/neg. Peter, Ext. 3556 or 767-1392.

### Boats & Marine Supplies

25' CATALINA 25 - 1980, 1994 9.9hp Tohatsu O/B, new main in 2007 unused; jib, 150 Genoa. \$3,800/neg. 744-0244/495-4000.

### Furnishings & Appliances

BEDS, TABLE - twin maple beds, gd cond, \$200; decorative 30" round almond formica table, \$75; 874-3606.  
7-PC DINING RM SET - Oak, Keller oval dbl. Pedestal tbl, 7'10-1/2" lg. w/3 leaves, 6 chrs., new cond., \$375. 878-1060.  
WALL UNIT - black lacquer 82" h x 116" w, holds 40" TV + lots storage + display shelves, mint, orig/\$3k, ask/\$400. 816-3717.  
DEHUMIDIFIER - Exc Cond \$45. Joe, Ext. 3783.  
ELECTRIC DRYER - Maytag Neptune, excel. cond., lg. cap., fr load, \$250. 495-3344.  
HEADBOARDS - twin size, 1 wooden, 1 wicker, \$10/ea.; wooden quilt rack, \$10; Hoover quick-broom, \$10. Ext. 2716.  
KING BED - wood frame, 4 yrs. old, mint cond., orig., \$1,200, ask/\$450. 219-8941.  
OAK KITCHEN TABLE - Oval table, 4 chrs. Excl Cond. Pic avail. Donna, Ext. 2826.  
WALL UNIT - 3 pc washed oak, 76h x 82w total, glass drs, lights, cd/tv storage, pics avail, \$175 obo. Ext. 3492 or 734-2593.

### Audio, Video & Computers

DRUM MACHINE - Yamaha R-5, with power supply, \$100. Ext. 3621.  
GARMIN ETREX LEGEND GPS - 18 hrs on 2 AA batt., 8MB-base map of America, many features. \$25. Gary, Ext. 7779.  
PC GAME - Quake 4, one of the best shooters, barely used, \$8. Ext. 3621.  
SUBWOOFERS - Atlantic Techlgy., PBM 70 self pwr'd Subs, 125 watts 10" wfrs, \$175/pr., weigand@bnl.gov. Edward, Ext. 7160.  
TAPE DECK - dual cassette Onkio Ri, \$25. Chris, Ext. 2094 or 831-3469.

### Tools, House & Garden

CAR RAMPS - \$25 - timing light, \$15 - engine analyzer, \$25. chris, Ext. 2094.  
CHISEL - Wood Rasp Comb. new, 3 pc. set, \$15; saws, wallbrd & dovettl, new, \$12; Delta 15" scrollsaw w/wood tbl, \$5. Ext. 7647.  
WHEEL BARREL - Craftsman, full sz, like new \$ 45. Joe, Ext. 3783 or 487-1479.

### Sports, Hobbies & Pets

DOG CRATE - Extra large, plastic w/ wire front dr. \$50. Ext. 2168 or 384-5536.  
POP-UP TRAILER - 1983 Coleman w/sink and stove top, gd. cond., needs tires, \$1,000. Ext. 2716 or 878-2425.

## BERA-IAA to Hold 'Holi,' Festival of Colors, 3/22

The BERA Indo American Association (BERA-IAA) will hold its annual Holi Function — the Festival of Colors — on Saturday, March 22, 2 p.m. at Berkner Hall. The program will feature songs, dances, and instrumental music related to the Indian subcontinent's culture. All are invited to attend. Make reservations through the links from the following web site: [www.bnl.gov/bera/activities/iaa/Holi2008/](http://www.bnl.gov/bera/activities/iaa/Holi2008/). Ticket prices for early reservations (by 3/15) are: \$5 for adults (12 years & older) and \$2 for children (3 to 12 years, under 3 free). The ticket includes the cultural program at Berkner Hall and a snack of samosas and pizzas at the Recreation Hall in the apartment area. Visitors to



the Lab of 16 and older must carry a photo ID.

**REEBOK CORE BOARD EXERCISER** - trains core ab muscles using balance prinpls, light & portable, \$75. Ext. 4567.  
**SKIS** - w/ bindings, poles, boots. Numerous sets; golf clubs, 2 sets w/bags, \$25/ea. Chris, Ext. 2094 or 831-3469.

