



Roger Stoutenburgh 00341210

Howard Gordon, Physics Department (far left), who organized VeljkoFest with Paul O'Connor and Graham Smith, both of the BNL Instrumentation Division, and honoree Veljko Radeka (third from right, front row) are pictured with the VeljkoFest speakers (from left): Christophe de la Taille, University of Paris XI, Orsay; Peter Siddons, BNL Photon Sciences; Steven Kahn, SLAC National Accelerator Laboratory; Pier Oddone, Fermi National Accelerator Laboratory; Dieter Schneider, BNL Biology Department; Bill Willis, Columbia University; and Paul Vaska, BNL Medical Department.

## VELJKOFEST: Celebrating Veljko Radeka's Long Career of Excellence in Instrumentation

Veljko Radeka joined BNL's Instrumentation Division in 1962, and a decade later became head of the division — a title he has retained to this day. Under his leadership, the division has become one of the foremost resources in radiation detector and microelectronics research and development among DOE laboratories.

To celebrate Radeka's wide influence in numerous scientific fields, Howard Gordon, Physics Department, with Paul O'Connor and Graham Smith, both of Instrumentation, organized VeljkoFest, a forward-looking symposium that covered some of Radeka's current and future projects. On December 9, about 100 colleagues from BNL and institutions as far away as California, Switzerland and France, as well as members of his family and friends, attended the symposium to hear distinguished colleagues in diverse areas of science discuss Radeka's past and planned future contributions to their work.

"Veljko Radeka and the talented members of the Instrumentation Division, which he has recruited and led, have had a huge impact on many significant experiments in a wide variety of disciplines at BNL and all over the world," Gordon, deputy chair of the Physics Department, said. "VeljkoFest was aimed at forward-looking projects to which Veljko is still actively making contributions. Public recognition of his impact was overdue."

### Physics Projects

Bill Willis of Columbia University, formerly a senior physicist at BNL, recalled that Radeka and his team built the first electromagnetic calorimeter in the 1970s, and later followed with the development of liquid argon calorimeters, first used at the Intersecting Storage Ring at CERN in 1976. Calorimeters make high-precision measurements of the particle energies in accelerators. Such argon calorimeters were also used in experiments at SLAC National Accelerator Laboratory, Fermilab, and DESY in Germany. They are currently in use at the ATLAS experiment at the Large Hadron Collider at CERN.

Willis, who is also deputy spokesperson for MicroBooNE, a future multi-institution experiment at Fermilab, spoke briefly of the complex electronics that Radeka and his team will design and build for it. Bonnie Fleming

### Veljko Radeka Receives IEEE Award

The IEEE Nuclear and Plasma Sciences Society's Radiation Instrumentation Technical Committee honored Veljko Radeka with the 2010 Radiation Instrumentation Outstanding Achievement Award. He received the award at the Nuclear Science Symposium and Medical Imaging Conference in Knoxville, Tennessee, on November 1.

The citation indicated that Radeka was being recognized for "breakthroughs in radiation detector development, which enabled discoveries in many areas of science, in a career of sustained productivity spanning nearly 50 years."

Radeka has been a member of IEEE — the world's leading professional organization for the advancement of technology — for more than 40 years. He was elected an IEEE Fellow in 1976, and a Life Fellow in 1999, an honor bestowed on a very select few of its members. He has received several awards from IEEE, including the Plasma Sciences Society's Merit Award in 1983, the IEEE Centennial Medal in 1984, and the IEEE Harold Wheeler Award in 2009.

Radeka earned a Ph.D. in engineering sciences from the University of Zagreb, Croatia, in 1961, while he was working on nuclear instrumentation at the Institute Ruder Boskovic in Zagreb. He joined BNL in 1962 as a research associate in Instrumentation and rose through the ranks to become head of the division in 1972. Radeka has authored or co-authored more than 170 peer-reviewed papers, and several of his papers have been reprinted in books as classic contributions. — Diane Greenberg

of Yale University, the spokesperson for the experiment, explained (via video) that the experiment would have the most powerful facilities in the world to study neutrinos. Radeka and the Instrumentation Division have a leading role in the design of the 100-ton, liquid argon time projection chamber for MicroBooNE, which will enable researchers to make high-precision neutrino measurements.

The MicroBooNE experiment, due to be running in 2013, will be a forerunner to the Long Baseline Neutrino Experiment (LBNE), which will explore the interactions and changes in the world's most intense neutrino beam by sending it from Fermilab more than 1,000 kilometers through the earth to the largest detectors in the world, housed in the proposed Deep Underground Science and Engineering Laboratory in South Dakota.

Fermilab Director Pier Oddone indicated that LBNE has tremendous potential to advance the frontiers of particle physics, saying, "Neutrinos may be the messengers of new physics." Radeka's team will play a crucial role in the design and construction of the giant liquid argon time projection chamber for the precise measurement of neutrinos in this experiment.



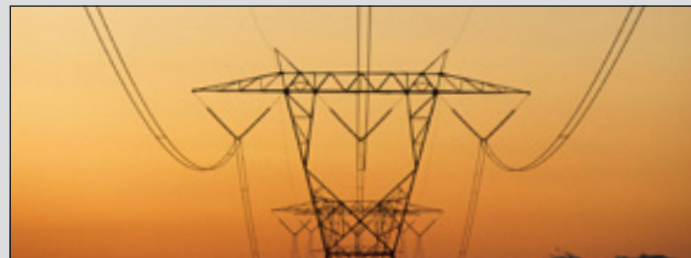
Bonnie Fleming, Yale University, gave a talk via videoconferencing.

Christophe de la Taille, from the Linear Accelerator Laboratory, Orsay, France, praised Radeka and his team for developing low-noise electronics for detectors ever since the 1960s. The technology for eliminating much of the background "noise," or irrelevant signals, proved to be a critical ingredient for numerous experiments, from the late BNL chemist Ray Davis's Nobel Prize-winning experiment at the Homestake Mine, where he detected solar neutrinos, to the calorimetry for ATLAS at the LHC. Radeka and colleagues will continue to upgrade calorimetry for future ATLAS running as the luminosity increases.

