

401st Brookhaven Lecture, 2/15

Vazquez on Killing Dragons: Talk on Neurobiological Consequences Of Space Radiation Exposures

Since astronauts hope to spend more time in space, they will receive more exposure to ionizing radiation, a stream of particles that, when passing through a body, has enough energy to damage the components of living cells and tissues. Ionizing radiation may cause changes in cells' ability to carry out repair, reproduction and cross-talk with other cells. This may lead to mutations, which, in turn, may result in tumors, cancer, genetic defects in offspring, or neurodegeneration.

A \$34-million facility — BNL's NASA Space Radiation Laboratory (NSRL) — built in a

To learn more about this research, join Marcelo Vazquez, a scientist in the Medical Department, on Tuesday, February 15, at 4 p.m. in Berkner Hall where he will present the 401st Brookhaven Lecture, "Hazards of the Deep: Killing the Dragons — Neurobiological Consequences of Space Radiation Exposures." Vazquez will be introduced by Medical Department Chair Helene Benveniste.

In his talk, Vazquez will discuss his research projects and how scientists from NASA, national laboratories, and other institutions worldwide have expanded the understanding

of the link between ionizing radiation and neurodegeneration.

Vazquez received an M.D. in 1988 and a Ph.D. in 1990, both from the National University of La Plata, Argentina. Sponsored by the

cooperative effort by NASA and DOE, is one of the few places in the world that can simulate the harsh space radiation environment. At this facility, scientists from some several institutions in the U.S. and abroad will learn about the possible risks to human beings exposed to space radiation.

Although the spacecraft itself somewhat reduces radiation exposure, it does not completely shield astronauts from galactic cosmic rays, which are highly energetic heavy ions, or from solar particles, which are primarily energetic protons.

Within the NSRL target room, Lab researchers and other NASA-sponsored scientists irradiate a variety of biological specimens, tissues, and cells to study the effects that ion beams have on cells and animals.

National Space Biomedical Research Institute (NSBRI) his current research focuses on assessing the effects of heavy ions on neuronal cell functional integrity at the molecular and cellular level, as well as determining neurological alterations in animal models. Vazquez is also the new NASA/NSBRI Space Radiation Liaison Scientist, Co-Director of the NASA Space Radiation Summer School at BNL, and the NASA/BNL Liaison Scientist for the NSRL program.

Brookhaven Lectures are free and open to the public. Visitors to the Lab age 16 and older must bring a photo ID.

To join Vazquez for dinner at an off-site restaurant following the lecture, call Fran Capasso, Ext. 3177.



Marcelo Vazquez

BNL Employees Recognized

At the Fiscal Year 2005 BNL Employee Recognition Award Ceremony held on Thursday, January 26, 11 BNL employees were rewarded for their talent and dedication, each winning \$5,000. Science & Technology Award recipients are: Radoslav Adzic, Department of Materials Science, and Zheng Li, Instrumentation Division. Engineering Award recipients are: Ove Dyling, Plant Engineering (PE) Division; Joseph Harder, Instrumentation Division; Alan Raphael, PE; and John Skaritka, National Synchrotron Light Source Department. Brookhaven Award recipients are: Beth Blevins, Waste Management Division; Timothy Green, Environmental Services Division; Bonnie Miller, Human Resources & Occupational

Medicine Division; John Searing, Emergency Services Division; and Patrick T. Sullivan, Radiological Control Division. The winners of the awards will be featured in this and future Bulletins.

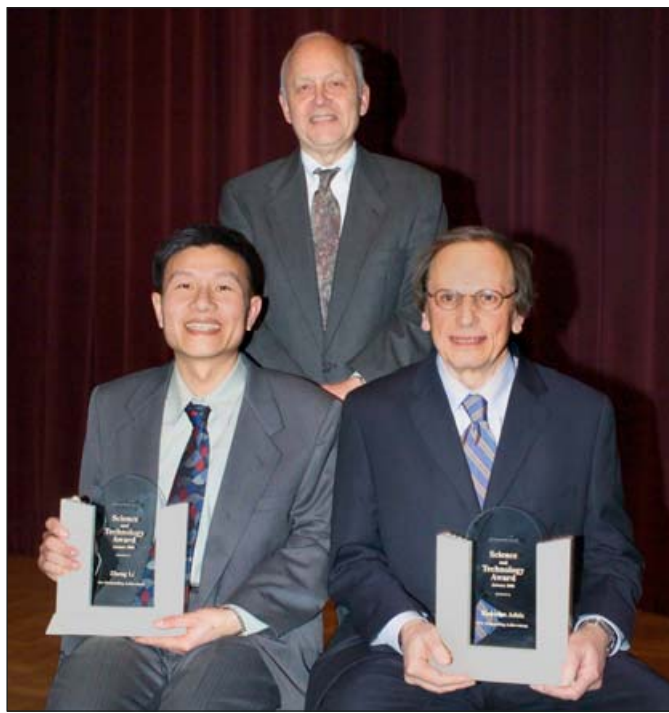
Presented by Peter Bond, Deputy BNL Director for Science & Technology (Interim) the Sci-

ence & Technology Award recognizes distinguished contributions to BNL's science and technology mission over one or more years.

Contributions may be in any scientific or technical discipline other than engineering and computing. Nominations for the Science & Technology Award are made by organization heads.

The Lab-wide selection committee for this award consists of the five Associate Laboratory Directors for scientific programs, or their designees, who made recommendations to the Lab Director for final approval.

The three criteria considered for this award are: the exceptional nature of the employee's contributions, their level of difficulty, and their benefit to BNL.



(From left) Zheng Li, Peter Bond and Radoslav Adzic

Radoslav Adzic

Radoslav Adzic, a chemist in the Materials Science Department, was cited for his world leadership in surface electrochemistry and electrocatalysis. His pioneering contributions to electrocatalysis include demonstrating the catalytic effects of metal monolayers and using synchrotron tools to study effects of structure on the kinetics of electrocatalytic reactions.

