

Roger Stoulenburgh 03000409

IEEE Honors Veljko Radeka For Detector Development

The IEEE's Long Island Section has honored Veljko Radeka, head of the Instrumentation Division, with the Harold Wheeler Award. IEEE, formerly known as the Institute of Electrical & Electronics Engineers, Inc., is the world's leading professional association for the advancement of technology, and Wheeler was a world-famous engineer who made important technical contributions at Wheeler Labs and Hazeltine Corporation.

Radeka received a plaque from IEEE with the citation: "For outstanding leadership and accomplishments in detector development which enabled discoveries in many areas of science and technology in a career of sustained productivity spanning over 50 years."

"I am honored to receive this award," Radeka said, "and I am particularly proud of the achievements of my colleagues in the Instrumentation Division and the recognition that they have received at BNL and elsewhere."

Under Radeka's direction, the Instrumentation Division develops state-of-the-art instrumentation required for experimental research programs at BNL and maintains expertise and facilities in specialized high-technology areas. The division's research also has a significant impact on programs throughout the world that rely on state-of-the-art radiation detectors and low-noise electronics.

Radeka and his colleagues have developed numerous state-of-the-art detectors that are used in major facilities at BNL and around the world. For example, in the 1970s, he worked with William Willis, formerly of Yale University and BNL and currently at Columbia University, to develop noble liquid argon calorimeters — detectors used in high-energy physics experiments at most major facilities, including CERN, the European Organization for Nuclear Research in Geneva, Switzerland. This early work led to BNL's contributing key components to the ATLAS detector in CERN's Large Hadron Collider, the world's most powerful particle accelerator. Continuing these developments, Radeka and his colleagues are working on the technology for large neutrino detectors to be used in the future.

Similarly, the development of highly sensitive low-noise elec-

tronics for germanium gamma ray detectors used for basic studies in nuclear physics has enabled Brookhaven Lab to play a leading role in many detector developments. An example is development of optical sensors for the Large Synoptic Survey Telescope, the world's largest telescope due to be operational by 2017.

For outstanding leadership and accomplishments in detector development which enabled discoveries in many areas of science and technology

Radeka and his colleagues in Instrumentation also developed neutron detectors for studies of biological molecular structures used at the Spallation Neutron Source at DOE's Oak Ridge National Laboratory, DOE's Los Alamos Laboratory and other neutron research facilities. A major current activity is development of x-ray detectors used in synchrotrons, such as BNL's National Synchrotron Light Source.

Veljko Radeka earned a Ph.D. in engineering sciences from the University of Zagreb, Croatia, in 1961, at the same time he was working on nuclear instrumentation at the Institute Ruder Boskovic in Zagreb. Radeka came to BNL as a visiting scientist from 1962 to 1964 and joined the Instrumentation staff in 1966.

Radeka rose through the ranks to become head of Instrumentation in 1972. Under his leadership, his division became the foremost resource in radiation detector and microelectronics research and development among DOE laboratories. Radeka has authored or co-authored about 170 peer-reviewed papers, and several of his papers have been reprinted in books as classic contributions.

Radeka is a Life Fellow of IEEE and a Fellow of the American Physical Society. He received the 1983 Merit Award of the Nuclear & Plasma Sciences Society, and he is also a recipient of the IEEE Centennial Medal.

— Diane Greenberg

Annual Joint NSLS/CFN Users' Meeting, 5/18-20

The annual Joint National Synchrotron Light Source (NSLS)/Center for Functional Nanomaterials (CFN) Users' Meeting will be held May 18-20. Hear the latest about the NSLS, CFN, and NSLS-II through workshops, talks, the poster session, and exhibits. This year, the Main Meeting and Plenary sessions on Tuesday, May 19, will be open to all, and free. BNL employees and guests are also welcome to register for workshops and other meeting events (registration and a nominal fee are required). For more information, go to: <http://www.nsls.bnl.gov/users/meeting/page.aspx?id=home>.

Plant Gene Mapping for Better Biofuel

By creating a "family tree" of genes expressed in one form of woody plant and a less woody, herbaceous species, scientists at BNL have uncovered clues that may help them engineer plants more amenable to biofuel production. The study, published in the April 2009 issue of *Plant Molecular Biology*, also lays a foundation for understanding these genes' evolutionary and structural properties and for a broader exploration of their roles in plant life.

The work was supported by the DOE-Department of Agriculture joint Plant Feedstock Genomics program and by BNL's Laboratory Directed Research & Development program. Funding was also provided by DOE's Office of Science.

"We are studying a very large family of genes that instruct cells to make a variety of enzymes important in a wide range of plant functions," said Chang-Jun Liu of the Biology Department, who led a group including Xiao-Hong Yu, a former postdoctoral research associate, and Jinying Gou, a



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Chang-Jun Liu

current postdoc. By searching the genomes of woody Poplar trees and leafy *Arabidopsis*, the scientists identified 94 and 61 genes they suspected belonged to this family in those two species, respectively. They then looked at how the genes were expressed — activated to make their enzyme products — in different parts of the plants. Of particular interest to Liu's group were a number of genes expressed at high levels in the woody plant tissues.

"Wood and other biofibers made of plant cell walls are the most abundant feedstocks for biofuel production," explained Liu. "One of the first steps of biofuel production is to break down these biofibers, or digest them, to make sugar."

