

Huilin Li (left) and Tao Wang, both of the BNL Biology Department, with screen images of interactions of the “kiss of death” marker and components of the TB bacterium’s protein-degrading machinery. Heran Darwin of New York University’s School of Medicine also contributed to this research.

Key Difference in How TB Bacteria Degrade Doomed Proteins

Interaction between ‘kiss of death’ marker and protein-chopping factory — new target for anti-TB drugs

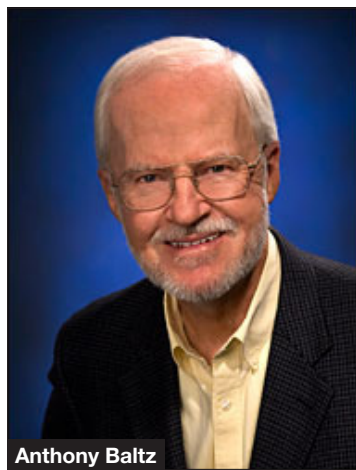
Scientists at BNL and Stony Brook University (SBU) have discovered a key difference in the way human cells and *Mycobacterium tuberculosis* bacteria, which cause TB, deliver unwanted proteins — marked with a “kiss of death” sequence — to their respective cellular recycling factories. This critical difference, described in a paper published online October 17, 2010, in the journal *Nature Structural and Molecular Biology*, may help scientists design drugs to disable the bacterial system while leaving normal human protein recycling centers intact.

This work was supported by grants from the National Institutes of Health, BNL’s Laboratory Directed Research and Development funds, and by a Burroughs Wellcome Investigator in the Pathogenesis of Infectious Diseases award. X-ray diffraction data for this study were collected at the National Synchrotron Light Source (NSLS), supported by the DOE Office of Science. Research was performed at NSLS beam lines X25 and X29, which are supported by funding from the Office of Science and the National Center for Research Resources of the National Institutes of Health.

TB Survival Mechanism

Most people infected with TB remain symptom-free because the bacterium is kept in check within immune system cells. These cells produce compounds such as nitric oxide, which scientists believe damage or destroy the bacteria’s proteins. If allowed to accumulate, the damaged proteins would kill the bacteria. But the TB proteasome, a protein-cleaving complex, carves up the damaged proteins, allowing *Mycobacterium tuberculosis* to survive, and possibly go on to cause active infections.

“With tuberculosis infecting a third of the world’s population, primarily in developing countries, there is great need for new, effective TB treatments,” said study coauthor Huilin Li, a BNL biophysicist and associate professor at SBU. “Our research seeks to understand the protein-recycling mechanism... See *Doomed Proteins* on p. 2



Anthony Baltz



Michael Blaskiewicz



Zhangbu Xu

Three BNL Physicists Named APS Fellows

Three scientists at BNL — Anthony Baltz, Michael Blaskiewicz, and Zhangbu Xu — have been named Fellows of the American Physical Society, the world’s second largest

organization of physicists. Election to APS Fellowship is limited to no more than one half of one percent of its membership in a given year, and election for this

honor indicates recognition by scientific peers for outstanding contributions to physics.

The contributions of each new Fellow are featured below:

Anthony Baltz

“For theoretical prediction of constraints on solar neutrino mass and mixing parameters from the Earth effect, and for theoretical contributions to ultra-peripheral interactions with relativistic heavy ion reactions.”

In 2002, BNL chemist Ray Davis Jr. won the Nobel Prize in Physics for his solar neutrino research from 1967 to 1985 that revealed only one-third of the neutrinos that standard theories predicted. Theorists offered a solution to this neutrino puzzle: They indicated that neutrinos had mass and could mix while traversing the Sun, changing to a type not detectable by the Davis experiment. Baltz then calculated how the neutrinos could change while traversing the Earth, leading to possible day-night and seasonal variations in other planned neutrino experiments. This research helped to determine the values of neutrino masses and mixing.

More recently, Baltz began a theoretical investigation of particle interactions at BNL’s world-class accelerator, the Relativistic Heavy Ion Collider (RHIC). At RHIC, physicists investigate the collisions of heavy ions that create quark-gluon plasma, a type of matter that is believed to have existed just microseconds after the Big Bang. Ions often... See *Anthony Baltz* on p. 2

Michael Blaskiewicz

“For theoretical and experimental work leading to the first successful implementation of bunched beam stochastic cooling in a high energy ion collider.”

As tightly packed bunches of charged ions zip around RHIC in opposite directions billions of times at nearly the speed of light, they tend to spread out. As a result, the number of head-on particle collisions declines, decreasing data for experimenters. Blaskiewicz, with BNL physicist Mike Brennan, led the team that developed an efficient method to reduce this beam diffusion by using electric fields to “kick” the diffused charged particles back to denser bunches. Although this technique, called stochastic cooling, has been used in low-energy accelerators, Blaskiewicz and Brennan were the first to make it work at high energy. This feat will allow physicists from around the world working at RHIC to gather more data to study the extremely hot, dense matter that is thought to have existed a few millionths of a second after the Big Bang.

Blaskiewicz earned a B.S. in physics from the University of Connecticut, Storrs, in 1983, and a Ph.D. in physics from Cornell University in 1991. He was a Fellow in Accelerator Technology at BNL in 1991 and... See *Michael Blaskiewicz* on p. 2

Zhangbu Xu

“For major contributions in the study of high-density nuclear matter at RHIC, especially the development of improved technologies for particle identification, and new techniques for the reconstruction of short-lived resonances culminating in the discovery of the heaviest known anti-nucleus, the anti-hypertriton.”