From this fundamental research, Adzic made what is recognized among peers as a highly significant breakthrough in fuel cell electrocatalysis by designing the first real platinum monolayer fuel cell electrocatalyst. This novel catalyst consists of ruthenium nanoparticles with a submonolayer of platinum. The catalyst has an excellent tolerance to poisoning, is stable, and has extremely low platinum loading, achieving a level that already meets a DOE target for platinum loading set for the year 2010.

Numerous publications on this research establish BNL's leadership in the field. In addition, many companies, including well-known brands of automobiles, have expressed interest in potentially licensing the intellectual property resulting from this work.

Adzic joined BNL in 1992, having also spent three months at the Lab in 1979 as a visiting scientist. He received his BS in chemical technology in 1965 at the University of Belgrade, where he also earned his doctorate in chemistry in 1974. Adzic was granted tenure in 2001.

Zheng Li

Zheng Li, a physicist in the Instrumentation Division, is recognized for significant contributions to BNL's technology mission, in particular, for the development of advanced silicon detectors for wide-ranging applications involving detection of x-rays and charged particles. Detectors incorporating Li's innovative techniques have been used in experiments at major facilities at BNL and around the world. Peers recognize his developments as essential in recent progress in particle physics and x-ray spectrometry and scattering.

Outstanding contributions from Li include his establishing a laboratory for studies of radiation effects on semiconductor detectors using advanced techniques such as deep level transient spectroscopy and transient current technique. He led the development and fabrication of silicon drift detectors for the silicon vertex tracker for the STAR experiment at the Relativistic Heavy Ion Collider (RHIC). In another significant achievement, he originated a new concept for high-precision, position-sensitive silicon detectors, providing two-dimensional position information from the charge collected on electrodes on a single layer of silicon, for which prototype detectors have been made for the PHENIX upgrade at RHIC.

Li, who joined BNL in 1986, earned his BS in physics at Peking University, China, in 1981, and his Ph.D., also in physics, from Pennsylvania State University in 1986. He received a continuing appointment in 1992.

— Liz Seubert

PCB-contaminated equipment removal

Mark Davis, Environmental & Waste Management Services Division requested \$10,000 to remove electrical components and to drain major components containing oil contaminated with polychlorinated biphenyls (PCBs) from the Bldg. 901 cyclotron. PCBs, mixtures of synthetic organic chemicals, have been found to be potentially carcinogenic in laboratory animals. The cyclotron was installed circa 1950 and the aged equipment contained very high PCB concentrations, posing an enormous health and environmental risk to the Lab. In all, 30 capacitors

and approximately 300 gallons of oil containing PCBs were removed, thereby eliminating a major environmental spill risk to the Lab. Also, Plant Engineering Division staff removed and disposed of 11 transformers,

which contained PCB-contaminated oil. This funded proposal removed a potential spill liability, which conservatively could have cost between \$6,000-10,000 to clean up. — Diane Greenberg



Roger Stoutenburgh D1000904

BNLers' Bright Ideas Prevent Pollution

Each year, BNL's Pollution Prevention Council, composed of one representative per directorate and chaired by Peter Pohlot, Environmental & Waste Management Services Division, asks for suggestions from employees on how BNL can reduce wastes and prevent pollution. The eight proposals funded in FY04 are expected to save the Lab a total of \$62,000 annually. Six proposals have been described in the Bulletins of October 29, 2004, and January 7 and 28, 2005. The last two proposals follow, one for PCB-contaminated equipment removal described at right, and Karl Kusche of the Physics Department's idea for klystron oil retrofilling at the Accelerator Test Facility on page 2.

(At right) With Mark Davis (third from right) EWMSD, are: (from left) Martin Kelly, Plant Engineering (PE) Division; Denis Joyce, PE; Anna Bou, EWMSD; David Schlyer, Chemistry Department; and James Boomer, PE. Not present are: William Chaloupka and John Dowd of PE; Gary Olsen, Leo Palumbo, and Peter Pohlot, all of EWMSD.

Calendar
of Laboratory Events

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

— EACH WEEK —

Weekdays: Free English for Speakers of Other Languages Classes

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

Mondays: BNL Gospel Choir

5:15-7 p.m. Berkner Hall. All faiths are welcome. www.bnl.gov/bera/activities/choir/.

Mondays & Wednesdays: Pilates

Mon., Noon-1 p.m. in the Rec. Hall; Wed., 5:30-6:30 p.m. in the Rec. Hall. Christine Carter, Ext. 5090.

Mondays & Wednesdays: Yoga

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

Mon., Tues., & Thurs.: Kickboxing

\$5 per class. Mon., noon-1 p.m. in the gym; Tues., 5:15-6:15 p.m. in the gym; Thurs., noon-1 p.m. in the gym; Thurs., 5:15-6:15 p.m. in Brookhaven Ctr. North Room. Registration is required. Christine Carter, Ext. 5090.

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

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

Tuesdays: Welcome Coffee

10-11:30 a.m., Rec. Hall. First Tuesday of every month is special for Lab newcomers and leaving guests. Cindy Ottemann, 849-2646.

Tuesdays: BNL Music Club

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

Tuesdays: Jiu Jitsu Club

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

Tuesdays: Toastmasters

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

Tuesdays & Thursdays: Aerobics

5:15-6:30 p.m., \$5 per class or \$40 for ten classes. Rec. Hall. Pat Flood, Ext. 7886.

Tuesdays & Thursdays: Aqua Aerobics

5:15-6:15 p.m. Eight-week session. \$20 to attend once a week; \$40 to attend twice a week. Ext. 2873 for more information.

Tuesdays & Thursdays: Jazzercise

Noon-1 p.m., Rec. Hall. Preregistration is required. Christine Carter, Ext. 5090.