But plants have strategies to inhibit being digested. For example, Liu explained, small molecules called acyl groups attached to cell-wall fibers can act as

See *Plant Genes* on pg. 3

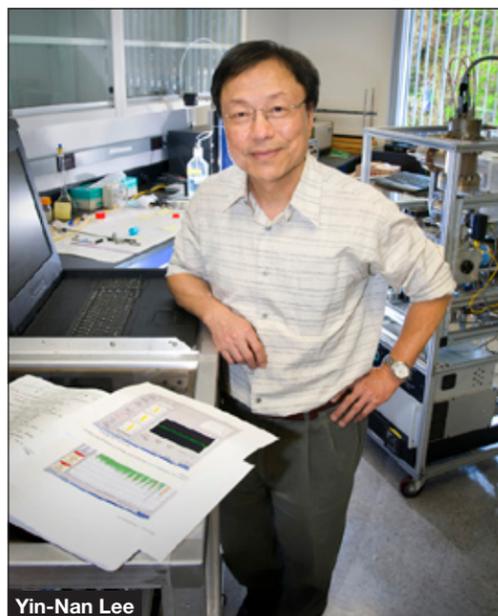
451st Brookhaven Lecture, 5/13

A Tale of Two Hemispheres

Field Studies of Aerosols and Marine Stratocumulus Clouds

The greenhouse gases warmed the Earth, the aerosol particles cooled the Earth. While car and power plant exhaust fumes contain greenhouse gases such as carbon dioxide, the exhaust also contains aerosols that are essential in the formation of clouds, which cool the Earth. Best or worst, scientists are studying the balance between them.

Throughout the past four years, Yin-Nan Lee, a chemist in the Atmospheric Sciences Division (ASD) of the Environmental Sciences Department, has collaborated with fellow-ASD scientists and scientists from other institutions to study the effects of aerosol particles on expansive, low-hanging stratocumulus clouds over the coastal waters of California and Chile. Understanding the properties of these clouds will shed new light on just how much the aerosols' cooling effects have masked the warming effects of greenhouse gases.



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Yin-Nan Lee

On Wednesday, May 13, join Lee for the 451st Brookhaven Lecture, titled "A Tale of Two Hemispheres: Field Studies of Aerosols and Marine Stratocumulus Clouds." All are invited to attend this free talk, which is open to the public and will be held in Berkner Hall at 4 p.m. Refreshments will be offered before and after the lecture. Visitors to the Lab ages

16 and older must carry a photo ID while on site.

During the lecture, Lee will discuss his experiences and findings from studying clouds over the oceans of both the northern and southern hemispheres. He will also explain how clouds' natural cooling mechanisms, such as reflecting the sun's light, may have disguised the true impact of greenhouse gases in the Earth's atmosphere.

Lee earned a bachelor of science degree in chemistry from Taiwan's Tunghai University in 1969. He then earned a masters' degree in chemistry in 1972 and a Ph.D.

in physical organic chemistry in 1976 at Washington University in St. Louis, Missouri. He began as a postdoctoral fellow at Yale University in 1976 and came to Brookhaven Lab in 1979.

To join Lee for dinner at an off-site restaurant following the lecture on Wednesday evening, contact Nancy Warren, nwarren@bnl.gov, Ext. 7548. — Joe Gettler

2009 BSA Scholars



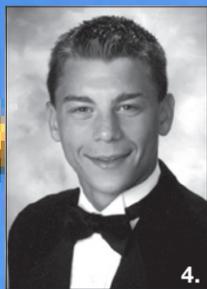
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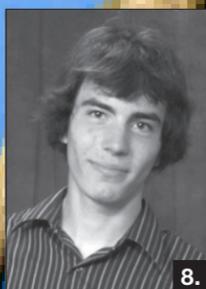
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Brookhaven Science Associates (BSA) has announced the 15 winners of the annual BSA Directors' Scholarships, which go to children of BNL employees in continuation of a tradition instituted at BNL in 1965. Each BSA Scholar is a high-school senior who will receive \$2,500 per year for up to four years of study at the college or university of his or her choice.

1. Matthew Benjamin, a senior at Longwood High School, is the son of Fred Benjamin of the Fiscal Division. To pursue a career in teaching, he will major in education at Baptist Bible College, Springfield, Missouri.

2. Marisa Braverman, daughter of Joseph Braverman, Energy Sciences & Technology Department, attends Half Hollow Hills High School East. To prepare for a career in public relations, she will major in communications at the University of Arizona.

3. Christine Cummings, daughter of Wayne Cummings, Procurement & Property Management Division, and granddaughter of retiree Franklin Snell, is a senior at St. John the Baptist Diocesan High School. She will major in pre-med studies at Cornell University with a view to specializing in obstetrics and gynecology.

4. Steven Danseglio, who attends East Islip High School, is the son of Dennis Danseglio, Modernization Project Office. He will major in marine and environmental science at the United States Coast Guard Academy.

5. Susana Debbe, daughter of Ramiro Debbe, Physics Department, attends Miller Place High School. She will major in biology and pre-med studies at New York University and make a career in medicine.

6. Lindsay Giacalone, daughter of James Giacalone of the Maintenance & Fabrication Services Division and Pat Webster-Giacalone of the Budget Office, attends Shoreham-Wading River High School. To teach mathematics, she will major in education and mathematics at the State University of New York at Geneseo.

7. Emily Graham, daughter of Thomas Graham, Nonproliferation & National Security Department, will graduate from Berkeley Carroll School in Brooklyn. She will attend Yale University to major in international studies.

8. Michael Green, who is a senior at Longwood High School, is the son of Tim Green of the Environmental Protection Division. He

will major in architecture and engineering at Northeastern University, Boston, with the goal of a career in architectural engineering.

9. Angela Hackenburg, who attends William Floyd High School, is the daughter of Donna Hackenburg of the Budget Office and Robert Hackenburg of the Physics Department. She has decided to major in biology at the University of North Carolina, Chapel Hill.

10. Brooke Johnson of Shoreham-Wading River High School is the daughter of Deborah Johnson, Nonproliferation & National Security Department, and Christopher Johnson, Facility Operations Office. She will major in mathematics at the Massachusetts Institute of Technology.

11. Yulia Malitskaia, daughter of Nikolay Malitsky of the National Synchrotron Light Source II, is a senior at Shoreham-Wading River High School. She will study statistics and economics at the Leonard N. Stern School of Business at New York University for a career in mathematical economics.

12. Ana Martinez-Casas is the daughter of Gerardo Martinez-Guridi of the Energy Sciences & Technology Department. After graduating from the Tecnologico de Monterrey, Mexico, she will major in biology at Stony Brook University.