### Broader Impact

Paul Vaska, Medical Department, traced the development of PET scanners at BNL from the earliest scanner, built in the early 1960s, to the recent invention of RatCAP, a miniature PET scanner designed to acquire 3D images of a rat's brain while attached to its head. RatCAP is beneficial for PET experiments because the animal can be completely awake and mobile during an experiment, eliminating the effects of anesthesia and enabling new studies that correlate behavior with biochemistry. A team from BNL's Medical, Physics, and Chemistry Departments developed the device along with Radeka's group, who built specialized microelectronics and detectors for the project. Future medical projects include further development of a promising PET-MRI breast-imaging device.

See *VeljkoFest* on p. 2



## New York Power Authority Approves Power Contract Extension For BNL's 10-Year Electricity Needs

**Lower Cost Electricity to Help Fortify World-Class Laboratory and 3,000+ Jobs**

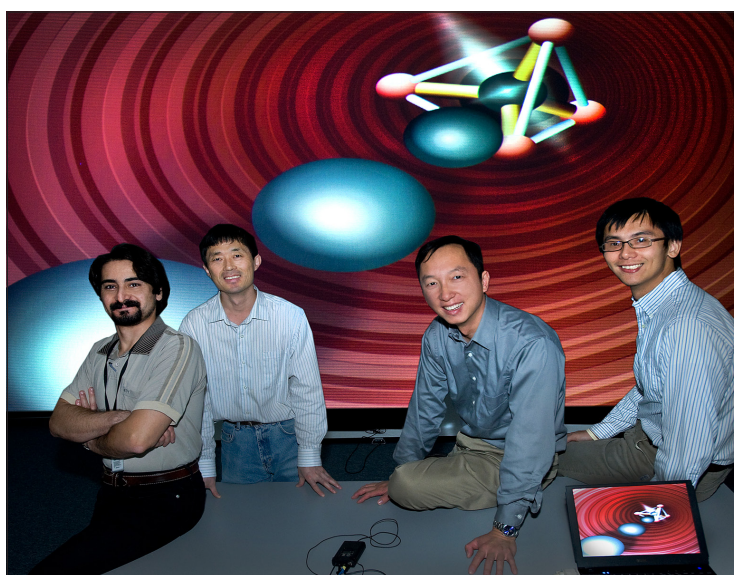
New York Power Authority (NYPA) President and Chief Executive Officer Richard M. Kessel announced on December 20 NYPA's signing of a 10-year power contract extension with DOE in support of pioneering research initiatives at BNL and the economic benefits that the scientific-user facility brings to Long Island and New York State.

The contract extension, approved by the Power Authority Board of Trustees on December 13, will continue market-based energy purchases that have saved BNL — a DOE facility — more than \$316 million since NYPA began meeting the Lab's electricity requirements in 1982. The economical market purchases under the extension will provide for that portion of the Lab's energy needs beyond 15 megawatts (MW) of low-cost hydropower that NYPA will begin supplying early next

year for the facility's exclusive use. The hydropower allotment, to be made available under a previously approved sale-for-resale agreement with the Long Island Power Authority, will be a cornerstone for the new world-class particle accelerator at BNL — the National Synchrotron Light Source II (NSLS-II) — scheduled to be completed in 2015.

"Our partnership with Brookhaven for its continued supply of lower cost electricity attests to the far-reaching importance of the Laboratory's work in nuclear physics, basic energy sciences and other cutting-edge DOE research," said NYPA Chair Michael J. Townsend. "This is crystallized by the nearly billion-dollar NSLS-II project, which will also contribute to the already significant impact that the Laboratory has on New York State's...

See *Power Contract* on p. 3



Roger Stoutenburgh 04151010

BNL's zinc transporter research team, in front of an illustration of zinc ions (spheres) in a zinc-selective channel (tunnel). From left: Babak Andi, Jin Chai, Dax Fu, and Wei Lin, all of the Biology Department.

## Zinc's Doorway to the Cell

**Discovery of mechanism sheds light on how zinc — essential to the growth of all living organisms — enters cells**

A study published as the "Paper of the Week" in the *Journal of Biological Chemistry* in December 2010 details how zinc, an element fundamental to cell growth, enters the cell via zinc-specific uptake proteins. The research, conducted at BNL, is the first to purify this kind of protein and study its role in zinc uptake.

Zinc is crucial to the health of all living organisms. At the cellular level, zinc is responsible for cell growth, which in turn affects the health, growth, and reproduction of an organism.

While there are six classes

of known proteins that act as transporters or channels enabling zinc to cross the cell membrane, scientists have identified one metal-specific family of proteins whose purpose is to facilitate the cell's zinc uptake. These are called ZIP proteins, a reference to their resemblance to zinc-regulated and ion-regulated transporter proteins.

The exact mechanism by which ZIP proteins facilitate zinc uptake has been a mystery. Led by Dax Fu of the Biology Department, Biology's Babak Andi, Jin Chai, and Wei Lin — who have...

See *Zinc Doorway* on p. 2



Talk on Protecting Intellectual Property, 1/24

A talk on “Intellectual Property — What It Is and How to Protect It” will be featured at an Entrepreneurs’ Foundation Workshop to be held on Monday, January 24, 5-7:30 p.m. at the Brookhaven Center South Room. Sean Grygiel, a principal at the New York office of Fish & Richardson, a national law firm specializing in intellectual property, will be the featured speaker.

Aimed at the technology entrepreneur, Grygiel’s talk will cover the basics of intellectual property and highlight mechanisms most frequently used by technology-based companies to obtain and maintain competitive advantage.

The workshop is open to the public. There is a \$10 fee, and advance online registration is required. Online registration and payment by credit card is available at the Entrepreneurs’ Foundation Workshop website, <http://www.bnl.gov/efw/>. Registrants may also pay the fee at the door by cash or check. All visitors to the Lab age 16 and over must bring a photo ID. The workshop schedule includes refreshments and networking from 5 to 5:30 p.m., the talk with time for Q & A from 5:30 to 6:30 p.m., and more refreshments and networking from 6:30 to 7:30 p.m. For more information, contact 631 344-4151 or [elcess@bnl.gov](mailto:elcess@bnl.gov).