Tues., Thurs., Fri.: Upton Nursery School

8:30-11:30 a.m. Rec. Hall. Two- and three-day program avail. 727-8082 or Ext. 5090, for information.

Tues., Wed. & Thurs: Rec Hall Activities

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

Wednesdays: On-Site Play Group

10 a.m.-noon. Rec. Hall. An infant/toddler drop-in event. Parents meet while children play. Kati Petreczky, 821-4131.

Wednesdays: Weight Watchers

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

Wednesdays: Open Chess Night

5-8 p.m., Rec. Hall. Christine Carter, Ext. 5090.

Wednesdays: Dance Lessons

5:15-8 p.m. Brookhaven Cntr., North Room. BNL Ballroom Dance Club hosts lessons, beginner to adv. John Millener, Ext. 3853.

Thursdays: Reiki Healing Class

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

***Thursdays: FreshDirect Delivery**

3:30-5:30 p.m., Berkner Hall parking lot.

Fridays: Family Swim Night

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

Fridays: BNL Social & Cultural Club

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

— THIS WEEKEND —

Saturday, 2/12

***Hospitality Committee Valentine Party**

5 p.m., Recreation Hall. All are welcome. Hospitality invites all to a Valentine's Soup & Dance Party. Homemade soups, bread, and drinks will be provided. Bring a salad or dessert to share with six people. After dinner, a DJ will spin music for the whole family to dance to! For more information, contact Cindy Ottemann, cjottabb@optonline.net or 849-2646.

***Hooch & the Bluesicians Concert**

8 p.m., Berkner Hall. To be opened by Cadillac Moon. Sponsored by BNL Music Club. See notice, page 4. Tickets \$10 in adv., \$15 at door.

Bright Ideas Prevent Pollution
Klystron Oil Retrofilling

Karl Kusche, Physics Department, and Steve Ferrone, Environmental & Waste Management Services Division, suggested changing the transformer oil in the Accelerator Test Facility's (ATF) two klystron units, which supply radiofrequency power to a linear accelerator for advanced laser experiments. The klystron units each contain approximately 75 gallons of transformer oil contaminated with PCBs. These klystrons were previously retrofilled with non-PCB oil, but the PCBs leached back into the oil from internal components and required another flush. They were filled with the PCB-containing oil prior to 1976, when the U.S. Congress had enacted regulations against using PCBs in commerce. Kusche's proposal cost \$3,450 to implement, but one spill could cost \$2,850 to clean up, so that the payback period is estimated at 1.2 years. Also, if there were a fire involving a PCB-contaminated klystron, the entire ATF building could potentially shut down indefinitely, bringing research at the facility to a standstill.

— Diane Greenberg



Steve Ferrone (left) and Karl Kusche

SOS Donate: BNL Blood Drive, 2/15

Blood stocks are particularly low at present. BNL is holding a blood drive on Tuesday, February 15, 9:30 a.m.-3 p.m. in the Brookhaven Center. Donors must be from 17 to 75 years of age, in good health, and weighing over 110 lbs. Restrictions may apply to individuals from the United Kingdom and Europe. Donors should have photo identification and know their social security number.

To make an appointment, contact Susan Foster at Ext. 2888 or e-mail donateblood@bnl.gov. Include your name, phone extension, and preferred time to donate in the message.

Get to Know Your Lab: Weather or Not? 2/18

On Friday, February 18, the Employee Lunchtime Tour will visit the National Weather Service, located on site. All are invited to meet at noon in the upper lobby of Berkner Hall. Lab buses will transport you to the tour, returning to Berkner by 1 p.m. The group will see various instruments and discuss the way the weather is forecast using the Doppler Radar. For more information, call Elaine Lowenstein, Ext. 2400.

Wanted: Past BNL Science Fair Projects

The BNL Science Museum is looking for past students' K-6 science-fair projects that are presented on tri-fold boards. Kathleen Nasta of the Science Museum will take the projects to display in a "Science Fair Help Day" at Longwood Public Library, to help other students get an idea of how to lay out their projects and what ideas have been done in the past. Longwood invites students and parents from the local area to come and get this information. Call Nasta, Ext. 3926.

Frances Ligon Sings Gospel
Jeanne Rimsky Theater, Port Washington, 2/26

Frances Ligon, who works in the Lab's Business Systems Division, is well-known at BNL for her magnificent singing,



Frances Ligon is pictured singing at the gathering of service agencies and volunteer groups at the Volunteer Expo held in Berkner Hall, November 2004.

notably as the leader of the BNL Gospel Choir. Ligon is also Minister, Deacon and Worship Leader at the House of Praise Christian Revival Center, Inc., Riverhead, and she will be the featured soloist at "An Evening of Gospel," on Saturday, February 26, at 8 p.m. at the Jeanne Rimsky Theater, 232 Main Street, Port Washington.

Ligon is also known at the Lab for her longtime services to BNL Outreach Programs such as Intro to Computers, Career Awareness Days, and student programs. To experience Ligon's gifted singing at the Evening of Gospel, purchase tickets, \$15, by contacting (516) 767-6444 or boxoffice@landmarkonmainstreet.org. See also www.landmarkonmainstreet.org.

BNL's Work for Astronauts

When humans are up in space for prolonged voyages, how will the radiation from cosmic rays affect them? Spaceship walls can only protect them from some of the heavy ions out in space that could damage their nervous systems or cause mutations resulting in tumors, cancer, or death. To learn more, scientists at the NASA Space Radiation Laboratory (NSRL) at BNL are using heavy ions from the Lab's Booster Accelerator to study the effects of simulated space radiation on biological and physical systems, so that ways to reduce the risk can be developed.

Among the NSRL researchers is Marcelo Vazquez of the Medical Department (see related story, page 1), who investigates how the heavy ions in space radiation can affect nerve cells at the molecular and cellular levels. This work is of particular interest to him, partly because he has been fascinated with the prospect of space travel since he was a young child.