13. Devon Sadloski, daughter of James Sadloski, Site Services Division, will graduate from Westhampton Beach High School. She will attend the University of Vermont to prepare for a career in medicine.

14. Jeffrey Spiletic is the son of John Spiletic, a retiree from the Computational Science Center. After graduating from Harborfields High School, he will major in business at the Honors College, State University of New York at Albany.

15. Kevin Spiletic is also the son of Computational Science Center retiree John Spiletic. He will graduate from Harborfields High School and major in business at the Honors College, State University of New York at Albany.

Then & Now

The Child Development Center

In May 1991, when the present BSA scholars (see above) were infants, the Lab's Child Development Center (CDC) was also in a developmental stage, in fact, not quite built. Yet on September 3, 1991, the official school year kicked off at the CDC with 61 children from eight weeks to four years old whose parents were within the Lab community. Four of the above BSA scholars — Christine Cummings, Lindsay Giacalone, Angela Hackenburg, and Brooke Johnson — were among the infants on that opening day. In 2009, still managed by Child Care Management, Inc. and licensed by the New York State Department of Social Services, the CDC is accredited by the National Association for the Education of Young Children and accepts children from

six weeks to five years old. The older children now attend class in the Little Red Schoolhouse, also in the on-site apartment area. Program Director Joann Faberlle has succeeded the first Director, Deborah O'Neill, and as parents regularly confirm, the CDC children are still getting a great start on the enjoyment of learning. For more information on the CDC, go to <http://www.bnl.gov/HR/CDC/ChildDevCntr.asp>.

Photos at right: May, 1991: At the CDC, BNL's CDC architect John Castro (left) and construction superintendent Gene Corcoran of Fortunato Sons, Inc., Bohemia; Christine Cummings with Santa; Baby Lindsay Giacalone; Angela Hackenburg on a CDC slide.



Roger Stoutenburgh 05-08-09



Taking Our Children to Work

More than one hundred boys and girls visited BNL for the annual "Take Your Children to Work Day," held on April 23. After a morning spent in the departments and divisions, learning about the work being done by the family breadwinners, the children had lunch in the cafeteria, then gathered in Berkner Hall for a warm welcome from Lab Director Sam Aronson, who was introduced by Ernie Tucker of the Human Resources & Occupational Medicine Division (HROM).

A talk on addiction followed, given by Stephen Dewey of the Medical Department. An internationally renowned expert on addiction research and treatment, with an extraordinary ability to "get through" to young listeners, Dewey is constantly in demand as a speaker at local schools and shares his leisure time generously to help children avoid addiction.

Divided into groups according to age, the children then mounted buses to visit different work areas around the site. The schedule, coordinated by Elaine Lowenstein of Community, Education, Government & Public Affairs (CEGPA), allowed each child to learn about several different kinds of work: Chuck



At the National Synchrotron Light Source, children used light to find fingerprints for a forensics demonstration.

La Salla and his colleagues welcomed them at the Fire Department, CEGPA's Gail Donoghue and her staff led them in experiencing the fun of science at the Science Learning Center, Site Services Division Head Tom Lambertson introduced them to the excitement of giant machines, and Doug Paquette and Vinnie Racaniello of the Environmental Protection Division explained the importance of profiling our water table. In addition, Gary Conte of the National Weather Service showed the children how to check out "wild weather" in time to be prepared.

During this time, everyone

returned to Berkner at 3 p.m. to attend a Lab-wide talk on "Packing a Garbage-Free Lunch," by Rosemary Wiesner, Community Relations Director for the Town of Brookhaven's Department of Waste Management.

Said HROM's Liz Gilbert, who, assisted by many Lab and parent volunteers, organized the event, "This was a wonderful opportunity for the children, as well as all the volunteers, to participate in such an educational and fun-filled day. We appreciate everyone who offered their time, efforts and knowledge to help make the day a success."

— Liz Seubert

Arrivals & Departures

— Arrivals —

- Daron Chabot NSLS-II
- Matthew Di Leone Maint. & Fab
- Emily Krsnak Staff Services
- Charles Langhorne... Staff Services
- Wei Lin Biology
- Peter Ragone Maint. & Fab
- Rahul Sharma Physics

— Departures —

- Donald Gates ITD
- Edward Brosnan ITD
- John Usher Quality Mgmt.

Celebrate APA Heritage Month at SBU, 5/9

BERA's Asian Pacific American Association is a sponsor of the "Asian Pacific American Heritage Month" celebration at the Charles B. Wang Center at Stony Brook University, tomorrow, Saturday, May 9, 1-8 p.m. The program will feature cultural dances and musical and vocal performances, arts and crafts displays, a tea ceremony, and more. Admission is free from 1 to 6 p.m. The Wang Center theater seating opens at 3:30 p.m. and is first come, first served. For more information, see http://scaaab.org/yahoo_site_admin/as_sets/docs/Asian_Pacific_Heritage_Month_0213.43125137.pdf.

Sign Up for Summer Swimming Lessons

Children's swimming lessons will begin on July 6 and run until August 21. Classes meet one day per week (according to skill level) from 2:15 to 3:15 p.m. Children should be at least 42 inches tall and between the ages of five and 13. Swimming lessons cost \$80 per child. To register, send a check to the Recreation Office (Bldg. 400) no later than June 5. For more information, call Ext. 2873.

Retirees Get-Together Luncheon, 6/4

All retirees are warmly invited to come to the Annual Luncheon to be held at the Bellport Country Club on Thursday, June 4. You do not have to be a member of the Brookhaven Retired Employees Association (BREA) to join in the fun and meet old friends and new acquaintances. The cost is \$35 per person. Just fill out the form below and send it with your check to BREA, BNL, Bldg. 421, P.O. Box 5000, Upton, NY 11973.

Name _____

Street Address _____

City _____ State _____ Zip _____

Telephone _____ E-Mail _____

Spouse/Guest(s) _____

Amount enclosed _____

Plant Genes from pg. 1

barriers to hinder conversion of the fibers to sugar. Acyl groups can also form cross-linked networks that make cell walls extra strong.