BNL, the Small Business Administration, Stony Brook University, and the New York State Small Business Development Center at Stony Brook developed the Entrepreneurs’ Foundation Workshop Series to help those interested in starting up small technology companies. Fish & Richardson is sponsoring the January workshop. Information about more workshops will be posted at the workshop series website above as soon as it is available.

In Memoriam

**Edward J. Bleser**, who joined the Physics Department as a research associate on June 24, 1963, and retired as a BNL physicist on July 31, 1999, died at 74 on March 18, 2010. He had been named an assistant physicist in 1965, then left the Lab in June 1968, becoming a guest scientist from July 1968 until June 1970. During that time, he joined Fermi National Accelerator Laboratory. He returned to BNL’s Magnet Division on February 6, 1978, as a physicist, with a continuing appointment, and he was made Magnet Division Head in 1980. After his retirement, he continued as a guest physicist for a year until September 30, 2000. (See also [www.bnl.gov/bnlweb/pubaff/bulletin/obit/Bleser.asp](http://www.bnl.gov/bnlweb/pubaff/bulletin/obit/Bleser.asp).)

**Clara Bjerknes**, who came to the Medical Department on October 3, 1949, as a technician B, and retired from the Biology Department as a biology associate I on November 30, 1988, died on September 3, 2010, at the age of 90. In April 1953, she had left the Lab, then joined Biology in April 1954 as a junior technical specialist.

Employee Assistance Program Talk, 1/26

The Unexpected Second Career: The Experience Of Caregiving in the Early Stages of Illness

All are invited to a talk titled “The Unexpected Second Career: The Experience of Caregiving in the Early Stages of Illness,” on Wednesday, January 26, at noon in Berkner Room B. Nancy D. Losinno of the Lab’s Employee Assistance Program will discuss the psychological and cognitive signs of difficulties ahead, common themes in caregivers’ expectations, and good practices for self-care and managing stress. RSVP for this talk by contacting Michael Thorn, [mthorn@bnl.gov](mailto:mthorn@bnl.gov) or Ext. 8612.

Reminder on Benefits Program Changes in 2011

By Denise DiMeglio, Manager, Benefits

As announced during open enrollment, there are several changes that may affect your benefits coverage this year. The Benefits Office would like to remind the Lab community that as of January 1:

- All the Lab’s dental plans will be provided by Delta Dental. For those who did not change dental coverage during the open enrollment period last fall, participants in the CIGNA DMO were enrolled in Delta Dental’s DMO. Participants enrolled in CIGNA’s Dental PPO were moved to Delta Dental’s PPO. Participants in the EBS-RMSCO Indemnity plan were moved to Delta Dental’s Indemnity Plan. All dental plan participants will have a new dental identification card.
- All members of the IBEW union hired before August 1, 2006, and IBEW union retirees and participants on long term disability who terminated employment between August 1, 2000 and July 31, 2006 and enrolled in the medical plan will have a new medical card. The co-payments for healthcare and prescription drugs have increased.
- Vytra medical plan participants will have two identification cards for the plan: one from Vytra for healthcare coverage and one from CIGNA for prescription drug coverage.
- The cost for supplemental life insurance coverage has decreased for employees under age 45.
- Expenses for over-the-counter drugs will no longer be reimbursable under the health care reimbursement account, unless they are deemed “medically necessary” and the participant has received a prescription for these expenses. Based on legislation passed at the end of December, participants may use their health care reimbursement account debit cards at the pharmacy counter for such expenses if they have a valid prescription for them.
- Prescription drugs under the CIGNA and Vytra medical plans are subject to a deductible of \$100 per person and up to \$300 per family each calendar year. This remains the same as last year.

More information about BNL’s benefits is available online at <http://www.bnl.gov/hr/Benefits>. You can also call the Benefits Office at Ext. 5126 or 2877.

Zinc Doorway from p. 1

...characterized other zinc-specific proteins that maintain healthy levels of zinc on either side of the cell membrane\* — have now taken a closer look at this process. In addition, James Love of the New York Structure Biology Center contributed to this research, which was funded and supported by the DOE Office of Science and the National Institutes of Health.

A long-held belief has posited that ZIP proteins work like elevators, pumping zinc across the cell membrane and into the cell. However, Fu and his colleagues found no evidence to support this explanation.

“This was a big surprise. For the last 15 years, the assumption has been that the ZIP protein acts like a pump or elevator,” said Fu. “Instead, we have found that ZIP is more like a door.”

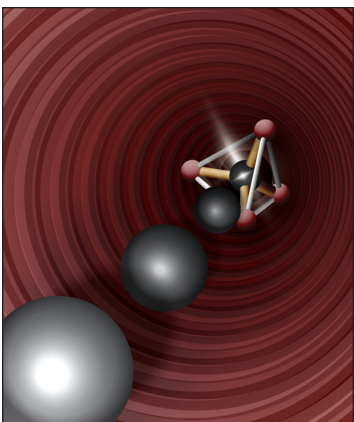
Fu and his colleagues have studied a ZIP protein provided by the New York Consortium on Membrane Protein Structure and derived from the bacteria *Bordatella bronchiseptica*. They expressed the protein in *Eschericia coli*, a bacteria whose zinc regulation has been well documented. Chai purified and concentrated the samples before exposing them to zinc. By reconstituting the purified ZIP proteins in this controlled manner, the scientists ensured that their sample would reflect only the ZIP mechanism for cellular zinc uptake.

“It’s important to note that people have been trying to purify these proteins for a long time.

VeljkoFest from p. 1

Dieter Schneider, Biology Department, spoke about neutron scattering and diffraction techniques used at the nation’s neutron user facilities, such as Brookhaven’s High Flux Beam Reactor, to determine the molecular structure of biological specimens. A unique collaboration between Biology and Instrumentation, begun in the 1970s, resulted in a suite of high precision, position-sensitive detectors that provided diffraction images with unprecedented stability and contrast for structural biology studies. Since then, Instrumentation has developed ever more sophisticated neutron detectors for research at spallation sources and reactors around the world.