"Astronauts were — and are — heroic figures to me," he says. "I have always read about them and followed their missions."

Some Past Astronauts

To remember some of these heroes, who have become role models to children and to many adults for their courage, hard work, and determination, and in honor of Black History Month, the Bulletin has selected two of the many NASA astronauts to feature briefly here.

Michael Anderson, born December 25, 1959, in Plattsburgh, New York, earned his BS in physics and astronomy from the University of Washington, 1981, and MS in physics from Creighton University, 1990. He served in the U.S. Air Force 1981-1995, becoming Lieutenant Colonel and winning many awards, including, for example, the Armed Forces Communication Electronics Association's Academic Excellence Award in 1983, the Defense Superior Service Medal, and the USAF Achievement Medal with one oak leaf cluster.

Selected by NASA in December 1994, Anderson's first space-flight mission was on STS-89 *Endeavour*, 1/22-31/1998, during which the crew transferred more than 9,000 pounds of scientific equipment, logistical hardware and water from the Space Shuttle to Mir, and made the last exchange of U.S. astronauts to/from Mir.

On his second mission, STS-107 *Columbia*, 1/16 - 2/1/2003, the crew conducted approximately 80 experiments. The STS-107 mission ended when Space Shuttle *Columbia* and her crew perished during entry, 16 minutes before scheduled landing. Anderson was posthumously awarded the Congressional Space Medal of Honor, the NASA Space Flight Medal, the NASA Distinguished Service Medal, and the Defense Distinguished Service Medal. Read more about Anderson at www.jsc.nasa.gov/Bios/htmlbios/anderson.html and <http://spaceflight.nasa.gov/shuttle/archives/sts-107/memorial/anderson.html>.

Ronald McNair was born October 21, 1950, in Lake City, South Carolina. He graduated *magna cum laude* with a BS in physics from North Carolina A&T State University, 1971, then earned a Ph.D. in physics from Massachusetts Institute of Technology (MIT) in 1976. His honors included: Presidential Scholar (1967-71), Ford Foundation Fellow (1971-74), National Fellowship Fund Fellow (1974-75), a NATO Fellow (1975), and the Omega Psi Phi Scholar of the Year Award (1975). He was a also five-time regional fifth-degree black belt karate champion and a performing jazz saxophonist.

While at MIT he studied laser technology, and his work on the interaction of intense carbon dioxide laser radiation with molecular gases provided new applications for highly excited polyatomic molecules. From 1976, at Hughes Research Laboratories, Malibu, California, his research included electro-optic laser modulation for satellite-to-satellite space communications, the construction of ultrafast infrared detectors, ultraviolet atmospheric remote sensing, and scientific foundations of the martial arts.

Selected by NASA in January 1978, McNair first flew as a mission specialist on STS 41-B from Kennedy Space Center, Florida, 2/3-11/1984. This mission first used the Canadian arm, operated by McNair, to position EVA crewman around *Challenger's* payload bay. McNair was also responsible for overseeing many experiments, including those on acoustic levitation and chemical separation.

On his next assignment, STS 51-L, McNair died on 1/28/1986, when the Space Shuttle *Challenger* exploded after launching from the Kennedy Space Center. He was posthumously awarded the Congressional Space Medal of Honor. See also www.jsc.nasa.gov/Bios/htmlbios/mcnair.html.

— Liz Seubert



Roger Stoutenburgh D0820804



Roger Stoutenburgh D0820805

Bus Trip to the Cradle of Aviation, 3/5

All are invited on a bus trip to the Cradle of Aviation Museum and IMAX movie theater in Garden City on Saturday, March 5. The bus departs the Brookhaven Center parking lot at 9 a.m. and returns from Garden City at 5 p.m. Buy tickets at the BERA Store in Berkner Hall, at \$15 for adults, \$13 for children (ages 2 to 14) and seniors. Included is bus fare, museum fee, Mars Virtual Voyage ride, and an IMAX big-screen movie. For more information, see www.cradleofaviation.org.

Lost Cat Reunited With Owner After Two Years

On January 11, while gathering material for a job in Building 96, I was greeted by Joe Pagano, Tom Carol (also of the Plant Engineering Division's Air Conditioning Shop), and a striped cat with white paws and a white neck. The friendly little creature was craving attention. He had two collars, one flea collar and one with a rabies tag marked with "Bay Shore Animal Hospital" and an ID number. I wrote down the number and called my girlfriend Debbie, who is a cat lover. She called the animal hospital and explained the situation. They called back to say the cat, a neutered male called Grady, was indeed in their computer system — but he had not been seen for two years. They provided the owner's name, address, and two telephone numbers.

The owner was Katie Zimmerman, and her address was Beecher Avenue in East Islip. Unfortunately, both phone numbers were disconnected. Debbie used the Internet and located two Katie Zimmermans, one in Albany and one in Brooklyn. She left messages on answering machines at both locations. No response.

Debbie then tried researching the address. The only name she could come up with was for Brad Singer, a musician who lived on the same street in East Islip. She e-mailed him, asking if he knew the residents at the address we had and if they had lost a cat. He e-mailed her back and said he would knock on

Daniel Galligan of the Plant Engineering Division's Air Conditioning Shop tells a good story — so thought The Bulletin after reading his account of how a cat, recently found on BNL site, was restored after two years to its owner in East Islip. The story written by Galligan follows.



Dan Galligan (left) and Joe Pagano hold photos of Grady back at home.

their door that weekend (he knew that they had moved into the next house) and provide them with her name and e-mail address.

Meanwhile, I ran out on my lunch break and picked up some canned and dry food for Grady. Boy, was he hungry, and thirsty too, so I gave him a bowl of water. Next day, I must have given him too much attention, because when I attempted to leave, he followed me and attached himself to my leg! Nonetheless, he eventually made himself comfortable on the top shelf on a filter box by the heater. When it was feeding time or someone came in for

materials, Grady would get up and greet them, hoping for some attention. Wednesday, Thursday, and Friday passed.