"Our long-term interest is to find the enzymes that control the formation of cell-wall-bound acyl groups, so we can learn how to modify plant cell walls to increase their digestibility," Liu said. "The current study, a thorough investigation of an acyl-modifying enzyme family, provides a starting point for us to pursue this goal."

In fact, some of the genes the scientists found to be expressed at high levels in woody tissues may carry the genetic instructions for making the enzymes the scientists would like to control.

"Our next step will be to use biochemical and biophysical approaches to characterize these individual genes' functions to find those directly or indirectly related to cell-wall modification. Then we could use those genes to engineer new bioenergy crops, and test whether those changes improve the efficiency of converting biomass to biofuel," Liu said.

For more information on this research, see: http://www.bnl.gov/bnlweb/pubaf/pr/PR_display.asp?prID=928.

— Karen McNulty Walsh

TIAA-CREF One-on-One Retirement Counseling

A TIAA-CREF consultant will visit BNL on Thursday, May 21, and Friday, May 22 to answer employees' questions about understanding the importance of protecting your assets against inflation, finding the right allocation mix, learning about TIAA-CREF retirement income flexibility, and comparing lifetime income vs. cash withdrawal options. For an appointment, call 1-800-732-8353.

CALENDAR

— WEEK OF 5/11 —

Monday, 5/11

GE Low-Voltage Products

9 a.m.-2 p.m. Berkner Hall parking lot. Visit General Electric's 45 ft trailer in which representatives will showcase GE's new line of low-voltage products in the "Low-Voltage Revolution Tour."

Tuesday, 5/12

Verizon Wireless Discounts

11:30 a.m.-1:30 p.m. Berkner Hall lobby. Representatives from Verizon Wireless will discuss services available. Also, BNL employees who contact Mavi Baig at (917) 881-2748 or mavi.baig@verizonwireless.com can get 15 percent of Verizon Wireless monthly service and 25 percent off accessories.

Wednesday, 5/13

451st Brookhaven Lecture

4 p.m. Berkner Hall. Yin-Nan Lee, Environmental Sciences Department, will talk on "A Tale of Two Hemispheres: Field Studies of Aerosols and Marine Stratocumulus Clouds." All are welcome to this free talk. Visitors to the Lab of 16 and over must carry a photo ID. See story, pg. 1.

Thursday, 5/14

*Talk: Managing Family Conflicts

Noon. Berkner Hall, Room B. Social worker Diana Barnett, ACSW, will talk on family conflicts. See notice at left.

Talk on Nanotechnology

4 p.m. Berkner Hall. Vicki Colvin, Rice University's Kenneth S. Pitzer-Schlumberger Professor of Chemistry and Professor of Chemical & Biomolecular Engineering, will talk on "Nanotechnology: Its Promise and Challenges." Go to <http://www.bnl.gov/bnlweb/pubaf/bulletin/2009/bb050109.pdf> for more detail. All are welcome to this free talk. Visitors to the Lab of 16 and over must carry a photo ID.

Friday, 5/15

*Blues Musician Roy Book Binder

8 p.m. Brookhaven Center. Sponsored by the BNL Music Club. All are welcome. Tickets \$15 at the BERA Store, \$20 at the door. See pg. 4.

— WEEK OF 5/18 —

Monday, 5/18-20

*Joint NSLS/CFN Users' Meeting

See pg. 1 and <http://www.nsls.bnl.gov/users/meeting/page.aspx?id=home>.

Wednesday, 5/20

Talk: Archimedes' Oldest Writings

4 p.m. Berkner Hall. Uwe Bergmann, SLAC National Accelerator Laboratory, will talk on "Archimedes' Oldest Writings Under X-ray Vision." Sponsored by Brookhaven Women in Science (BWIS) and QuarkNet, the talk is free and open to the public.

— WEEK OF 5/25 —

Monday, 5/26

Lab Closed to Honor Memorial Day

Tuesday, 5/26

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.

Oil Change Special On Site

During the week of May 11-15, the Upton service station on site is offering a cars-only special on oil changes for most makes of car. The cost for standard oil and filter is \$24.95 plus tax. Call Ext. 4034 or stop by to make an appointment.



Children's Summer Science at BNL

BNL employees are invited to register their children for the 2009 Summer Science Explorations Program, a free offering from the Science Learning Center in the Lab's Office of Educational Programs. The three-day summer camp will be held 8:30-11:30 a.m. for students entering 4th – 6th grades.

The focus of the camp is astronomy. Through various games and activities, students will explore our solar system and the Sun's energy. The environmental day will focus on life cycles of frogs and dragonflies. These programs center on

research done at BNL. In addition to our Science Educators, teaching participants include research staff and pre-service teacher interns.

The weeks of June 29 (Monday through Wednesday) and August 3 (Tuesday through Thursday) are reserved for the children of the BNL community. Space is limited, so register your child/grandchild early. Contact the Science Learning Center Office, Bldg. 400, Ext. 4495. Students must attend all three days; parents of participating children are welcome to attend.

Talk on 'Managing Family Conflicts,' 5/14

As part of the Employee Assistance Program's Family Connections series, Diana Barnett of the Academy of Certified Social Workers will talk on "Managing Family Conflicts, in Berkner Hall, Room B, from noon to 1 p.m. on Thursday, May 14. All the Lab community is welcome. Topics to be addressed will include understanding the reasons for family conflict, identifying your personal conflict style, ten rules for fighting fairly, and techniques for resolving problems with your children and partner. To register, contact Linda Di Pierro, dipierro@bnl.gov or Ext. 4567; however, walk-in participants are also welcome.

Get Fresh Organic Veggies All Summer Long

Fresh organic produce from a local farm is available, delivered weekly to BNL, for those who join the Community Supported Agriculture (CSA). For 26 weeks, a seasonal selection of freshly picked organic produce from the Green Thumb Organic Farm in Water Mill will be delivered to BNL for you to pick up. The fee is \$420: pay immediately or in two installments of \$285 on sign-up, by May 31, and a check for \$135, post-dated for July 13, 2009. Deliveries run from early June through November. Brochures containing the commitment form are at the BERA Store, or at the BERA website, http://www.bnl.gov/bera/linkable_files/VeggieApplication.pdf. Or, contact Ruth Comas, comas@bnl.gov or Ext. 3545.