Peter Siddons, Photon Division, gave a brief summary of a range of silicon detectors that have been developed for use in experiments at the National Synchrotron Light Source (NSLS). Siddons described examples of linear arrays of strip detectors and two-dimensional pixel arrays, all developed with Radeka’s team, that are used in



The cover art illustration of zinc ions (spheres) in a zinc-selective channel (tunnel) for the December 10, 2010, issue of the Journal of Biological Chemistry, in which the research is published. The inward spiral represents the gradient that drives zinc ions across the membrane, while the tetrahedral shape represents the specially shaped protein gateway that allows zinc ions to pass.

Purification of the first ZIP family member opens the door for detailed structural and functional analysis at the molecular level,” Fu said.

Using a fluorescent indicator, Lin then conducted several measurements to characterize zinc uptake, with attention to changes in zinc concentration, temperature, acidity, and electric charge.

The BNL team found evidence of electrodiffusion. Ions diffuse by moving from a region with a high concentration to one of a lower concentration — like diners who relocate from a crowded dining hall to an adjoining, empty coffee room. In electrodiffusion, the dif-

fused ions also change the electric charge of the space that they occupy. The imbalance in charge created by zinc ions moving into the cell builds during zinc uptake and acts against the concentration gradient, eventually causing zinc uptake to stop.

Based in part on the studies of similar metal-specific proteins, Fu and his colleagues have postulated that the ZIP protein allows zinc ion diffusion by providing an opening that is specifically shaped for zinc coordination chemistry. This hypothesis will eventually be confirmed in studies that crystallize and examine the ZIP protein at the atomic level.

“We are driven by our curiosity — we want to know how this works,” Fu said.

Aside from satisfying scientific curiosity, this understanding could have a big impact. Zinc uptake at the cellular level is implicated in a range of biomedical and energy research. For example, in green plants, carbonic acid is converted to carbon dioxide in a chemical reaction that is catalyzed by a zinc enzyme.

Zinc deficiency, therefore, has a direct impact on the carbohydrate metabolism of plants. For researchers developing biofuels energy sources, these systems and the role of zinc transporters in the conversion of energy into carbohydrates, are important objects of study. Developing a better understanding of zinc uptake can provide greater insight into these processes and will inform future discoveries. — Daisy Yuhas

materials science studies and trace element analysis. Silicon detector systems for NSLS-II, developed in conjunction with the division’s low-noise microelectronics expertise and advanced detector fabrication facilities, will be a major part of the Instrumentation Division’s program.

Steve Kahn, a physicist at SLAC National Accelerator Laboratory and deputy director for the Large Synoptic Survey Telescope (LSST) project, discussed the technology and science of LSST, a telescope that can reach faint objects over the entire sky 20 times faster than currently possible. LSST will take pictures of the sky using a gigantic camera composed of electronic sensors. The Instrumentation Division is developing these sensors, which will be sensitive to near ultraviolet and infrared as well as visible light. The camera will capture the light from distant galaxies, which has taken billions of years to reach Earth. Scientists hope to locate mysterious dark matter and characterize the properties of dark energy from the telescopic data.

Kahn described how he had come to BNL to discuss the initial plans for such an instrument and became convinced that the program would be a success with the Instrumentation’s Division’s collaboration.

A key element in many of the activities described during the afternoon is the development of specialized microelectronics that are integrated with detectors — a capability resulting from Radeka’s careful stewardship of a world-leading microelectronics group. Other division activities, which reflect its diverse specialties and for which time precluded presentation, include lasers, ultrafast techniques, metrology, and micro/nano fabrication.

The symposium concluded with a standing ovation from Radeka’s colleagues, honoring him for his brilliant contributions in his field. After the talks, in brief remarks he made to the audience expressing gratitude to his colleagues, Radeka said, “This much praise cannot be healthy for anyone, but the risk of its doing any damage to an 80-year-old is relatively low.”

— Diane Greenberg

Calling all Stony Brook University Alumni at BNL! Event: Reception, Cirque Eloize, 2/13

All Stony Brook University (SBU) alumni at BNL are invited to a mid-winter event hosted by the Stony Brook Alumni Association, on Sunday, February 13: a 2 p.m. reception at the Wang Center and 4 p.m. performance of the Cirque Eloize at the Staller Center, at a very special discount price of just \$10 per ticket, with a two-ticket maximum per alum.

Attendees are first invited to enjoy the dessert buffet reception in the Brook Alumni Room in the Wang Center, with SBU President Samuel Stanley, BNL Director Sam Aronson, fellow alums and BNL colleagues. Then, on to amazement at the stunning Cirque Éloize show titled *iD*, which, in the tradition of the great Cirque du Soleil, combines new circus arts of extraordinary physical feats with breakdancing, hip-hop, and theatre. See more at <http://www.staller.sunysb.edu/1011/cirque.html>.

Please RSVP by January 19 by contacting Janet Masini, Alumni Relations Coordinator, 1-877-SEA-WOLF or [janet.masini@stony-brook.edu](mailto:janet.masini@stony-brook.edu).

Donations Needed to Support Troops

The Adopt-a-Platoon team from the Brookhaven Veterans Association (BVA) is collecting hot chocolate, canned food with easy-to-open lids, and instant oatmeal 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. Thank you for your support. For more information, see [www.bnl.gov/bera/activities/va/Adopt-A-Platoon/](http://www.bnl.gov/bera/activities/va/Adopt-A-Platoon/).





**BSA Noon Recital:  
Bryant Park Quartet,  
1/19**

The Bryant Park Quartet will perform in concert on Wednesday, January 19, at noon in Berkner Hall. Sponsored by Brookhaven Science Associates, the concert is free and open to the public. All visitors to the Lab 16 and older must bring a photo I.D.