Saturday arrived. That afternoon, the telephone rang. Caller ID identifies the caller as Zimmerman. It was Katie, responding to the knock on her door by Brad Singer. She said we couldn't have her cat, he had been missing for two years, and what was he doing at Brookhaven National Laboratory?

Debbie gave Katie my telephone number. When she called me, I heard the disbelief in her voice. I then described Grady to her and told her that he was wearing two collars

which were very tight. She told me that he had been an outside cat, very lovable and friendly, and he was wearing the same two collars when he disappeared two years ago at age six months. Poor guy, his collars were definitely too tight! I attempted to remove them, however he gave me such a look that I figured I'd leave that up to his owners.

Katie was very happy that we had located her cat and arranged for her husband to meet me at the gate on Sunday at 9:30 a.m. so they could pick up their little pal. I made arrangements to be able to get into the building where he was.

At 9:30 sharp, John Zimmerman arrived at the gate with a cardboard box. We went to Bldg. 96. No Grady. We waited a few minutes. Sure enough, Grady came trotting in. We gave him a can of food, after which John picked him up and placed him into the cardboard box. He wanted no part of that and busted his head right through the top! John managed to get Grady and the box into his car, after which Grady burst out of the box and ran all over the inside of the car, standing on the steering wheel and honking the horn. Eventually, he quieted down. John could not have been more thankful, and off they went.

I spoke to John later to see how things were going. Grady was very busy getting used to his "new" home with a few additions — two children and a dog.

— Daniel Galligan

Travel & Exercise Talk, 2/25

Join Jennifer Gatz, exercise physiologist, on Friday, February 25, noon-1 p.m. in Berkner Hall, Room B, where she will present the Health Promotion Program-sponsored talk, "Travel and Exercise." The talk will include descriptions and demonstrations of different types of exercises, as well as simple stretches that can be done while seated on a plane or in the office. Check your mailbox for registration forms for this talk. For more information, contact Michael Thorn, Ext. 8612, or mthorn@bnl.gov.

Copy Service Hours

In an effort to control operating expenses, BNL's Copy Service has changed its operating hours and will now be open from 8:30 a.m. to 5 p.m. For large copying jobs and those with firm delivery dates, contact Copy Service, Ext. 2950, well in advance so that production schedules can be arranged. Every effort will be made to complete all work during regular hours without overtime charges. However, it may sometimes be necessary to charge for overtime. For more information, call Bruce Style, Ext. 7640.

Hospitality Valentine's Party Tomorrow, 2/12

Join a Valentine's Soup & Dance Party at the Recreation Hall in the apartment area on Saturday, February 12, at 5 p.m. See the calendar, page 2, for more information.

Weight Watchers

BNLers can register for the next Weight Watchers session on Wednesday, February 16, from noon to 1 p.m. in the Brookhaven Center. The cost will be \$89 for 10 weeks, payable to WeightWatchers. Contact Michael Thorn, Ext. 8612 or mthorn@bnl.gov.

Daffodil Days

BERA is selling daffodils at \$10 a bunch of ten flowers to benefit the American Cancer Society. Pick up your bouquet during the week of March 14. Paid reservations are being taken at the BERA Store in Berkner Hall, Monday-Friday, 9 a.m.-3 p.m.

Bus Trip to NYC, 3/12

The Hospitality Committee invites all on a bus trip to Manhattan on Saturday, March 12, leaving the Recreation Hall in the apartment area at 9:30 a.m. and leaving the city at 5 p.m. The cost for adults is \$10, children 2-12, \$5; payment, in cash only, must be in advance. To arrange payment, contact Hanna Herman at haniaherman@yahoo.com or 849-2249.

For BREA Members

The Brookhaven Retired Employees Association (BREA) announces a correction to the BREA Newsletter of January 21. The message in the column "From the President" should have stated that the date that appears on the mailing label is the date that the payment of dues was entered into the BREA data base. If this date is after May 27, 2004, your 2005 dues have been paid, and you will continue to receive the newsletter.

Defensive Driving, 3/12

A six-hour defensive driving course will be offered on Saturday, March 12, 9 a.m.-3:30 p.m., in Berkner Hall, Room C. This course is limited to 20 people, first-come, first-served. Another course will be scheduled in March or April.

The course is open to BNL, BSA and DOE employees, BNL facility-users, and their families, at \$30 per person. To register, send a check by March 7 to NYSTA, in care of Don Kelley, P.O. Box 185, Selden, NY 11784. Include your phone number in case you need to be contacted.

Arrivals & Departures

Arrivals

Davide Costanzo Physics
Christopher Dropp Biology
John Lemming NNS
John Looney Dir's. Office
Ann Reisman ES&T
Thomas Watson Env. Sci.

Departures

Dmitriy Kropivnitskiy ITD
Muriel Olenick Plant Eng.
Sharon Smith Physics
Sung Ik Yang Chemistry

Retirement Counseling \$\$

A TIAA-CREF consultant will visit BNL on Tuesday, February 15 and Wednesday, February 23, to answer employees' questions about their financial matters, such as the importance of protecting assets against inflation, finding the right allocation mix, TIAA-CREF retirement income flexibility, lifetime income vs. cash withdrawal options.

For an appointment, call Kathy Murphy, (866) 842-2053, Ext. 4625.

Benefits Office Reminder Proof of Student Status

All medical/dental plan participants are reminded to submit an updated proof of student status to the Benefits Office, Bldg. 185, for the upcoming college semester. The Benefits Office will submit this to the insurance company on your behalf.

To be eligible for benefits, children over age 19 must be unmarried, a full-time student, primarily supported by you, and attending an accredited college or university. For more information, call the Benefits Office, Ext. 2877 or 5126.