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/.

To apply for a position, go to www.bnl.gov. Select "Job Opportunities," then "Search Job List."

OPEN RECRUITMENT - Opportunities for Lab employees and outside candidates.

***NOTE:** [This note applies only to positions below ending with *See NOTE (above)].

When applying for a position, please add your references' contact and email address in the Reference box located on the application page. Please note that if you have applied for multiple positions under one application, the same reference information is attached to all those positions. If you elect to use different referees for different positions, apply to each position separately. BNL policy states that Research Associate appointments may be made to those who have received their doctoral degrees within the past five years.

POSTDOCTORAL RESEARCH ASSOCIATE/ACCELERATOR TEST FACILITY - Requires a Ph.D. in physics or a related field. Experience with design and operation of photo injectors, linear accelerators, beam transport and relevant diagnostics. Will be involved with wide range of experiments at Accelerator Test Facility to study physics of high brightness beams. The responsibility of this position will be: 1) conduct original research; 2) provide scientific and technical support to researchers at ATF; and 3) to participate in the development of new experimental capabilities. Under the direction of V. Yakimenko, Physics Department. Apply to Job ID #14855. *See NOTE (above).

POSTDOCTORAL RESEARCH ASSOCIATE/RECYCLING PHOTOVOLTAICS - Requires a Ph.D. in metallurgical or chemical engineering and research experience in extractive metallurgy and electrochemistry. Experience with hydro-lab techniques (digestion of raw samples, preparation of standard solutions, dilution of sample solutions, and performing wet spectrometric analysis of metals), hydrometallurgical separation techniques and ICP spectrometric analysis of metals is required. Experience with mathematical modeling in metallurgical and materials processing is a strong plus. Good writing and communication skills and some experience with writing technical proposals are desired. The objective of the research is to effectively recover and recycle conducting metals from CdTe and CuInSe₂ photovoltaic modules. This is part of the PV product and waste recycling activities of the National Photovoltaic Environmental Research Program operating at BNL since 1980 under the auspices of the DOE. Research will be conducted at the facilities of the Energy and Environmental Science and Technology Directorate, under the direction of V. Fthenakis. Apply to Job ID #14856. *See NOTE (above).

POSTDOCTORAL RESEARCH ASSOCIATE/STRUCTURAL BIOLOGY-BIOCHEMISTRY (reposting) - Requires a Ph.D. in structural biology or biochemistry. Experience in X-ray crystallography, protein engineering, and analytical biochemistry is preferred. Will explore the structure-function relationship for the enzymes or enzyme complexes involved in lignocellulosic biosynthesis and in the related secondary metabolisms. Competitive salary (minimum starting salary of 49.5K/yr) will be commensurate with relevant experience and qualifications. Under the direction of C.-J. Liu, Biology Department. Apply to Job ID #14649. *See NOTE (above).

POSTDOCTORAL RESEARCH ASSOCIATE/ATMOSPHERIC SCIENCE - Requires a Ph.D. in atmospheric science, environmental engineering or closely related field. Hands-on experience in aerosol and/or cloud microphysical measurements and skills in instrument development and complex data analysis is also required. Experience with aircraft-based studies is desirable, but not required. The research focuses on field studies of microphysical and cloud-activation properties of atmospheric aerosol. Will join a research team and play an important role in designing and carrying out field experiments as well as data interpretation. Under the direction of J. Wang, Environmental Sciences Department. Apply to Job ID #14858. *See NOTE (above).

POSTDOCTORAL RESEARCH ASSOCIATE/ATMOSPHERIC SCIENCE - Requires a Ph.D. in atmospheric science, environmental engineering or closely related field. Hands-on experience in aerosol and/or cloud microphysical measurements and skills in instrument development and complex data analysis is also required. Experience with aircraft-based studies is desirable, but not required. The research focuses on field studies of the influences of atmospheric aerosols on cloud properties. Will join a research team and play an important role in designing and carrying out field experiments as well as data interpretation. Under the direction of J. Wang, Environmental Sciences Department. Apply to Job ID #14860. *See NOTE (above).

SCIENTIFIC STAFF POSITION/ASSISTANT/ASSOCIATE/PHYSICIST/LASER SCIENTIST(REPOSTING) - Requires a Ph.D. in physics, electrical engineering, optics or physical chemistry. Postdoctoral experience is preferred. The successful candidate should have hands-on experience with nanosecond to femtosecond pulse length laser system operating in the kHz to 100's to MHz region. Experience with temporal and spatial pulse shaping is also required. Experience in the development of Ti:Sapphire and fiber laser system highly desirable. Knowledge of commonly used electro-optical components is required, as is the knowledge of techniques such as q-switching, modelocking, and harmonic generation. The research program is the development of short pulse lasers, including pulse shaping. The laser will be used in a polarized electron source for the proposed electron collider with the RHIC beams. The RHIC program is evolving in the direction of a polarized electron-ion collider, which calls for the construction of a polarized electron linac to collide with the RHIC beams. The polarized electron source is a challenging laser driven photocathode source. The job will require the development of a new laser source, either of the Ti:Sapphire or fiber laser variety, aimed at 50 to 100 watts in the long visible regime. Additional tasks will include the development of 3-D pulse shaping and laser-based diagnostics. The job will also require hands-on operation of an existing laser for a high-current, high-brightness electron source. A significant amount of R&D is part of the job, with publications and conference attendance. The level of the position will be based on the background and experience of the selected candidate. Under the direction of I. Ben-Zvi, Collider-Accelerator Department. Apply to Job ID #14849. *See NOTE (above).