Based in New York City, the Bryant Park Quartet is the recipient of a 2008 Chamber Music America Residency Partnership Program grant and was a prize winner in the 2010 Hugo Kauder International Music Competition. In recent seasons, the group has performed as soloists with the Cornell Chamber Orchestra, in recitals at Lincoln Center's Paul Recital Hall, the Des Moines Art Center's Levitt Auditorium, and the Staller Center at Stony Brook University. For the concert at the Lab, the quartet will perform a selection of music from Adams and Stravinsky through Rachmaninov and Beethoven to Haydn and bluegrass.

# SPOTLIGHT ON SAFETY



## Save Your Back While Shoveling

Freezing temperatures and precipitation lead to a common activity for Long Islanders: shoveling snow.

The Lab has a fully prepared and equipped staff to handle the roads and walkways around campus when snow falls but, according to Gary Welch, OMC staff physical therapist, every employee can learn from the advice he provides to the staff services crew.

“At our in-service training this week, I’ll teach the crew how to bend at the knees and not the back when shoveling, how to toss snow the right way, and how to strategize a snow cleanup project,” Welch said.

The proper procedure for shoveling and throwing the snow is simple:

- First, warm up your arms, shoulders, and legs.
- Start slowly and keep the weight minimal.
- Keep the shovel close to your body.
- Don’t bend with your back. Instead, put your feet

shoulder-width apart, bend at your knees, keep your back in a neutral position, and as you scoop forward with your shovel into the snow, lift with your leg muscles.

- Face the direction you’ll toss the snow.
- Don’t rotate your back to throw the snow to the side. This can cause a strain. Instead, throw the snow forward, straight away from your body.

But doesn’t throwing the snow forward mean piling it up in your path?

That’s where the strategy comes into play.

“If you’re at home, getting ready to clear your driveway, take a moment to set your strategy,” Welch said. “I recommend not clearing in long, straight rows, going up one side of your driveway then down the other.”

Instead, clear one path down the middle. Then, work toward each side of the driveway on an

angle of approximately 45 degrees, clearing the snow, throwing it straight away from your body – but at an angle to your progress to avoid piling it in your path.

While you’re working, it’s important to monitor your body for signs of strain. A burning sensation in your back is a clear warning sign. Don’t ignore it.

This is the same advice that Welch gave the staff services crew at their training sessions.

“Of course, whether BNL staff are at home or at work, I want them to be cautious when there’s snow and ice on the ground to avoid slip-and-fall injuries,” said Welch, whose article on “Preventing Slips and Falls During Winter Months” (<http://intranet.bnl.gov/memo/mm.asp?IssueId=131&StoryId=4>) provides excellent tips.

— Will Safer

## Half-Price BERA Fitness Classes

Jump start the New Year and keep those resolutions to be physically fit with half-price BERA fitness classes. Advance registration is required. Please make checks payable to BERA and mail to: Recreation Office, Bldg. 400A.

- **Aqua Aerobics:** Eight-week session. Tuesdays and Thursdays, January 25 – March 17, from 5:30 until 6:30 p.m. at the pool (Bldg. 478). Once a week: \$25, twice/week: \$50.
- **Pilates:** Eight-week session. Wednesdays, January 26 – March 16, from 5:30 until 6:30 p.m. in the Rec Hall (Bldg. 317). \$40.
- **Yogalates (Yoga/Pilates) for Beginners:** Eight-week session. Mondays, January 10 – March 14, from 12:15 until 1:15 p.m. in the Rec Hall (Bldg. 317). \$40.
- **Zumba:** Eight-week session. Tuesdays, January 18 – March 8, from noon until 1 p.m. in the gym (Bldg. 461). \$40.

## Arrivals & Departures

— Arrivals —

Nicholas Agat ..... E&U  
Colin Carroll ..... NNS  
Mary Ellen Chieco ..... E&U  
Eric Feldman..... Photon Scis.  
Keith Krisman .....Site Res.  
Siraaj Khandkar .....ITD  
Michael Pena .....EST  
Jacob Schneider .....Chem.  
Hai Shi..... Biol.  
Susan Smith..... Med.  
Peter Vigliotti .....Site Res.  
Gabrielle Wilson..... Photon Scis.  
Sherry Yarborough.....Site Servs.

— Departures —

Rodulfo Alforque ..... Photon Scis.  
Raadesh Balanarasimmagupta.... Photon Scis.  
Brian Briscoe ..... C-AD  
William Fielhauer-Rivera..... E&U  
John Jenner .....ITD  
C.R. Krishna.....Sust.En.Tech.  
Satyararayana Lagishetty ..... Biol.  
Roger Lee ..... C-AD  
Elizabeth Scotto-Lavino..... Biol.  
Viktorie Stisova..... Biol.

### Defensive Driving Course: Two Parts, 1/20 & 27

The next six-hour Defensive Driving (Point & Insurance Reduction) course will be held in two parts on consecutive Thursdays, January 20 and 27, in the Brookhaven Center South Room, 6-9:15 p.m. The course is open to BNL, BSA, and DOE employees, BNL facility-users, contractors and other guests, and their family members. The cost is \$33 per person. Preregistration is required. To register, call Ed Sierra, Ext. 4080 or 821-10123, and leave a message. Or take a New York DMV approved course online at <http://www.lidrivesafe.com/>, using code: “SAVE10” for \$10 discount.

### Power Contract from p. 1

...economy. Projects like this don’t come along every day, so we’re gratified to be making a difference in supporting it and the other scientific projects that BNL competes for,” Townsend continued.

“We recognize the enormous benefits of BNL, not only as a preeminent, world-renowned scientific facility but as a major contributor to the Long Island and New York State economies, with its annual expenditures and those of its employees roughly \$1 billion,” Kessel said. “The electricity-intensive research activities at Brookhaven heighten the importance of the measures that we’ve undertaken in arranging for NYPA hydropower—some of the lowest-cost power in the country — and the continued supply of economical power from other sources. The approval by our trustees last week of a power contract extension for the Lab’s full electricity requirements will keep up the savings that this major employer has enjoyed over the more than two-and-a-half decades of its being served by the New York Power Authority.”