Spa Treatment, 2/27

Spoil yourself or a friend with a spa day at Gurney's Inn on Sunday, February 27, 8 a.m.-4 p.m. Tickets cost \$260 per person and include luxury bus transportation, luncheon, facial, massage, manicure, pedicure, use of all Spa facilities, taxes, and gratuities.

For tickets and more information, contact Christine Carter, Ext. 5090, ccarter@bnl.gov.

Foot Screening, 2/24

Podiatrists Ben Dimichino and Brian Fanno on Friday, February 24 and Thursday, March 4, from 9 to 11:50 a.m. in the Occupational Medicine Bldg. 490, where they will discuss the latest treatments for common foot-related complaints. A 3-D computerized scanner will also be available for those who wear or feel that they may be a candidate for orthoses. Schedule appointments with Michael Thorn, Ext. 8612 or mthorn@bnl.gov.

Calendar

(continued)

WEEK OF 2/14

Tuesday, 2/15

*Blood Drive

9:30 a.m.-3 p.m., Brookhaven Center. See important information on page 2. To donate, contact Susan Foster at Ext. 2888 or e-mail donate.blood@bnl.gov.

Retiree Health Care Benefits Meeting

1:30 p.m., Berkner Hall (snow date, 2/17, same time, place) Human Resources & Occupational Medicine Division meeting on retiree health benefits. Joyce Tichler, 563-0989.

*Brookhaven Lecture

(Note: Tuesday, Unusual Day)

4 p.m., Berkner Hall. Marcelo Vazquez, Medical Department, "Hazards of the Deep: Killing the Dragons — Neurobiological Consequences of Space Radiation Exposures." See story, page 1.

Monthly GLOBE Meeting

5:15 p.m. BNL's Gay, Lesbian, and Bisexual Club meets. For more information and the meeting's location, contact Debbie, Ext. 5664, or Mike, Ext. 2960.

— Wednesday, 2/16 —

Verizon Wireless Demo

11 a.m.-3 p.m., Berkner Hall. Exclusive discounts on monthly access fees for BNLers. For more information, contact Edwin Kang, 516-459-2635.

— WEEK OF 2/21 —

Wednesday, 2/23

BWEN/BWIS Brown Bag Lunch

Noon-1 p.m. Location to be announced. Join with Brookhaven Women Engineers Network (BWEN) and Brookhaven Women in Science (BWIS) for a brown bag lunch during an open-discussion networking session. Coffee & cookies offered by BWIS.

BSA Noon Recital

Noon, Berkner Hall. Na-Young Baek and Yukiko Sekino, cello & piano. All are welcome at this free recital, open to the public. Visitors of 16 and over must carry a photo ID.

Thursday, 2/24

*Foot Screening by Appointment

9-11:50 a.m. Occ. Medicine Clinic, Bldg. 490. Also on March 4. Podiatrists Ben Dimichino and Brian Fanno. Schedule appointments with Michael Thorn, Ext. 8612 or mthorn@bnl.gov.

Friday, 2/25

*Travel & Exercise Talk

Noon-1 p.m., Berkner Hall, Room B. See notice at left. Michael Thorn, Ext. 8612, or mthorn@bnl.gov.

Sunday, 2/27

Spa Treatment at Gurney's Inn

8 a.m.-4 p.m. See notice at left. Christine Carter, Ext. 5090, ccarter@bnl.gov.

— 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.

Thursday, 3/4

*Foot Screening by Appointment.

11:50 a.m. See entry, February 24.

Saturday, 3/5

Bus Trip to Cradle of Aviation Museum

9 a.m.-5 p.m. \$15/adult, \$13/seniors and children. BERA-sponsored coach to museum in Garden City. See notice, page 2.

— WEEK OF 3/7 —

Wednesday, 3/9

BSA Noon Recital. 'Simply Gershwin'

Noon, Berkner Hall. All are welcome.

— BNL FOOD DRIVE —



Classified Advertisements

OPEN RECRUITMENT – Opportunities for Laboratory employees and outside candidates. MK3227. ASSISTANT PHYSICIST (S-1) – Requires a Ph.D. in physics or a related field, and at least two years of working experience in ultrafast optics and Titanium:Sapphire laser systems. Familiarity with DOE laser safety regulations and practices are desirable. Will be responsible for operation and upgrade of the Titanium:Sapphire laser system at the BNL DUV-FEL. Research will involve high-brightness electron beam generation, laser-seeded FEL amplifier characterization and femtosecond electron-beam diagnostics based on the electro-optical effect. Under the direction of X.J. Wang, National Synchrotron Light Source Department.

MK3228. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in physics or a related discipline with a specialty in free electron laser (FEL) or accelerator physics, and experience in accelerator operations. Familiarity with simulation codes for linacs and FELs is desirable (such as PARMELA, ELEGANT, GINGER or equivalent). Will participate in laser-seeded FEL experiments at the BNL DUV-FEL facility and perform both simulation and experimental investigation of electron beam optimization and FEL amplifier performance. Under the direction of X.J. Wang, National Synchrotron Light Source Department.

NS3511. ADVANCED TECHNOLOGY ENGINEER (I-7) - Requires a bachelor's in computer science, physics or closely related field and at least five years' relevant experience in a large-scale open scientific computing facility. An advanced degree and experience in HEP/NP computing are highly desirable. Knowledge of information security is essential, including host level and site level security, intrusion detection and incident response. Experience with LDAP, Radius, Kerberos, PKI, Grid, web service security, authentication token technologies and computer security tools is a plus. Extensive knowledge of Linux, including administration and custom kernels, is highly desirable. Secondary interest and experience with hierarchical storage managers, robotic tape systems, SAN based RAID storage and AIX are also desirable. Programming experience in C/C++, Java and Perl, particularly in a distributed environment is also desirable. Will participate in the on-going design, deployment and operation of the security infrastructure at the RHIC/ATLAS computing facility. Will also be able to participate in the on-going development and operation of a multi-petabyte scale, high rate data storage system. Physics Department.