Xu played an important role in the successful development of two detector upgrades to the STAR detector at RHIC that enable researchers to measure the velocity of particles and to identify rare muon particles. He also showed that using the time-of-flight system that he helped to upgrade to identify electrons could broaden research possibilities beyond its original design.

Particles that decay very quickly and cannot be directly detected are described as resonances. Xu played a leading role in identifying these particles emerging from nucleus-nucleus collisions by measuring their daughter particles produced during their decay. Similarly, exotic antimatter hypernuclei can be detected by STAR through their decay daughters of anti-nuclei and pion particles. Xu is one of the leading STAR authors in the discovery of the anti-hypertriton, the most massive anti-nucleus and first... See *Zhangbu Xu* on p. 2

BNL’s Snow Clean-up Crew — Where’d We Be Without Them?



Look for BNL’s snow clean-up crew in an upcoming *Bulletin* article.

CALENDAR OF LABORATORY EVENTS

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

REGULARLY

Weekdays: Free English for Speakers Of Other Languages Classes

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

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

Mon., Tues., Thurs., & Fri.: Tai Chi Noon-1 p.m., B'aven Cntr (Bldg. 30), N. Rm. Adam Rusek, Ext. 5830, rusek@bnl.gov.

Tues.: Hospitality Welcome Coffee 10:30 a.m.-noon. Rec Hall (Bldg. 317). Meet over coffee. Children welcome. Ext. 2873.

Tuesdays: Zumba Noon-1 p.m., in the gym (Bldg. 461). Registration required, Ext. 2873.

Tuesdays: Knitting Class 2-4 p.m. Rec Hall (Bldg. 317). Learn to knit/crochet - all skill levels. Free. Ext. 2873.

Tuesdays: Toastmasters Two monthly meetings: 1st & 3rd Tuesdays, 5:30 p.m., Bldg. 463, Room 160. Guests and visitors welcome. http://www.bnl.gov/bera/activities/toastmasters/.

Tuesdays & Thursdays: Aerobic Fitness 5:15-6:30 p.m. in the Rec. Hall (Bldg. 317). \$5 per class, or 10 classes for \$40. Pat Flood, Ext. 7886 or flood@bnl.gov.

Tues., Wed., & Thurs.: Rec Hall Activities 5:30-9:30 p.m. in Bldg. 317. General activities, TV, ping pong, chess, games, socializing. Christine Carter, Ext. 5090.

Tuesday & Thursday: Aqua Aerobics 5:30-6:30 p.m., Pool (Bldg. 478). Registration required, Ext. 2873.

Wednesdays: Ballroom Dance 5:15 p.m., 6:15 p.m., and 7:15 p.m. N. Ballroom, Brookhaven Center (Bldg. 30). http://www.bnl.gov/bera/activities/dance/default.asp.

Wednesdays: Pilates 5:30-6:30 p.m. at the Rec Hall (Bldg. 317). Registration required, Ext. 2873.

Wednesdays: Play Group 10 a.m.-noon. Meet at Rec Hall (Bldg. 317). Parents meet while infants/toddlers play. For events, see http://www.meetup.com/BNL-Playgroup/, or call Ext. 2873.

Wednesdays: Yoga Noon-1 p.m., B'aven Center (Bldg. 30). Free. Ila Campbell, Ext. 2206, ila@bnl.gov.

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

Thursdays: BNL Cycletrons Club 5 p.m., Brookhaven Center. First Thurs. of month. Tim Devine, Ext. 2350.

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

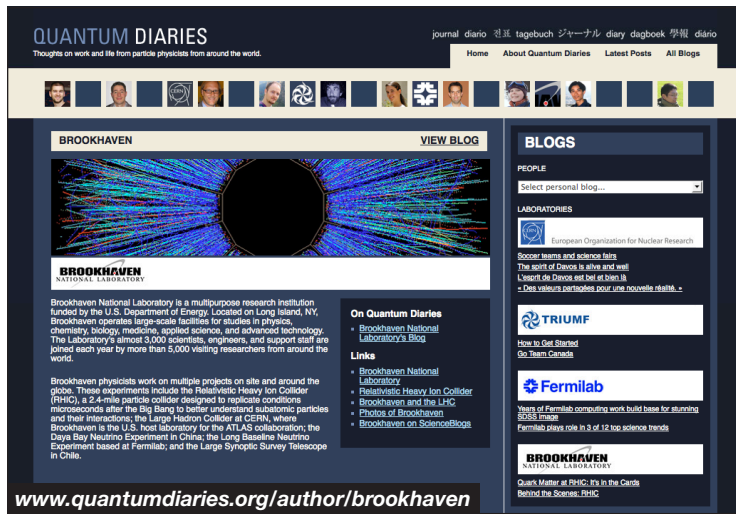
Thursdays: Postdoc Social Night 6:30 p.m. ASAP Lounge (Bldg. 462). www.bnl.gov/asap.

Fridays: Family Swim Night 5-8 p.m. Pool (Bldg. 478). \$5/family. Ext. 2873.

Michael Blaskiewicz from p. 1 ...joined the Lab as an assistant physicist in 1992. Blaskiewicz received a Brookhaven Science & Technology Award in 2007. He is currently a physicist in the Collider-Accelerator Department. — Diane Greenberg

Zhangbu Xu from p. 1 ...anti-hypernucleus known to date, laying the groundwork for a new frontier in physics.