“This agreement represents the height of cooperation between the Federal and State governments for the good of BNL and Long Island,” said Mike Holland, Manager of the DOE’s Brookhaven Site Office. “Affordable power supports

research and development jobs for Long Island, and that means scientific and technological advancement for the U.S.”

“I want to express our sincere appreciation to the New York Power Authority board and Richie Kessel and his staff for their work to secure economical power for BNL for the next decade,” said Michael Bebon, Deputy Director for Operations at BNL. “The energy market purchases that NYPA will continue to make on our behalf — along with the low-priced hydropower it will provide from its own power generation facilities — will put us in a good position to continue to successfully compete with other DOE labs for new scientific missions. In fact, the hydropower commitment was essential to DOE’s selection of BNL as the site for the NSLS-II project and in keeping the construction of the project on track. Continued access to low-cost power will also maximize the scientific output of our major user facilities by enabling them to run longer each year, bringing more scientific users to Long Island and creating additional high-tech jobs at BNL.”

The more-than \$900 million NSLS-II, which will result in a peak construction workforce of up 1,200 during the ongoing building phase, will provide new research capability — unique in the world — enabling breakthrough science in

energy and materials research. The facility, which will produce intense beams of x-rays, will lead to several hundred new permanent jobs at the laboratory, which currently employs more than 3,000 scientists, engineers, technicians and support staff.

Over 3,000 visiting researchers from universities, industry and other research institutions use the Upton Lab’s advanced science facilities each year, with approximately one-third from New York institutions and businesses from various parts of the state. These organizations include the State University of New York at Plattsburgh, Cornell University and Rensselaer Polytechnic Institute. Other enterprises include Corning, General Electric Global Research Center in Niskayuna and IBM Research Division in Yorktown Heights.

The approved power contract extension commenced on Jan. 1, allowing NYPA to meet BNL’s electricity demand of up to 77 MW with a blended mix of market energy purchases and hydropower. Together with the previously approved hydropower resale contract, which also is for 10 years, it will substantially lower BNL’s electricity costs, compared to what the Lab would have otherwise paid.

Both agreements include options for extension of the contract period for an additional five years, through 2025.

## CALENDAR

— WEEK OF 1/17 —

Monday, 1/17

Lab Closed in Observance of Martin Luther King Jr. Day

No Bulletin this week.

Wednesday, 1/19

### \*BSA Noon Recital

Noon. Berkner Hall. Sponsored by Brookhaven Science Associates, the Bryant Park Quartet will give a free concert, open to the public. Visitors of 16 and older must carry photo ID.

### 465th Brookhaven Lecture

4 p.m. Berkner Hall. Qiang Li, Condensed Matter Physics & Materials Science Department, will talk on “One Hundred Years of Superconductivity: Superconducting Materials and Electric Power Applications.” All are welcome to this free event, open to the public. Refreshments will be offered before and after the talk. Visitors to the Lab of 16 and older must carry a photo ID.

Thursday, 1/20

### \*Defensive Driving, Part I

6-9:15 p.m. Brookhaven Center S. Room. See notice at left.

Saturday, 1/22

### \*Gathering of the Slides Concert

7:30 p.m. Berkner Hall. The Kerry Kearney Band and Dee Harris will perform the ninth blues “Slides” concert at BNL. All are welcome; visitors to the Lab of 16 and older must carry a photo ID. Tickets are \$10 in advance, \$15 at the door. Buy tickets at the BERA Store in Berkner. See p.4.

— WEEK OF 1/24 —

Monday, 1/24

### 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.

### \*Talk on ‘Intellectual Property’

5-7:30 p.m. Talk on “Intellectual Property” by Sean Grygiel of Fish & Richardson, NYC, part of Entrepreneurs’ Foundation Workshop Series. All are welcome. For registration & fee info, more, see p.2.

## Maurice Goldhaber’s 100th Birthday

April 18, 2011, will be Maurice Goldhaber’s 100th birthday. Distinguished Scientist Emeritus Goldhaber, who joined BNL’s Physics Department in 1950, became Physics Chair from 1960 to 1961, and served as the third Laboratory Director, from 1961 to 1973, was recognized for his research with many honors, including the 1971 Tom W. Bonner Prize in Nuclear Physics, the 1982 J. Robert Oppenheimer Memorial Prize, the 1983 National Medal of Science, the 1991 Wolf Prize in Physics, and the 1999 Enrico Fermi Award.

The Goldhaber family invites friends and colleagues to send greetings, writing, pictures, or reminiscences in any form, by either mail or e-mail, preferably by February 1, to be shown to Maurice Goldhaber as they arrive and then assembled as albums, collaged pictures, recordings, etc.

Items may be sent to Fred and Suzan Goldhaber, 14 Brewster Hill Road, Setauket, NY 11733-1426, (631) 751 2962, [alfred.goldhaber@stony-brook.edu](mailto:alfred.goldhaber@stony-brook.edu); or Michael Goldhaber and Karen Weinstein, 52 Saroni Court, Oakland CA 94611-1415, (510) 339-1192, [michael@goldhaber.org](mailto:michael@goldhaber.org).



# HAPPY NEW YEAR!

from  
the **Bulletin**

## 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 "Job Opportunities," then "Search Job List."

**LABORATORY RECRUITMENT** - Opportunities for Laboratory employees only.

**LABORER (LG-3)** - Performs wide variety of manual labor tasks on roads, grounds or building maintenance. May perform unskilled tasks assisting mechanics. Operates such equipment as power lawn mowers and pneumatic tools. Site Resources Division. Please apply to Job ID #15615.

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

**TECHNICAL ASSOCIATE/RESEARCH SPACE MANAGER (T-5)** - The Medical Department currently has a full time opportunity for a Technical Associate, Research Space Manager. Requirements include: Associate's degree in a technical field or equivalent acquired through considerable training and experience in a technical or professional field, minimum of eight years' relevant work experience including demonstrated leadership and independence with work planning and control in a research environment required. Must demonstrate ability to interact with individuals with diverse backgrounds and levels of understanding such as technical workers, engineers, scientists, and trade workers. Excellent organizational skills and the ability to coordinate complex work are required. Candidates successfully competing for this position may be requested, as a pre-condition to an offer of employment, to submit to a pre-employment physical. Medical Department. Please apply to Job ID #15597.