ASSISTANT SCIENTIST/ENGINEERING - Requires a Ph.D. in civil/structural engineering or engineering mechanics and a minimum of two years of experience with an engineering design or consulting organization. Experience in seismic and structural analysis, finite element analysis, seismic probabilities risk assessment (PRA), and structural fragility assessment is also desirable. Will assist in carrying out structural, seismic and civil engineering projects and deliver project specific products and services to customers in accordance with contractual requirements. In addition, the candidate would assist in identifying opportunities for expanding programs and the best technical approach to assigned projects. Work would involve assisting in planning and conducting research and providing technical support for projects related to the safety assessments of existing and proposed nuclear plant facilities. It would also involve one or more of the following programs: a) collaboration with Japan on seismic issues; b) development of seismic capability evaluation technology for degraded structures; c) technical assistance in support of the review of design certification and combined license applications for nuclear power plant designs. Under the direction of C. Hofmayer, Energy Sciences & Technology Department. Apply to Job ID #14857. *See NOTE (above).

ACCELERATOR ASSOCIATE PHYSICIST - Requires a Ph.D. in physics or a related field. Also requires postdoctoral experience and at least five years of relevant experience in the field of operating and addressing operational issues in accelerator sub systems including photo injector, magnet system, beam line transport and diagnostics. Experience with design and operation of photo injectors, linear accelerators, beam transport and relevant diagnostics. Will be involved in a wide range of experiments at Accelerator Test Facility to study physics of high brightness beams. The responsibility of this position will be: 1) conduct original research; 2) provide scientific and technical support to researchers at ATF; and 3) to participate in the development of new experimental capabilities. Under the direction of V. Yakimenko, Physics Department. Apply to Job ID #14854. *See NOTE (above).

ASSISTANT/ASSOCIATE PHYSICIST/ COLLECTIVE EFFECTS (S-1/S-2) - NSLS-II Accelerator Systems is seeking a Physicist with expertise in analysis, diagnosis and correction of collective effects in accelerator systems. The selected candidate will participate in the continuing design and optimization of the NSLS-II accelerator systems and play an active role in the commissioning of the NSLS-II accelerator systems. Requires a PhD in physics, and at least 2 years of postdoctoral experience, and a successful track record in carrying out research on beam intensity dependent

effects in accelerators. Experience with modern computer codes to simulate the effects of wakefields is desired, as is experience carrying out machine studies on storage rings. Report to the NSLS-II Accelerator Physics Group Leader. National Synchrotron Light Source II. Apply to Job ID #14852.

TOUR WORKERS FOR SUMMER SUNDAYS - Requires excellent communication skills - and must be at least 18 years of age. Responsibilities include but are not limited to preparing for the activities on a Summer Sunday, greeting, assisting, escorting visitors with safety in mind and cleaning up at day's end. Will be trained to meet all Laboratory requirements. Employment will consist of (2) days of training on June 25th and 26th and (5) Sundays. Community, Education, Government and Public Affairs Office. Apply to Job ID #14801.

Motor Vehicles & Supplies

08 HONDA CIVIC COUPE - 20K mi. 2dr, black w/gray interior. 4-cyl, a/t, a/c, p/b, p/l, p/s, p/w. \$15,900 neg. 834-0047.
05 TOYOTA COROLLA - 47K mi. 4cyl, 4dr, ac, p/w, p/s, p/b, abs, am/fm cass, 100k warr. Ex. cond. \$10,000. 821-3368.
05 CHRYSLER 300 TOURING - 82K mi. black pearl, mint. cond., 6 cyl., many extras. \$9,500 neg. 929-4978 or.
02 FORD WINDSTAR - 105.5K mi. p/w, p/l, a/c, dual sliding drs, excel. cond., runs well, cln int, seats 7. \$4,200 neg. 987-4281.
99 NISSAN ALTIMA SE - 78K mi. a/c, c/c, p/w, 4spd, gd. cond. \$4,000 neg. Brad, Ext. 4369, 680-6127 or mksai@bnl.gov.
98 GRAND MARQUIS GS - 76K mi. blk, gray int., v/clean w/maintenance records. \$3,500. 363-2070.
CARGO CARRIER - 20"x60" steel platform, fits 1 1/4" towing receiver, hauls 500lbs. bulk items, \$45. 281-2767.
WHEELS/TIRES - Bridgestone Turanza, P205/55R16 89H, hubcaps/lug nuts, new from '08 Civic LX, \$200. Jay, Ext. 4994.

Boats & Marine Supplies

21' 2000 SEASWIRL DUEL CON. - 150 johnson o.b. less than 100 hr. full can. trailer great shape \$16,500 neg. Ext. 3745.
21' SEASWIRL STRIPER - 270HP Volvo I/O w/trailer, chart plotter, fish/depth finder, v low hrs, excel. \$22,000 neg. 987-4281.
BOAT SLIP - Jamesport, Peconic Bay, deep water, floatg dock, boats up to 25', parking at dock, no util., \$950/obo. 929-6189.

Furnishings & Appliances

BABY CHANGING TABLE - High qual solid wood, on rollers, utility drawer, shelf, waterproof mat, grt cond, \$35. Ext. 3621.
DESK - leather top desk and chair. \$25. 581-7656.
DRESSER/CHANGER COMBO - natural wood w/3 drawers one side, two on other side, excel. cond, ask/\$150/obo. Ext. 3924.
KENMORE WASHER AND DRYER - XL capacity, gd. cond, \$400/set/obo, u/pic/up. Tony, Ext. 2601 or abolling@bnl.gov.
MATTRESS, SPLIT BOX SPRINGS - new qu sz Sleepy's Miralux pillow-top. Pd \$1800, ask \$1000. Can help deliver. 764-8001.
OAK ENTERTAINMENT UNIT - like new, have pic, orig/\$1,600, ask/\$600. Ext. 3438.