Xu earned a B.S. in physics from the University of Science and Technology in China in 1994 and a Ph.D. in physics from Yale University in 1999. After serving as a research associate at Yale University from 1999 to 2001, Xu joined Brookhaven Lab as an assistant physicist. He is currently a physicist in Brookhaven's Physics Department. Xu won a Presidential Early Career Award for Scientists and Engineers, as well as a similar DOE award, in 2004. He was designated Kavli Frontiers Fellow by the National Academy of Sciences in 2007, and he received BNL's Science and Technology Award in 2010. — Diane Greenberg



BNL Joins Quantum Diaries

Quantum Diaries, at http://www.quantumdiaries.org/, is a website that offers a personal look at the lives of particle physicists from around the world. It now includes news and views from the laboratories that host the scientific action.

First introduced to celebrate the World Year of Physics in 2005, Quantum Diaries relaunched in January 2011 with four physics laboratories in its ranks: BNL, CERN (Switzerland/France), Fermi National Accelerator Laboratory (Illinois), and TRIUMF (Canada).

Through news stories, photos, and videos posted by members of BNL's Media & Communications Office, the Lab's blog

will cover everything from the study of quark-gluon plasma at the Relativistic Heavy Ion Collider to the exploration of dark matter and dark energy at the Large Synoptic Survey Telescope in Chile. Personal posts from Brookhaven scientists will stimulate the conversation.

Check out the first posts at http://www.quantumdiaries.org/author/brookhaven/ and feel free to comment!

Quantum Diaries is supported by an international group of particle physics laboratories through the InterAction Collaboration, (http://www.interactions.org/cms/?pid=1005205) of which BNL is a member.

— Kendra Snyder

Doomed Proteins from p. 1 ...of TB bacteria, because it is one of the microbe's keys to survival in human cells.* Targeting this system with small-molecule-based drugs could inhibit the bacteria and effectively treat TB.

The catch is that human cells have a similar protein-recycling system, essential for their survival, which could also be destroyed by inhibitory drugs.

"It's important to find differences between the species so we can target features unique to the bacterial system," Li said.

Li has previously looked at differences in the cellular structure known as a proteasome that chops up the unwanted proteins. The current study examined the way proteins destined for degradation are recognized by the bacterial proteasome before entering that structure.

Using beams of high-

intensity x-rays at the Lab's National Synchrotron Light Source (NSLS), the scientists determined atomic-level structures of the portion of the bacterial proteasome that identifies the unwanted protein's "kiss of death" marker sequence — as well as structures of the marker sequence as it binds with the proteasome.

Importantly, this interaction between the bacterial proteasome and the marker sequence is unique to bacteria. Human cells use a different marker protein and a completely different mechanism for drawing doomed proteins into the proteasome. Thus the details of proteasome-substrate interaction revealed by the current study may provide highly specific targets for the development of new anti-tuberculosis therapies.

— Karen McNulty Walsh

Anthony Baltz from p. 1 ...miss colliding, but because of their accompanying strong electromagnetic fields, still produce interesting physics. These fields create huge numbers of electron-positron pairs out of a vacuum, knock neutrons out of ions, and make quark-anti-quark pairs in the form of mesons. Baltz developed theory and models to calculate the rates of these processes. In particular, the neutrons knocked out from ions can be detected and compared with predictions in order to help determine beam luminosity, or rate of particle interactions, and identify experimental events at RHIC.

Baltz received a B.S. in physics from Spring Hill College in Alabama in 1966 and a Ph.D. in physics from Case Western Reserve University in 1971. He joined BNL in 1971 as a research associate in the Physics Department and rose to become a senior physicist in 2001. Baltz was elected a Fellow of the American Association of the Advancement of Science in 1989. — Diane Greenberg

Arrivals & Departures

- Arrivals —
Ashleigh BaberChem.
Clinton BedellSite Services
Ginger Blanda.....ES&H
Danielle Bulcock.... Staff Services
Jamie Jarzabkowski..... HR/OMC
Carol KesslerNNS
Kenneth Lauer Photon Scis.
Kumudu MudiyanseleChem.
Christopher RuggieroCFN
Benoit SansonBiology
William Wahl Photon Scis.
Simon White C-AD
William Worek ..Sustain. En. Tech.
Neil Young.....NNS
— Departures —
Phylis Bates PPM
Tage Carlsson Jr...Site Resources
Timothy Devine..... Lab. Prot.
William Jensen.....Site Services
William Mac Kay C-AD
Justin Pack Counter Intell.
Vladislav Ruchinsky. Photon Scis.
Daniel Van der Lelie.....Biology

Brookhaven Bits & Bytes

A BNL Blog Featured on ScienceBlogs

ScienceBlogs is an invitation-only blog network and the largest online community dedicated to science. It was created by Seed Media Group in 2006 and currently hosts more than 80 blogs on a wide variety of scientific disciplines. The site reaches about 2.5 million people every month. Each blog has its own theme, specialty, and author(s), which include active scientists working in industry, universities, and medical schools as well as college professors, physicians, professional writers, graduate students, and post-docs.

The Lab is among a select group of the world's top research institutions — including the Weizmann Institute of Science and the SETI Institute — that was invited to partner with the popular ScienceBlogs website. As part of this effort, the Media & Communications Office launched a blog, called "Brookhaven Bits & Bytes," to call attention to the Lab's research, events, and culture.

Check out "Brookhaven Bits & Bytes" and then let us know if you have ideas for posts about interesting or offbeat research and developments, events, or general life at Brookhaven.

A Weighty Change to the Periodic Table, recently featured in Brookhaven Bits & Bytes, is summarized below:

A Weighty Change to the Periodic Table

By Norman E. Holden, Retired Research Coordinator, High Flux Beam Reactor (HFBR) and Brookhaven Medical Research Reactor (BMRR) Guest Scientist and Contractor, National Nuclear Data Center

Atomic weights of elements on the periodic table have always been considered "constants of nature" but not anymore. Ten elements now listing intervals with upper and lower bounds, not values with uncertainties because they vary in nature. This is caused by variation in relative amounts of their stable isotopes.