NS3513. TECHNOLOGY ENGINEER (I-6) - Requires a bachelor's degree in computer science, physics, or closely related field and at least three years of relevant experience with facility or infrastructure software development in support of large scale scientific computing, with an advanced degree in computing's being highly desirable. Experience with Linux at the system administration level is also necessary, as are excellent written and oral communication skills. A good knowledge of Java (core libraries, JDBC) and related development tools (cvs/subversion, Java IDEs, ant, and javadoc) is required, as is experience with relational database technologies (MySQL or Oracle). Experience with XML and Web Services and with J2EE (servlets/JSPs, JSF, EJBs) and open-source products

(Tomcat, Jboss, Hibernate) would be a plus. Will participate with a geographically distributed team in the design, development, integration and operation of large scale computing facilities and associated grid software, middleware, and services. Will adapt and deploy newly emerging grid computing modules and technologies to produce a robust and scalable computing grid supporting a large distributed High Energy Physics collaboration and will furnish facility/grid support in the form of high availability operations, user requirements directed evolution, and high quality documentation. Physics Department.

NS3514. TECHNOLOGY ENGINEER (I-6) - Requires a bachelor's degree in computer science, physics, or closely related field and three years of relevant experience with facility or infrastructure software development in support of large scale scientific computing, with an advanced degree in computing's being highly desirable. In-depth knowledge of relational databases (Oracle and MySQL) is required as is experience using C, JAVA, and PERL or PYTHON. Experience with Linux at the system administration level is also necessary, as are excellent written and oral communication skills. XML and Web Services experience (DOM, SAX, Axis) is desirable, as are experience with Grid middleware (GLOBUS, VDT, LCG) and knowledge of software management and engineering techniques. Will participate with a geographically distributed team in the design, development, integration and operation of large scale computing facilities and associated grid-based computing infrastructure. Will serve as a primary database resource in this multitiered geographically distributed virtual facility, providing administration and support on Oracle and MySQL database related issues including creating, maintaining, and organizing/tuning physical databases for performance and troubleshooting application issues. Physics Department.

NS3515. ADVANCED TECHNOLOGY ENGINEER (I-7) - Requires a bachelor's degree in computer science, computer engineering, or equivalent experience/technical certification, five years of relevant experience, which should include 2-3 years network engineering/developing experience. Requires familiarity with multiple programming/scripting languages, especially JAVA. A master's degree in computing science and engineering is highly desirable as is experience with web service programming. Candidate must have actual experience and skill in CISCO router and switch management/administration, and TCP/IP performance tuning, as well as familiarity with MPLS, GMPLS, RSVP, VPN, and other

LAN and WAN technologies. The candidate should have demonstrated project development skills and excellent written and oral communication skills. This position involves participation in networking projects to deploy and support end-to-end QoS aware network connectivity. These projects may require software development directed at expressing infrastructure and applications requirements in the control of network switch and router devices. This position also involves participating in the evolution and support of the existing local area network infrastructure, including off-hours on-call support. Physics Department.

NS3516. SR. TECHNOLOGY ANALYST (I-5) – Requires a bachelor's degree in computer science or closely related field and at least one year's relevant experience. Successful candidate will have: experience in installing and managing an Apache web server with various modules (on RH Linux); ability to manage authenticated web space and create and edit web pages that are compliant with popular browsers (without reliance on web design tools); and understanding of cascading style sheets. Ability to maintain and code in Perl, PHP, and JavaScript is very important. Familiarity with databases such as MySQL and experience working in a computer facility are desirable. Examples of website accomplishments will be considered and appreciated. Will take primary responsibility for maintaining computing facility documentation including both the development and maintenance of multiple websites and the assembly, organization and archiving of all facility documentation. Physics Department.

NS3517. TECHNOLOGY ENGINEER (I-6) – Requires a bachelor's degree in computer science, physics, or closely related field, and at least three years of relevant experience, including the following skills: experience in installing and configuring Linux servers (using kickstart method) in an extremely diverse environment; knowledge of RedHat Linux distributions, kernel builds, and use of the RedHat Package manager (RPM); ability to patch systems; knowledge of security (iptables, TCP wrappers), authentication (Kerberos, NIS), and the following services: NFS, DNS, NIS, NTP, Samba, LDAP, Printing, and Sendmail. Ability to write shell scripts is required and ability to code in C, Java or Perl, helpful. Specialized experience with GRID infrastructure, kernel tuning, and optimization of disk and network I/O a plus. Will play a primary role in the configuration and administration of Linux servers supplying infrastructure services to a large computing facility and the computing Grid within which it is embedded. Physics Department.

Post-Valentine Dance, 2/18

Live Music with Louis del Prete and his band 'Fame'

Next Friday, February 18, the BNL Social & Cultural Club and the BNL Ballroom Dance Club will sponsor a dance with live music by Louis del Prete and his band 'Fame' at the Brookhaven Center North Ballroom. Fame, which plays ballroom, Latin, swing, hustle, etc., is led by Louis del Prete, a well-known Long Island dance instructor, who has taught workshops at BNL. He runs popular dance venues such as Mirelle's in Westbury, and regularly hosts Dancers-at-Sea cruises.

Tickets may be bought at the door only. The cost of \$12 covers food (long hero), coffee, tea and entertainment. A cash bar will be available at the Center bar.



HoneyBear - Happy Valentine's day 831 Love, BabyDoll.

Let us love each other, enduring as the universe. Jing.

Dear YingYing - I will be holding your hand and getting old with you. XiaoTan.

To Snoop - My Baby Bam Bam--URLoved-MEOW Linda.

Happy Valentine's Day, Nana & Pop-Pop - We love you & miss you! Love, your favorite grandson & daughter.