Audio, Video & Computers

DIRECT TV HD DVR RECEIVER - used for 4 mo, in box, incl connecting cables and remote control, \$100. Melissa, Ext. 2877.
HP SCANJET SCANNER - 5400c series, w/software CD, \$40/obo, great cond, hardly used. 516-241-4598.
MAC COMPUTER - IMAC G3 400 MHz/wifi, MS Office, more \$250 OBO. Don, Ext. 2253, 821-3320.
PHOTO, 35MM & NEGATIVE SCANS - www.pictureperfectscans.com. 928-6469 or dianne@pictureperfectscans.com.
PRINTER - Hewlett Packard DeskJet 842C in excel, cond, comes w/ software and ref. manual, \$20. 281-4459.
SYNTHESIZER - virtual analog, Yamaha AN-1x, gd. cond, box, extnsiv MIDI implementation, real-time controls, \$400. Ext. 3621.

Tools, House & Garden

LAWN MOWER - elect, 19" blade Black&Decker Lawn Hog, perfect cond., 3 yrs old, new/\$250, ask/\$125. Eli, Ext. 7179.
POOL PUMP - Pump & sand filter for Above ground pool. Like new. Hayward 1HP, excel cond \$250. Will deliver. 298-4121.

Sports, Hobbies & Pets

BIKE RACK - Drawlite, 1 1/4" hitch, 2-bike/lockable. Excel. condition. \$35. David, 467-2691 or dono@bnl.gov.
BIKES - men's 10spd, 27", lg. frame/\$40; women's mountain bike, 21spd, 24"/\$50, both in gd. cond. Walter, 567-9025.
BOWLING BALL - pink, ladies w/bag/\$10, shoes size 9, worn twice/\$5, all in excel. cond. 581-7656.
DUMBBELL RACK - Super heavy duty Polaris dumbbell rack w/20 saddles. Orig \$450, ASKING \$225. John, aloi@bnl.gov.
GO-PEL - Motorized scooter, 2-stroke. Runs well, fast. Paid/\$350 asking/\$150. Ext. 7235, 286-1018 or fitz@bnl.gov.
GOLDEN LAB - Purebred, 3 yrd, needs TLC & fenced yard. Grt with kids. All shots & neutered. Owner relocating. 570-423-3097.
MALIBU PILATES CHAIR - like new, all docs. incl, pd/\$250 ask/\$150. 921-1413.
NORDIC TRACK 'SKI' MACHINE - \$120. Carol, 744-8632.

Blues Musician, Storyteller Roy Book Binder, 5/15

Blues musician/storyteller/songwriter Roy Book Binder will perform on Friday, May 15, at 8 p.m. at the Brookhaven Center. Sponsored by the BNL Music Club, the concert is open to the public. Visitors to the Lab of 16 and older must bring a photo ID.

In the 1960s, Book Binder learned his craft from the legendary blind street singer Reverend Gary Davis. Later, he toured across America performing at the New Orleans JazzFest, the Chicago Blues Festival, and MerleFest. A few years ago, the PBS Emmy Award-winning series "Arts Across America" documenting his colorful career in a segment titled "Keeping Traditions Alive." Book Binder has been guitar picking, singing country blues, and telling stories behind the microphone for more than 40 years. Tickets cost \$15 in advance at the



BERA Store in Berkner Hall or through www.ticketweb.com, or \$20 at the door. See also Roy Book Binder go to: <http://www.roybookbinder.com/>, <http://www.bnl.gov/bera/activities/music>.

— Jane Koropsak

SHIH TZU PUPPIES FOR SALE - adorable and cuddly. Marie, 745-6721.
WOODEN SWING SET - Creative Playthings, Lex II, fort w/ canopy, 2 swings, much more. You take down. \$250. 645-1349.

Miscellaneous

ANTIQUE CLOCK - sessions wind up/\$10. 581-7656.
BABY ITEMS - Graco Highchair, Playpen; Evenflo Exersaucer. \$75/all/obo. Sleigh Crib converts to toddler bed. \$175. Ext. 3924.
CAR SEAT BASE - Graco SnugRide Infant, \$15, excel. cond. 581-7656.
EGGS - organic, free-range eggs from my hens (supply limited). \$2.5/doz, \$3.75/18, \$1.25/6. Sandy, fosters@bnl.gov.
EVENING GOWNS - mother of bride designer gown, Daymor szs 10 & 12, wrn 1ce, prof. cleaned, \$75/ea, pic avail. 581-7656.
GENERATOR - Craftman, 3K watt, runs well, \$120; computer cable pwr cord for compaq presario. Joseph, 281-2767.
GIFT CERTIFS - 2/\$50 GCs to Brian Scotts American Restaur, Miller Pl., expire 3/31/10, sell/\$25/ea. Heather, Ext. 4138.
JEWELRY DISPLAY - carrying case, velvet boards, trays, gift boxes rings, bracelets, etc. can be purchased sep. 581-7656.
JFK AIR TRAIN TICKET - 1 Jamaica Station to JFK, expires May 11, orig/\$5, ask/\$2. Mike, Ext. 2947 or hanson@bnl.gov.
SMART CYCLE - w/2 games, barely used, \$80. Ext. 3008 or ddaniels@bnl.gov.
SPRINKLERS - poly pipe, repairs, start ups, complete sprinkler sys. installed. Michael, Ext. 5262, 284-2277.
VINYL RECORDS 33'S - Many "Oldies but Goodies", don't want to throw away, call if interested. Jason, Ext. 3477.
WEDDING DRESS - Mia Salano Style #M4870, beautiful, brand new, still in wrapping, pd/\$800, ask/\$500. 445-4027.

Yard & Garage Sales

MILLER PLACE - Multi-family, Saturday, May 16th at 17 Redwood Lane, 10am-4pm, kit,ware, children's toys, sm. home furnishings. Mark, 928-4453.

Community Involvement

TEMPLE BETH EMETH BARN SALE - Sun, 5/17, 10a-3 p. Toys, kitchen, clothes, bks, records, elctrnics, more. 744-8632.

Happenings

AUDITIONS - Reminder: May/30, for HMS Pinafore concert 8/21-23, all singers welcome. leslieluxemburg-music@yahoo.com.