Students — and all people interested in science — must recognize that all elements are made up of isotopes and understand their importance in everyday life.

I chair a subgroup of IUPAC, International Union of Pure and Applied Chemistry, that prepared a new periodic table and associated teaching material for high school and college students. It emphasizes applications of isotopes, ranging from diagnosis and treatment of cancer to detecting sports doping. The 10 elements now listing intervals consist of hydrogen, lithium, boron, carbon, nitrogen, oxygen, silicon, sulfur, chlorine, and thallium.

A brief history of atomic weights along with the story behind the creation of the new table is detailed in my recent blog post on ScienceBlogs' Brookhaven bits&bytes.

See the full story at http://scienceblogs.com/brookhaven/2011/01/a_weighty_change_to_the_period.php.

Apply Now for Chasman Scholarship

Applications are now being accepted for the Renate W. Chasman Scholarship for Women. This scholarship was established in 1986 to encourage women who have taken a break from formal education, to resume their studies in



Renate W. Chasman

For application forms and more information, write to: Chasman Scholarship Fund, P.O. Box 183, Upton, NY 11973, or send an e-mail request to bwisawards@bnl.gov. Applications may also be downloaded from the BWIS website.

natural sciences, engineering or mathematics. The winner will receive a one-time award of \$2,000 from BNL's Brookhaven Women in Science (BWIS), a not-for-profit organization whose aim is to promote the advancement of women.

Candidates for the scholarship must be U.S. citizens or resident aliens who live in Nassau or Suffolk County, or in the boroughs of Brooklyn or Queens. They must be accepted for credit in a degree-oriented program at an accredited institution. Their program of study for 2011-2012 must be either at the junior or senior undergraduate level or at the first-year graduate level, to be pursued on a half-time or greater basis.

In addition, Stony Brook University (SBU) will match the scholarship for students accepted and enrolled at SBU.

The deadline for applications is April 1, 2011.



www.scienceblogs.com/brookhaven

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Let It [Not] Snow, and Think Spring!

Like many of its readers, the Bulletin is tired of snow and carefully picking its way through icy patches. Looking wistfully through the stories written during the glorious warmth of last fall, we found the stirring tale of the BNL Warriors, which we include in this week's issue to remind ourselves that dashing weather will return.



Roger Stoulenburgh 04/07/10

Proud BNL Warriors by the Laboratory sign. Front from left: Phil Zeo, George Gottschalk, Susan Wells, and Michael Ojeda; Back from left: Darcy Mallon, Vincent Bonafede, John Bigrow, Allan Corby, Ian Ballantyne, Jo Ann Reed, and Diana Teich.

Brookhaven Warriors Dash For Glory and Fuzzy Hats

Every 30 minutes, 500 men and women charged up the hill, gasping and puffing, vying for the lead in a demonstration of their warrior prowess. Amidst the 11,000 people who participated in the Warrior Dash on the weekend of September 18-19, a proud handful of warriors from BNL also joined the ranks.

The Warrior Dash is a five-kilometer obstacle course that includes scrambling over walls, sludging through mud pools, crawling through tunnels, splashing across cold water, and a bold leap over warrior flames. The dash is held in multiple locations across the United States. The September 18-19 Dash took place in Windham, NY, this year's locus for the Northeast.

"It was a really great atmosphere," Darcy Mallon of the Director's Office said. "The dash brought together friends and family and the obstacles were great fun."

Warriors clad in old prom dresses, kilts, and head-to-toe body paint took to the field. The event included music and food, and the participants received fuzzy warrior hats and medallions.

Ian Ballantyne of the Information Technology Division (ITD) heard about the race through a friend and triathlon participant who suggested attending with a group of friends and family. The Warrior Dash then spread through the Lab via word of mouth.

For some participants, the Dash was competitive, but the course was geared to a range of fitness levels, and times came in anywhere between 23 minutes and 3 hours. Vincent Bonafede claimed the fastest time for Brookhaven's ITD group, finishing at 35 minutes and 22 seconds.

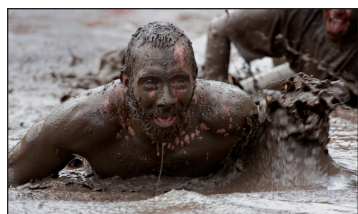


Photo courtesy of Mark Parsons

In another group of BNL personnel past and present, former intern Chris Corby (nephew of ITD's Allan Corby) finished at 33 minutes, 38 seconds, despite running back twice to check on his girlfriend during the race.

While some raced to the finish, for others sticking together and helping friends through the obstacles was part of the fun.

"We all had different fears about different obstacles," Sue Wells of ITD said. "There were moments when we thought, 'Why am I doing this? Next year, I'm staying on the side and taking pictures.' But the feeling as we crossed the finish line was wonderful and worth the effort."

So, Wells and her teammates, who have tackled other exercise activities together in the past, began contemplating training for next year's dash by running up the hill next to the Chemistry Building.

"We had such a ball," said Diana Teich, also of ITD. Reactions to the dash were so positive that within her group of warriors the decision to register for next year was nearly unanimous.

Although the primary purpose of the dash is to have fun and allow thrill-seeking athletes to demonstrate their courage and vigor, there was also an opportunity to give. After the race, many participants tossed their mud-soaked footwear into a pile for Green Sneakers, a group that recycles sneakers to re-sell in communities where their sale both creates jobs and supplies affordable shoes. — Daisy Yuhas

Buy Daffodils to Benefit Cancer Research

BERA will again sell daffodils to benefit the American Cancer Society. Make a \$10 donation and receive a bouquet of 10 fresh cut daffodils. Prepay at the BERA Store, weekdays 9 a.m. – 3 p.m. Collect the flowers during the week of March 14.