### Miscellaneous

12 FT. GARAGE DOOR - Wood, 12'x8'h, 4 panel, one row w/glass, excel. struct. cond., all hdw. \$75. Ext. 4507 or 878-1060.  
**FISH TANK** - 90 or 70 gal, cust. cabinet, heat, filter, hood/lights, \$300. 375-3035.  
**GRAND CAYMAN** - Westin Casuarina Resort & Spa 4 D/3 N oceanfrt rm Must use betw 5/1-6/30/08 \$1500val, \$500obo. 523-7870.  
**LAVA LAMP** - \$15; photo album frames 4x6, holds 72 photos w/high gloss silver finish antique baroque frame, \$10. Ext. 7647.  
**PRECIOUS MOMENTS STATUES** - many to choose from w/boxes. \$10/ea/obo for all. Ext. 2716 or 878-2425.  
**TICKETS** - 2, *Spamalot*, Sun., Mar. 23, 2 pm show, Orch row O \$116.50/ea. Schubert Theatre, 225 W44 St. NYC 744-8793.  
**WEDDING DRESS** - Size 10, cathedral train, bought in store but ended up not using, \$250. Ext. 3621.

### Community Involvement

**HABITAT FOR HUMANITY** - Two Women build homes planned this year, six other homes in progress. See story on p. 2. Call for info. Kerry, 924-4966.

### Happenings

**ASIAN FESTIVAL OF LI** - Sat. Mar 29, Wang Center(SBU), 1-6pm FREE, 6-9pm \$10/\$20/\$25. Call (631)543-5768 or [www.aacfl.com](http://www.aacfl.com). Susan, Ext. 7988.  
**INTERNATIONAL ORCHID SHOW** - Suffolk Co. Orchid Soc. trip, Longwood Gardens Show, Sat. 3/29, \$42. Reserve w/Ron Blasius, 246-5998, [rtblasius@aol.com](mailto:rtblasius@aol.com).  
**SWR JR CLASS AUCTION** - Join us on 3/15 at Shoreham-WR HS Gym-opens at 5 pm; \$5 to enter; Buy prize tickets & food there! Ext. 4628 or 744-2095.

### Free

**\$40 TV CONVERTER BOX COUPON** - needed from Feb 17, 2009, for antenna reception. \$40-off coup. Rick, Ext. 3005.  
**FISH TANK** - 10 gal., complete set up. Rich, Ext. 7294.

### Wanted

**FIREARMS** - all kinds, new or old. Fair \$ \$ paid. Joe, Ext. 3783.  
**GUITARS** - old, unwanted or in need of repair. Chris, Ext. 2094 or 831-3469.  
**HELP WANTED-LIFE GUARDS & CAMP** - Life Grd-cert./min. 18 yr. old, lessons, camp, & Teachers for summer camp prog. Background check req. Christine, Ext. 5090 or 457-3231.  
**JAZZ MUSICIANS/STUDENTS** - for Monday evening jams. Ext. 7657.  
**PLAYSTATION 2** - Used Playstation 2 system or games wanted. John, Ext. 4028.  
**POLAROID FILM** - for Polaroid SX 70 Camera. John, Ext. 8611 or 516-702-3186.  
**STUDIO/1BR APT** - 2 grad students need rental May 17 thru Aug. Refs avail. Under \$800/mo. vtitus@bnl.gov. (607)232-0343.  
**TUTOR IN FLUID DYNAMICS** - Taking "Physics of Fluids" course on-line and I'm losing way in a maze of math. Please help! Paul, Ext. 7727 or 960-8410.

### Lost & Found

**FOUND** - eyeglasses on w. side of Bldg. 400, pick up at HR reception desk, Bldg., 400B. Human Resources, Ext. 2883.  
**FOUND** - CAT - long-haired tortoiseshell, adult. Obviously someone's pet. Please claim. Heather, Ext. 4138; Kathy, Ext. 3832.  
**FOUND** - gold hoop earrings, bldg 400 wk. of Mar. 3rd. Ext. 5090.

On the Web, the Bulletin is located at [www.bnl.gov/bnlweb/pubaf/bulletin.html](http://www.bnl.gov/bnlweb/pubaf/bulletin.html). A calendar listing scientific and technical seminars and lectures is found at [www.bnl.gov/bnlweb/pubaf/calendar.html](http://www.bnl.gov/bnlweb/pubaf/calendar.html).

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