CASINO NIGHT - Fund raiser for Kim Haeg; daughter of Dennis/ steam plant, she is a quadriplegic on a ventilator, 5/8, 7-11pm @ Raphael Vineyards, Peconic. Tickets \$75; please call, thanks. Lorraine, 765-6856.

THE SOUND OF MUSIC - performed May 14-17, 21, 22-24, 28-31. Thu-Sat 8 p., Sun. 2:30 p.m., at N. Fork Community Theatre, 12700 Old Sound Ave. Mattituck, Tickets \$20 at www.nfct.com or 298-NFCT.

SPAGHETTI DINNER - Riverhead Moose Lodge, Wed., 5/6, 5-8 pm, to support the Rvhd.NJROTC drill team competition in Delaware, \$8/adv./\$10/dr. The kids need yr. support at this time. 645-1349.

Wanted

ADOPT-A-PLATOON - Monetary donations gratefully accepted towards postage to ship items to military overseas. Thanks! Joanne, Ext. 8481 or jrula@bnl.gov.

FIREWOOD RACK - reasonable/ Donna, Ext. 2716, 878-2425 or storan@bnl.gov.

Lost & Found

CHECK BOOK - Green covered (North Fork) with Upton POBox address. Morris, Ext. 4192, 924-3398 or mms@bnl.gov.

For Rent

ORLANDO, FL - 3 bdrm, Condo, 2 bath, fully furn., 4 mi. from Disneyland. \$700/wk. John, 732-2472.

BELLPORT VILLAGE - 1 bdrm upstairs apt in 2-fam home, kit/lr combo, full bath, priv., ent/ drway, Village amenities, incl. util, no smkg/pets. \$1,025/mo. 275-0745.

EAST PATCHOGUE - 1 bdrm, l/r/kit combo, priv. ent., waterview, no smkg/pets, v/ nice, quiet, incl. all. \$890/mo. 758-1919.
LAKE RONKONKOMA - 1 bdrm, full kit, bath, l/r, d/r, 20 min. to BNL. \$1,000/mo. Ext. 3008 or ddaniels@bnl.gov.

MANORVILLE - 1 bdrm, l/r/kit combo, full bath, priv. ent., v/quiet, no smkg/pet., incl all, avail. June. \$800/mo. Ext. 3849, 591-1315.

MASTIC - 1 bdrm, full kit&bath,den, own driveway own ent, for one person, incl 1 mo sec, no smok/pets. \$850/mo. 219-7241.

MASTIC BEACH - 1 bdrm apt, full bath, l/r, kit., priv. ent. & drway, no smkg/pets, all incl. except cable, sec/refs req'd. \$950/mo. 281-4559.

MIDDLE ISLAND - very priv apt. all appl, util & cable incl, 3 mi to Lab. \$1,400/mo. Jim, Ext. 2765 or newburgh@bnl.gov.

MIDDLE ISLAND - 1 bdrm, lg bsmt apt, pvt ent, drwy, phone, cable, int, strictly no pet/ smkg, quiet, all incl, BNL employee only, avail. 6/1, 1 mo sec. \$850/mo. 672-2451.

MIDDLE ISLAND - newly renovated, furn bsmt studio, incl all, avail immed. \$600/mo neg. Alexey, 846-1913.

RIDGE - 3 bdrm, 1.5 bath, l/r, d/r, kit, gar, fin. bsmt, +util/sec. \$1,750/mo. Ray, Ext. 3541, 924-4147.

ROCKY POINT - 1 bdrm apt, 1 sm br/office/ spare, l/r, w/w, kit/brkfst nook, full bath, fen. side yd w/patio, walk to stores/bch, own th'stat/drway/prkg.\$1,300/mo. 987-3189.

ROCKY POINT - 1 bdrm upper unit, kit, bath, l/r, balcy, quiet co-op comm, nr stores, Indry nr on prem, prkg spot, no smkg/pets, CAC, incl. gas/water. \$1,150/mo. 806-5965.

ROCKY POINT - 1 bdrm house, eik, lg l/r, .5 bsmt, oil heat, no smkg/pets, 15 mins. to BNL. \$1,100/mo. 744-8919.

SHIRLEY - 1rm studio/furn/stove kitnet/ full bath/sep ent/cable/ elect/int/1mo sec/ 5min to stores/beach/LIRR/no smkg/pets. \$650/mo. Ext. 2964, 804-8609.

SHOREHAM - share a house w/professional, part furn bdrms, 7 mi to BNL, int/ tv incl., no smkg/pets, single preferred. 516-380-2650/cell. \$650/mo. 744-3543.

For Sale

LOS ALAMOS, NM - "L" Ranch approx. 2,700 sq. ft., 3 bdrm, 3.5 bath, kit, greatrm,den w/fp, clim ctrl sys., 2 car, gar., fin. bsmt., \$350,000 neg. 873-7547.

MILLER PLACE - well maint old field ranch, 3 bdrm, 1 full bath, l/r, w/fp, Andersen wdws, lg .34/acre, 1.5 car det. gar. w/elec. \$285,000 neg. Mike, 241-4166

PORT JEFFERSON STATION - 4 bdrm Col. 1.5 bath, in 3Vill SD, gar, fen, 1/3 acre, gas heat, cac/igp/igs/fp, sunrm, Jacuzzi, want to close. \$415,000 neg. 834-8255.

SHOREHAM - 3 bdrm Ranch, newly renovated, bath, l/r, den, wd flrs, kit/granite counters, ss appli, gar, lg yd, fam n'hood, SWRSD. \$350,000 neg. 258-4607.

SHOREHAM - 4 bdrm., 2.5 bath Col., frml l/r & d/r, den w/fp, fin. bsmt, 12 x 20 deck, igs, new granite counters, SWRSD, much more, 7 mi to lab. \$499,000. 821-3320.

In Appreciation

My family and I would like to thank our BNL family & friends for your support, thoughts and many prayers in our time of need. Miracles do happen and our son Sean is getting better day by day. Keep your prayers going because that is what keeps us going. Thanks. — Jim Vaz