Joseph Rubinio 04/16/08

BERA Updates

Weight Room memberships are being collected by mail only. For information see http://www.bnl.gov/bera/recreation/gym_membership.asp

Upcoming Trips

Buy tickets for the following trips at the BERA Store in Berkner Hall, weekdays, 9 a.m. to 3 p.m. Tickets are non-refundable and some restrictions apply. Coaches leave BNL from the Brookhaven Center.

Philadelphia Flower Show, "Springtime in Paris": Saturday, March 12. \$35 per person includes bus, driver tip, and ticket. 55 seats are available. Bus leaves BNL at 6 a.m. and the flower show at 4 p.m.

Mohegan Sun, CT. Saturday, March 26. \$35 per person. 55 seats are available. Ages 21 & over only — must have valid photo ID or passport with birth date printed on it to enter casino. Bus departure times to be announced. If more convenient, you may meet the BERA group at the bus at the ferry dock in Port Jefferson.

Do-As-You-Please Trip to New York City: Saturday, April 2. 55 seats. Bus departs at 10:30 a.m. and will leave NYC at 6:30 p.m. \$15 per person, but children ages two and younger sitting on a lap are free. Bus will drop off passengers at 5th Avenue and 42nd Street near Bryant Park. Plum Benefits will create a special list of available discounted shows for BNLER that will be available soon to coordinate with this trip. Create an account first at www.plumbenefits.com.

Atlantic City: Saturday, April 9. \$30 per person. Ages 21 and older only — must have valid photo ID or passport with birth date printed on it to enter casino. No children. Depart BNL at 9 a.m. and leave the casino at 8 p.m. Bonus deal to be announced.

NY Auto Show: Saturday, April 23. 55 tickets are available. \$22 per person includes entry to auto show at the Jacob Javits Center, luxury coach bus & driver tip. <http://www.autoshowny.com>. Depart from BNL at 9 a.m. and leave NYC at 4:30 p.m.

Chelsea Market, Meatpacking District, and High Line Park: Saturday, April 30. \$60 per person and 32 seats are available. Depart from BNL at 8:30 a.m., leave NYC at 5 p.m. The day will start with a three-hour walking tour of Chelsea Market and the meatpacking district for food and culture, and later an opportunity to discover the High Line Park, some more shopping and eating. All food tastings are done on the go and are not seated. Most participants find that lunch after the tour is not necessary. Recommended for those who can walk, stand, and eat or try almost anything — not suitable for children. Full description sheets will be available at the BERA Store and on the BERA website.

Ski Trips: Ski New York's Belleayre on Wednesday, February 9, and Windham Mountain on Wednesday, February 16. Call the BERA Store, Ext. 3347, or see the BERA website at <http://www.bnl.gov/bera/> for details.

Workshop on 'Real Estate Today,' 2/17

BNL and the Foundation for Personal Financial Education (FPFE) will hold a brown bag workshop on real estate financial planning on Thursday, February 17, from noon to 1 p.m. in Berkner Hall, Room B. All employees are welcome.

Joe Jannace, FPFE member, will be the guest speaker. Questions you might want answered will include what is negotiable in a real estate transaction and what is not, what are the roles and costs of title and escrow, which loans are best for today's market, how do I pay the least and get the most, is now a good time to buy or sell? Other hot topics will include: the short sale foreclosure market and the foreclosure market in general, how to get more for your money, which markets have the best value, ways to improve the sale of one's home, how to determine what is really a good value.

Please RSVP to <https://intranet.bnl.gov/eventreg/> or call Ext. 7516 to ensure that there will be enough copies of any packaged material.

Donations Needed To Support Troops

The AdoptaPlatoon team in the Brookhaven Veterans Association (BVA) is collecting hot chocolate, peanut butter & jelly (in plastic containers only), and instant drinks in individual stick packets, to be sent to the Lab's adopted platoon. Drop off your gift in boxes located at Bldg. 490, Clinic; Bldg. 400, lobby; Bldg. 488, lobby; and Bldg. 510, Library.

Please send monetary donations to: BVA, memo: "troops" P.O.Box 671, Upton, NY 11973.



Roger Stoulenburgh 01/07/10

CALENDAR

— WEEK OF 2/7 —

Thursday, 2/10

Sam's Club at BNL

11 a.m.-2 p.m. Berkner Hall lobby. Sam's Club representatives will offer \$10 off for new memberships.

— WEEK OF 2/14 —

Wednesday, 2/16

466th Brookhaven Lecture

4 p.m. Berkner Hall. Ramesh Gupta, Superconducting Magnet Division, will talk on "High Temperature Superconducting Magnets: Revolutionizing Next Generation Accelerators and Other Applications." All are welcome to this free event, open to the public. Visitors to the Lab of 16 and older must carry a photo ID.

Thursday, 2/17

*Workshop, 'Real Estate Today'

Noon. Berkner Hall, Room B. Brown bag workshop sponsored by BNL and the Foundation for Personal Financial Education. See notice below, left.

— WEEK OF 2/21 —

Monday, 2/21

President's Day Holiday. Lab Closed

The Lab will be closed for the holiday. No Bulletin will be issued on Friday, 2/25.

— WEEK OF 2/28 —

Monday, 2/28

IBEW Meeting

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

Wednesday, 3/2

BSA Noon Recital

Noon. Berkner Hall. Prize winning cellist Dmitry Kouzov, will perform. Sponsored by BSA, this free concert is open to the public. Visitors to the Lab of 16 and older must carry a photo ID.