### Motor Vehicles & Supplies

**07 KAWASAKI ZX-6R** - 5.5K mi., UTD maint, orig owner, new exh syst, smoked turn sigs, pics. \$5,500 neg. dsnyder@bnl.gov.

**01 MITSUBISHI ECLIPSE** - 140K mi. gd running car, 4 cyl, great on gas, 800 watt Pioneer sound syst. \$2,800 neg. 383-7561.

**96 CHEVROLET LUMINA LS SEDAN 4D** - 105 mi. v6, 3.4 liter, gd cond, new brakes & a/c. \$1,400 neg. akzoresh@yahoo.co.uk.

**SADDLEBAGS** - Nelson Riggs, mdl SB 900, 9"w x 17"l x 15"h, 35 liter cap, more info & pic on request, v/gd cond, \$40. Ext. 5423.

### Furnishings & Appliances

**DISHWASHER** - Whirlpool Gold Model, Bisque/beige, excel cond, \$40. Ext. 5132.

**ELECTRIC STOVE** - \$250, white/self-cleaning, excel cond, chrome clothes rack/20, filing unit/\$20. Ext. 5894, 475-1297.

**GE GAS DRYER** - 2 yrs olds, works fine! \$100/neg. Ext. 5753.

**GEN TRAN** - 60amp 6 circuit brand new in box. Paid \$400. asking \$300. Bill, 365-7192 or petersonw@bnl.gov.

**KENMORE MICROWAVE** - 2.1 cf, 1200 watts, black, looks and performs like new, \$40. Travis, shrey@bnl.gov.

**KRUPS AQUACONTROL KETTLE** - 1L compact cordless, new in box, \$25. Ext. 5873.

**RADIATOR HEATER** - oil-filled, \$50; 3 settings 600/900/1500 watts, over heat protec, no maint. akzoresh@yahoo.co.uk.

**RADIATOR HEATER** - Patton Accue-Temp oil filled, w/wheels, used seldom, 1 season, ask/\$25. Ext. 2198, lysik@bnl.gov.

**SHARP CAROUSEL MICROWAVE OVEN** - family size 1.4cu ft w/1100 watts; 14-1/8" turntable dish; \$75. Ext. 5873.

**WASHER, DRYER** - W'pool washer/top load & dryer pr, white, work well/\$50/both, u-pic-up in Wading River, Ext. 7181.

### Audio, Video & Computers

**36" COLOR TV** - Zenith w/remote control, great cond, like new, \$150. Judy, Ext. 5263, 375-7959 or badal@bnl.gov.

**CANON EOS REBEL XTi DSLR KIT** - incs 10.1 megapixel camera body, 18-55mm EF-S lens, more, like new, \$350. Ext. 5669.

### Sports, Hobbies & Pets

**1 ZUMBA CLASS** - won't be around for Jan 18 session. \$5. Anyone interested? Ext. 5322.

**ADOPT A DOG FOR 6 MONTHS** - I have a tenant who needs to relocate. His sm dog needs home until he gets situated, 6 mos max. Ext. 7443 or porqueddu@bnl.gov.

**BOWFLEX MOTIVATOR** - w/lat pulldown & leg exten, excel cond, \$400. 902-5453.

**CHILDREN SKI BOOTS & SKIS** - Lange Comp70 - sz 8, 10, 12, \$25/ea, Skis: Elan (150 cm, 5"), \$30, all nr. new. Eli, Ext. 7179.

**DC SNOWBOARD BOOTS** - 9.5, runs lg, DC Shoes, Model: Phase, blk/grey, used but gd cond, \$60. Ext. 2402 or tmaier@bnl.gov.

**ELECTRIC GUITAR** - Epiphone Special II Ebony, new in box, autographed by Joe Bonamassa, \$250. 902-5453.

**EXERCISE BIKE** - old model, working, \$40. Alfredo, Ext. 7699 or luccio@bnl.gov.

**G.I. JOES** - Official 12" dolls in excel cond (1964-1973); some w/tags; accessories also. Ext. 4931 or signorel@bnl.gov.

**SKI BOOTS & SKIS** - Women/jr boots: Lange Comp70 - sz 7, 8.5, 10, \$30/ea, Skis: Elan 150 cm, 5", \$30, Eli, Ext. 7179.

**WEIGHT SET** - Lightly used plate set, incl 4x10#, 6x5#, 6x2.5# plates, much more \$80. Paul, Ext. 2899 or porfin@bnl.gov.

**WETSUIT** - Quicksilver, Synchro 2/2 mm Spring wetsuit-short arms, short legs, used once, ask/\$50. sbronson@bnl.gov.

### Tools, House & Garden

**AFGHANS** - hand-crocheted, new, \$30/ea; 1brwn & blue; 1blk/wh/red; 1 brwn/crm; also pillowcase dolls, \$40/ea. Ext. 7114.

**FIREPLACE GRATE** - For small f/p. \$20. Mark, Ext. 3172, 365-9822.

### Free

**RCA COLOR TV** - Model XL100, approx 25-27", w/remote control. 949-4046 or susiec@centermoricheslibrary.org.

### Lost & Found

**FOUND: FOLDING FAN** - Found 1/4/11, 1:30pm nr intersection of Brookhaven/Center streets. Ext. 3906 or mschwart@bnl.gov.