To the "New Man in My Life" - Happy 2nd Valentine's Day, Evan. Mommy Loves You!!

Dear Buddy - It's been a great 15 yrs. Your my best friend, I need you and love you. Love, me.

Ppyne - 34 years (29 married), and I still love "Only You" today, tomorrow, and forever, Love Always, Me.

Surprise! Captain & First Mate! - Let's go Sailing! Thanks for everything. Love you both, LOTS. "I'm Fun."

Jude - You want the moon? Just say the word & I'll throw a lasso around it and pull it down, Love, EAS.

RAB, my loving "Poet" - Thanks for making my life complete, Love Forever, your Bride, xxx 000, Aramentis.

LS - my Love for you has not changed a bit, Love, Pizza Man.

Bunches - You are my north and south, my east & west, my working week, and my Sunday rest. Always, EKAP.

Christine - my lovely wife, Whom I love & cherish for life, Just a note to say, Happy Valentine's Day. LOVE ART.

To Buzz - Winged Cupid is painted blind; Love looks not w/eyes, but w/mind. Linda.

Happy Valentine's Day - to my sweets, Tweety, Sa Sha Ron, all names for a beautiful daughter. Love, Mom.

Dear Chad - Roses are red. Violets are blue. Maple is sweet. And so are you. Happy Valentine's! Lynn.

We love our Weeble! Even if you bump into walls, Love, Mimi, Aki, Abby, Misty, and Papa-San. Arthur.

GM - Happy Valentine's Day, Cutie! xox, SW. Hubby, I love you as much as a mouse likes cheese.

Any - Happy Valentine's Day and Happy Birthday. Love, M.Y.

Jeff - you have been my Valentine for 30 years. I love you. Mike.

Dear Buddy - It's been a great 15 yrs., you're my best friend. You're one hot MOMMA, Love, ME. Thanks for 32 incredible years! Love, Bill.

DJ. - As we journey through life together, you fill my sails with love and respect. Thank you, Lord. Joseph.

NL - You are my one and only Valentine! Love, RL.

Dear Buddyboy - Happy Valentine's day, we made 14 yrs together. Love, Buddygirl Theresa.

Like a fine wine, you get better each year. Love you always, your man.

"Talking pants still dreams of burning wood."

Jamaica Joe - Tis always an adventure mon! Tanks 4 de fun! Irie & Respect. Love, dj.

Louie - Happy Valentine's Day! Love, your secret admirer.



Hooch & The Bluesicians in Concert, 2/12

Hooch & The Bluesicians will perform in Berkner Hall tomorrow, Saturday, February 12, at 8 p.m. Sponsored by the BNL Music Club, the concert stars Bob "Hoochie Coochie" Paolucci and the Bluesicians and will be opened by funky blues-rock band Cadillac Moon. The event is open to the public. All visitors to the Lab age 16 and over must bring a photo ID.

Musician/songwriter Bob Paolucci plays harmonica, guitar, and sings. In 2004, with Frank "Of the Future" Otte, Richard Thiel, and Eddie "The Hat" D'Alessio, Hooch and the Bluesicians won the Long Island Blues Society's International Blues Challenge to Memphis. The band released its new CD, "Fly Right," last year.

Tickets cost \$10 each in advance at the BERA Store in Berkner Hall, Ext. 3347, and \$15 each at the door tomorrow.

Tsunami Benefit Concert, 2/26

Local musicians sponsored by the BNL Music Club

A benefit concert for the relief of the tsunami victims in south Asia will be held on Saturday, February 26, at 7 p.m. in Berkner Hall. Sponsored by the BNL Music Club, the concert will feature a wide variety of local musicians. All concert proceeds will be donated to the American Red Cross. All visitors to the Lab age 16 and over must bring a photo ID.

The performers include Larry Hunter, veteran singer, songwriter and multi-instrumentalist, who is a member of the blues/rock band Great Ceasar's Ghost; a Japanese drumming group, Ryu Shu Taiko, offering an exciting blend of martial arts, folk dance and drumming; teen songwriter and singer Caitlyn Amanda, accompanied on guitar by songwriter-arranger Henry Diaz, a BNL Music Group member; and the Chaparrals, a local blues band featuring two more Lab members: Joe Carbonaro, vocals and harmonica; and Michael Herbert, bass.

Tickets cost \$10/adults and \$5/children 12 years old or younger and students with a student ID. Buy tickets at the BERA store in Berkner Hall, weekdays, 9 a.m.-3 p.m., or at the performance.

Tsunami Relief Event Potluck Dinner Dance, 2/25

On Friday, February 25, put on elegant formal attire, pack some delicious food — enough to share with six people — and attend a "potluck" dinner dance at the Brookhaven Center, 6:30 p.m.-midnight, sponsored by BERA's Afro-American Club, Asian-Pacific American Association, Ballroom Dance Club, Hispanic Heritage Club, Indo-American Association, and Bodybuilding Club, English for Speakers of Other Languages, and the BNL Hospitality Committee.

The evening begins in the south room, where the potluck dinner will start at 6:30 p.m., followed by Karaoke, with a "Best Karaoke Singer" award given at 10 p.m. In the north ballroom, a free dance lesson will begin at 7:15 p.m., followed by general dancing at 8 p.m., dance presentations 9-9:30 p.m., and more general dancing to follow. Buy tickets, at \$25 each, at the BERA Store, or from sponsoring club organizers. The proceeds will be donated to benefit victims of the tsunami tragedy.

Where Are the Ads?

The Bulletin greatly regrets that due to lack of space, no ads can be printed this week. All the ads have appeared during the week on the intranet homepage, but if you need to see them again, go to <http://intranet.bnl.gov/ads/displayAdsAll.asp> or stop by the Bulletin Office in Bldg. 134, e-mail bulletin@bnl.gov, or call Ext. 2345 to get a copy.