Note: This calendar is updated continuously and will appear in the Bulletin whenever space permits. Submissions must be received by the preceding Friday at noon to appear in the following week's Bulletin. Enter information for each event in the order listed above (date, event name, description, and cost) and send it to bulletin@bnl.gov. Write "Bulletin Calendar" in the subject line.

In Memoriam

Patrick Thompson, who first came to the Lab as a guest assistant physicist in the Physics Department, from June 3, 1968 to June 2, 1972, rejoining as a physicist in the Alternating Gradient Synchrotron Department on August 4, 1980, died at age 68 on January 20, 2011. In 1986, he moved to the Superconducting Magnet Division, and his contributions included a key role in designing the magnets for the Relativistic Heavy Ion Collider (RHIC). He retired from the RHIC Project on October 15, 1999.

Alice Alberico, who first joined the Plant Maintenance Division as a matron on May 25, 1959, and retired from the Medical Department as a laboratory specialist on May 31, 1985, died at the age of 88 on December 26, 2010. She had first worked for two summers, leaving after five months on November 13, 1959, then rejoining May 9 to September 30, 1960. She joined Medical on December 12, 1960, as a research laboratory assistant IV.

Classified Advertisements

Current job openings and a statement of job placement policy at Brookhaven National Laboratory are available on the homepage at www.bnl.gov/HRI/careers/. To apply for a position, go to www.bnl.gov and select "Search Job List." For more information, call Ext. 2882.

Motor Vehicles & Supplies

09 TOYOTA CAMRY LE – 30.2K mi. 4-cyl, new tires, gd cond, dark gray, ykwak@bnl.gov. \$14,000 neg. Youn-Sig, Ext. 2221.
09 HYUNDAI TOURING – 14K mi. red, 4dr wgn, tow pkg, rf rack, all pwr, mags, 32mpg, end of 5yr warr. \$14,000. 331-7048.
04 TOYOTA MATRIX XR – 99K mi. awd, silver, 4dr hbk, all pwr, alarm, 6CD, pwr m/roof, new tires/batt, excel cond. \$8,000 neg. Ext. 2159/askinazi@bnl.gov.
02 SUBARU IMPREZA OUTBACK – 34K mi. 5 dr, 2.5 L, a/t, orig owner, abs, all pwr, c/c, alarm, a/c, am/fm/cd, gd cond. \$9265 KBB value. \$8,200 neg. Lee, Ext. 2676.
02 TOYOTA HIGHLANDER SUV – 56K mi. green, 4cyl, 2wd, orig owner, new tires, excel cond. \$8,400 neg. Pavel, Ext. 2814.
00 HONDA ACCORD EX – 135K mi. 2dr coupe, V6, hunter green, leather seats, sun/m/roof, cc, Bose cd/stereo, a/c, p/s, air intake, mint cond. \$5,100 neg. 681-8840.
86 NISSAN 300ZX – rebuilt motor, runs, needs some work, t-tops, manual. \$1,200 neg. Matthew, mvescovi@bnl.gov.
RIMS w/TIRES – 4 18" RT6 Enkei 360 Perfect Rims; 6 Lug; used on '99 Dodge Durango for 1 smmr, less than a yr old, ask/\$700, pd/\$1,800, pics avail. 813-6583.

Furnishings & Appliances

BEDROOM FURNITURE – white: wood dresser/\$100; 2 desks/\$75/ea; 1/desk hutch/\$25; night stnd/\$35; mirror/\$25; 2 headbrds/\$25/ea; shelf/10. Ext. 5225.
BLACK LEATHER COUCH – 5 pieces, 4 recline, gd shape, \$200. John, Ext. 4612 or jgiarratano@bnl.gov.
OAK WALL CLOCK – Quartz Heirloom, oval oak, 11" w/12.5h, \$25. 281-4459.
FREEZER CHEST – lg Kenmore/\$150; Glider Rocker maple chair/\$200, 516-740-8418 or lcade@uspsports.com.
MAHOGANY DESK – 8 drawers, 2 pull outs, 29Hx77Lx36W, heavy, disassembles to 3 sects for trnsprt, w/free computer chair, pics avail, \$100. 655-2198.
WASHER/DRYER – Kenmore, white, 1 yr old, super capacity, ask/\$500/neg. Sharon, 624-1277.

Audio, Video & Computers

CAMERAS – 2 - 1 digital. HP Photosmart M307, 3.2 MP, 15X zoom, 2 AA batt, \$30; Olympus Zoom 140, 135 mm film camera, nr. new, in box, \$50. Ext. 5080, 766-7701.
DELL AXIM 30 – w/sync/accessories & instructions/\$50. Anita, 874-3606 or anita22@optonline.net.
NIKON D300 – w/Tokina 11-16mm f/2.8 and SB600 flash, camera/lens like new, boxes incl, \$1700 takes all. Mark, Ext. 3970 or mwahlert@bnl.gov.
NORTON INTERNET SECURITY 2011 – CD only w/product key, gd for 1/yr subscription up to 3PC, \$25. Ext. 3485.
PHOTO & NEGATIVE SCANNING – www.pictureperfectscans.com scans & color corrects 35mm slides, photos, negs & converts them to DVD. Music. 928-6469.