**LOST GLOVE** - Black glove lost by Bldg. 179 (I think). Ext. 7192.

### Miscellaneous

**BABY STUFF** - Playard w/ bassinet New, \$40 Baby Bouncer \$25 and Portable baby swing, \$40. dmcarthur@bnl.gov.

**BABY SWING** - Graco Baby Swing \$25; Soft Green Boppy Pillow w/Lion on it FREE. Pics avail. irachel@bnl.gov.

**BLUE COACH RAINBOOTS** - Size 6, barely worn. \$30. dmcarthur@bnl.gov.

**BOOKS** - for medical school students, gently used, various types, less than \$10/ea/obo. Ext. 7505, 689-8605.

**HAIRCUTTING/GROOMING KIT** - SUN-BEAM, 10 pc, home haircutting kit/\$10. Jane, Ext. 2198 or lysik@bnl.gov.

**JEWELRY** - handmade, new, earrings & pins/\$5/ea; necklaces/\$10/ea. Kathleen, Ext. 7114.

**ROCKER** - for infant to toddler rocker, hardly used/\$25. Ext. 5894, 475-1297.

### Wanted

**BOXTOPS & CAMPBELL'S UPCS** - needed for Kindergarten and 4th Grade class, send to 911A, Thanks. Nina, Ext. 5894.

**DONATIONS OF DOG/CAT FOOD** - For pets of struggling families: collection bins are in Bldgs 134, 400, 510 (x5864), 725, 901 and 902. Donations to be given to local pantries/Kent Animal Shelter. Kathleen, Ext. 3161 or kratto@bnl.gov.

**FIREARMS** - new or old fair \$\$ pd, even for broken firearms. Joe, Ext. 3783, 487-1479.

**HOME INSPECTOR** - Buying a new home. Looking to hire professional/licensed home inspector to ID potential problems. Ext. 3924, wwilliams@bnl.gov.

### Happenings

**BREATHTAKING DANCES** - Shen Yun Performing Arts Show in Lincoln Center, Jan 6-16. Inspiring, Glorious. George, Ext. 4033.

### For Rent

**BROOKHAVEN HAMLET** - rm for rent, use of quiet hse, w/d, kit, cable for TV w/h high spd modem, lovely priv bkdy, avail, Jan 15. \$485/mo. 286-4028.



Kerry Kearney



Dee Harris

Photo: Nino Ruisi

## Ninth Annual 'Gathering of the Slides' Concert, 1/22

The annual "Gathering of the Slides," a blues concert featuring the Kerry Kearney Band and Dee Harris will be held on Saturday, January 22, at 7:30 p.m. in Berkner Hall.

Sponsored by the BNL Music Club, the concert is open to the public. All visitors to the Laboratory 16 and older must bring a photo I.D.

Back for his ninth year at BNL, Kearney performs his unique brand of upbeat blues and electrifying slide guitar that he calls "Psychedelta." The Kerry Kearney Band has performed at music festivals across the country and internation-

ally, and at well-known venues including B.B. King's and Terra Blues in New York City, as well as the Stephen Talkhouse located on the East End of Long Island in Amagansett. The band has headlined the Riverhead Blues Festival and received a Long Island Sound Award (LISA) from the Long Island Music Hall of Fame.

Band members include Kearney on guitar and vocals, Frank Celenza on bass, Mario Staiano on drums, Charlie Wolf on harmonica, and Tony Campo on keyboard.

Dee Harris is a self-taught blues guitarist, songwriter, and

vocalist. He studied slide guitar with legendary guitarist Mississippi Fred McDowell. Harris has developed distinctive techniques and plays a mixture of Appalachian, Celtic, and classical Indian music. He enjoys interpreting early renaissance music and can usually be found strumming a banjo or sitar.

Tickets are \$10 in advance and \$15 at the door and can be purchased at the BERA Store in Berkner Hall or through [www.ticketweb.com](http://www.ticketweb.com). Advance ticket purchase is recommended because "Gathering of the Slides" concerts have been sold out in the past. — Jane Koropsak.

## Controlled Area Postings As RHIC Operations Begin in Early January

The Relativistic Heavy Ion Collider (RHIC) team has been working long hours to get the machine ready for the much-anticipated 2011 run, which will start with 10 weeks of polarized-proton collisions and then transition to eight weeks of gold-gold collisions.

While there's been much focus on the Large Hadron Collider and its heavy ion program in recent weeks, RHIC will continue to play a leading role in exploring the properties of the quark-gluon plasma at complementary energies. Our research was highlighted recently in Thomson Reuters' "ScienceWatch," which ranked Brookhaven as the No. 1 scientific institution for hadron collider research based on the number of citations of scientific papers (see p. 1 of the December 17, 2010 issue of the Bulletin).

The Collider-Accelerator Department is currently preparing to operate RHIC from early January until June 2011.

During the operating period, the entire RHIC site will be posted as a Controlled Area. This posting includes the inner road, known as Renaissance Circle. Starting with this run, the Controlled Area has been extended to include the Collider Center (Bldg. 1005), adjacent parking lot, and Renaissance Road approaching Bldg. 1005.

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

**1. Unescorted Access:** requires up-to-date General Employee Radiation Training (GERT) or Radiation Worker (RW-1) and facility specific training.

- **Experimenters:** contact the RHIC & AGS Users' Center, Ext. 3333.

- **BNL employees:** contact Ann-Marie Luhrs, Ext. 7007

**2. Escorted Access:** may be granted by contacting Ann-Marie Luhrs, Ext. 7007. Escorts must complete a Training Waiver Form and the escorted entry must be approved by the Collider-Accelerator Department. Please call at least one day prior to the escorted access. Escorted access must be preapproved for all visitors or deliveries.

As always, all personnel are expected to adhere to the posted requirement.

For additional information, contact Raymond Karol of the Collider-Accelerator Department, Ext. 5272, or [karol@bnl.gov](mailto:karol@bnl.gov).

## BERA Trips

**Windham Mountain:** Wednesday, January 19. Depart from BNL at 5 a.m. and leave the mountain at 4:30 p.m. \$60 per person includes transportation and lift ticket. \$80 per person also includes a rental. Beginners can get a lower mountain lift ticket, rental, and lesson for \$80.

**Note:** This trip is not on a weekend or holiday, so employees must use a vacation day.

**International Motorcycle Show at the Jacob Javits Center:** Sunday, January 23. Depart from BNL at 8 a.m. and leave Javits Center in NYC at 4 p.m. Tickets are \$24 per person and include transportation and admission.

Purchase tickets for these BERA trips at the BERA Store in Berkner, Monday through Friday from 9 a.m. until 3 p.m. For the latest BERA updates, visit <http://www.bnl.gov/bera/>.