Sports, Hobbies & Pets

BADMINTON RAQUET – Carlton classic Kevlar used but in gd shape, \$25. Rolf, Ext. 2305 or rolff@bnl.gov.
BIKE STAND – Pedro's Racing professional bike service stand, perfect cond, \$80. Travis, shrey@bnl.gov.
EXERCISE BIKE – Schwinn Signature, timing & speed monitor do not work, otherwise perfect, adjustable tension & seat height, add'l gel pad seats. 790-4177.
G.I. JOES – Authentic, dolls in excel cond (1964-1973); some w/tags; accessories also avail. Ext. 4931/signorel@bnl.gov.
GUITAR STANDS – v/gd/cond, one holds 3 guitars/25, one holds one/\$10, amp cable, new, make offer. Kathleen, Ext. 7114.
HEAVY BAG – Everlast w/stand, used once, comes assembled, \$300. 875-7702.
SKI BOOTS & SKIS – women's/ski boots: Lange Comp70 – sizes 7, 10, \$30/ea, Skis: Fischer Airstyle(137 cm), \$30, almost new. Eli, Ext. 7179.

Miscellaneous

AFGHANS – new, handmade, 1 cream & brown; 1 bright blue & dk brown; 1 white, black, red. \$30/ea, also embroidered pillowcase dolls (for bed) \$40/ea. Ext. 7114.
CELL PHONE FLIP PHONE VERIZON – LG VX5300 fd shape, batt holds charge, w/belt clip & charger, \$15. brookhaven@optonline.net.
CLARINET – Yamaha student, excel cond 25+ yrs old, \$100. Katie, 241-1557.
FRAMED WALL PRINTS – 2, abstract, \$40/ea, one 46" w x 34 1/2" l peach frame, white mat; one 39" w x 29 1/2" h, teal & burgundy frame. 281-4459.

Free

SOFA & LOVE SEAT – print gd cond, up-pick-up, ezzapped@msn.com. 344-2457.

LONG ISLAND SCIENCE AND ENGINEERING FAIR NEEDS JUDGES: 2/14, 3/22

Long Island Science and Engineering Fair (LISEF) needs judges to help evaluate high-school students' projects for the upcoming 2011 competitions. Long Island students selected as finalists at this annual event then go on to compete in the prestigious International Science and Engineering Fair.

This year, LISEF will be held at the Crest Hollow Country Club in Woodbury on Monday, February 14, and Tuesday, March 22. Scientists, researchers, postdocs, graduate students in at least their third year of study, and engineers with five or more years of field experience are asked to help, particularly on February 14 with the following categories:

- Animal Sciences
- Biochemistry
- Earth & Planetary Science
- Energy & Transportation
- Engineering Materials and Bioengineering
- Environmental Management
- Environmental Sciences
- Physics & Astronomy
- Plant Sciences

For more information and to register, go to <http://www.lisef.org> and click on the tab labeled "Judges," or contact Michael Lake, (631) 592-3142, mlake@hhh.k12.ny.us.



All straw was buried by snow, so BNLER Dave Passarello snapped this photo of turkeys in the tree instead.

Wanted

BOXTOPS & CAMPBELL'S UPCS – needed for Kindergarten & 4th Grade class, Bldg 911A. Nina, Ext. 5894/nrivera@bnl.gov.
CAR – dependable & inexpensive vehicle for my college-age son. Ext. 7192.
COLLEGE BOOK FOR BUSINESS LAW – Contemporary Business & Online Commerce Law, 6th Ed. by Henry R. Cheeseman ISBN-10: 0-13-601500-X ISBN-13: 978-0-13-601500-0 Pub: Prentice Hall © 2009. Patricia, Ext. 6044.
DONATIONS OF DOG/CAT FOOD – for pets of struggling families, collection bins are in Bldgs. 134, 400, 725, 510 (x5864) 901, 902. Donations go to local food pantries and Kent Animal Shelter. Kathleen, Ext. 3161 or kratto@bnl.gov.
MAGIC CARDS – Magic The Gathering playing cards, my son just starting playing! Lawrence, Ext. 4797/lvogt@bnl.gov.

Lost & Found

FOUND – GOLD EARRING – double hoop, found in Bldg 490 by Medical Research area a few wks ago. Call Ext. 2733 if you lost it. dipierro@bnl.gov.
FOUND NINTENDO GAME SYSTEM – Please contact Lost & Found, Christine, Ext. 5090 or Joanne, Ext. 8481.

For Rent

SPRING HILL, FL – SW architect ranch in Weeki Wachee 70W Orlando, 45N Tampa, near Gulf beach, 3 BR (x2), 2 bath, lg DR, f/p, 2x gar, maint'd d/scape, fruit trees, screend igp, pics. \$900/mo neg. 344-5537.
CALVERTON – 3 bdrm hse, partially furn, roomates needed, 10 mins from Lab N/ent, util shared, no smkg/pets. \$700/mo. Thomas, Ext. 7330 or trusso@bnl.gov.
FARMINGVILLE – 2 furn bdrms in lg hse, share kit, l/r, d/r, incl elec/phone/wifi/cable, 14x16' 2nd flr bdrm is \$595/mo, 10x12' 1st flr bdrm. \$495/mo. 513-8275.
MANORVILLE – huge 1/bdrm apt, 10 min to BNL, bdrm 15x15, kit w/lots cabinets, huge d/r/l/r, plenty of closets, rent incl all elec/water/heat/satellite/wi-fi, pics avail. \$1,200/mo. Matthew, 255-6364.
MASTIC – 1 bdrm apt, kit l/r combo, full bath, priv ent, quiet area, own thermostat, util incl, nr LIRR, no smkg/pets, walk to shop, 8 min to Lab 1/mo sec. \$725/mo neg. 335-4907.
MEDFORD – Cozy bi-level 2 bdrm condo, 1.5 bath new kit/bth/htg/in, igp, golf, gym, 7 mi from Lab. \$1,650/mo. GS, 880-7485 or gstmep2@gmail.com.

MIDDLE ISLAND – 1 bdrm, apt, l/r, full kit & bath, incl. all, 10 min to BNL, priv ent/drwy, quiet, strictly no smkg/pet, int/phone/cbl incl, BNL employee only, 1 mo sec, avail Feb 15. \$820/mo. 672-2451.
PT JEFF STATION – new 1 bdrm apt, pvt ent, off st prkg, tiled, stainless steel appli, eik, l/r, nr shopping, Single only, no smkg/pets, incl all. \$950/mo. 828-1902.
SETAUKET – 2 bdrms +den/3rd bdrm, LR, d/r, eik, fin bsmt, 2-zone heating, cac, breezeway to gar, sm barn/storage shed, landscaped, N. of 25A, nr Stony Brook U & Hospital. \$2,500/mo. 201-914-9459.
SHIRLEY – studio for one, microwave kitchenette/lv/bdrm/comb/priv ent/bath/one mo sec/close stores/beach/state park/all mjr hwy/no smkg/pets. \$550/mo. 804-8609.
SHOREHAM – generous 4 bdrm contemp, all appl, D-Gar, quiet neighbhd gd schools, beach access, 15 min from Lab. \$2,350/mo. Ext. 2216, 744-2190.
SHOREHAM – share house w/professional, lg furn bdrm, cable TV, int, no smkg/pets, 8 mi to Lab, avail. \$650/mo. Genda, 516-380-2650 or gg19582003@gmail.com.

For Sale
SPRING HILL, FL – SW architect ranch in Weeki Wachee (70W Orlando, 45N Tampa), near Gulf beach, 3 BR (x2), 2 bath, lg DR, f/p, 2x gar, maint'd landscape, fruit trees, screened IG pool, photos avail. 344-5537.
In Appreciation
To all the generous BNL employees for all the toys and food donations for Brookhaven Town Interface & the 16 agencies they distribute to in Suffolk. LOTS of kids & families were made happier this holiday season. THANKS!
I would like to thank my friends and colleagues for their condolences on the death of my mother, Ilse Lowenstein.
– Derek and Elaine Lowenstein

On-Site Services
CAFETERIA
Special Valentine's Celebration menu for Friday, Feb. 11, with a free chocolate-dipped strawberry for each customer and complimentary carnations. Soups: Manhattan clam chowder, vegetarian cream of vegetable; Entrees: fire-roasted, applewood-smoked salmon; eggplant parmesan, pasta station w/marinara or vodka sauce; 6-ft. hero; cheddar turkey burger; assorted desserts.



With their coach, James Truglio (left), are the Great Neck South High School students who won first place in the regional Science Bowl at Brookhaven Lab: (from left) Eve Matthaey, Joshua Cho, Brian Chang, Daniel Lee, and Eric Bobrow.

Great Neck South High School Wins Science Bowl at BNL

Great Neck South High School took first place in the Regional Science Bowl held at BNL on January 29. Half Hollow Hills High School West came in second, the same spot they took last year. New Hyde Park High School came in third, and Division Avenue High School, Levittown, took fourth place. Twenty high school teams from Long Island competed in the 2011 regional competition hosted by BNL.

Brookhaven Science Associates and the Long Island Science Center sponsored the local tournament, a fast-paced question-and-answer contest designed to test high school students' knowledge of biology, chemistry, physics, mathematics, energy, earth science, and general science.

The Regional Science Bowl at Brookhaven, along with 69 other

regional contests around the country, is part of the National Science Bowl® competition coordinated by the DOE Office of Science. Since its inception in 1991, more than 150,000 high school students have participated in the "Jeopardy"-style contest. By challenging themselves in Science Bowl competitions, students are encouraged to excel in science and math and to pursue careers in those fields.

The first-place team won \$500 and is invited to participate in the National Science Bowl®, which will be held in Washington, D.C., from April 28 through May 3, 2011. The second-place team won \$250; third-place, \$125; fourth-place, \$75. All the winning teams received medals and trophies or plaques.

– Diane Greenberg

Prepare for Summer: Pick a Student!

Message from Ken White, Office of Educational Programs Manager:

As snow falls, BNL's Office of Educational Programs (OEP) is preparing for summer. As of February 1, mentors can request undergraduate students and faculty collaborators for the summer. Soon to follow will be the high school student and teacher programs. As in past years, the funding and departmental capacity to host students is expected to go fast, so get your request in early. If you are interested in mentoring a summer participant, visit www.bnl.gov/education and follow the links for mentors.

Summer intern programs include:

- Science Undergraduate Laboratory Internship Program, Community College Institute, Pre-Service Teacher
- Faculty and Student Teams
- High School Research Program
- Academies Creating Teacher Scientists

Hosting a student or teacher can be a very enriching experience. Participants appreciate the relationship with their mentor, are enthusiastic about the chance to participate in research, and the experience is transformational for their careers, whether in science or in science and math teaching. I hope that many at the Lab will consider becoming a mentor and bring some new energy and thinking to the summer. A recent DOE survey of BNL mentors indicated that more than 85 percent thought that their summer intern was a good investment of their time.

Finally, I will use this opportunity to thank our past mentors. DOE has recognized BNL's program as being best-in-class. This is a reflection of the experience students have with their mentors and the administrative process in getting them here and home safely. For that, I extend my gratitude to our many mentors, scientific lecturers, and others who make the science experience exceptional; and I thank the staff at OEP who are so passionate about their work, and the many support services that are required to give the students a great personal experience during their stay.

Bring some extra energy and enthusiasm to your summer – visit www.bnl.gov/education/ or call Ext. 4000 to learn more.