



## William Bookless New Associate Director For Policy & Strategic Planning

William Bookless, a staff research physicist at Lawrence Livermore National Laboratory (LLNL) and senior advisor, policy planning, analysis and assessment for the National Nuclear Security Administration (NNSA), has been named BNL's Associate Laboratory Director for Policy & Strategic Planning, effective January 3. He succeeds J. Patrick Looney, who has become Chair of BNL's Sustainable Energy Technologies Department.

Bookless said, "I am excited to join the outstanding staff and management team at Brookhaven and to help create the next phase of the Laboratory's contributions to the science community and the nation's economy."

Specifically, Bookless will oversee the Laboratory's business plan, which develops the direction of its scientific programs, as well as the Laboratory Directed Research & Development Program, a competitive program for Lab scientists in which BNL designates funding for highly innovative and exploratory research that fits into its mission.

Bookless will focus on two major areas as he begins his new position: broadening BNL's research to enable a sustainable future for the Lab, and strengthening the recognition of BNL as a world-class scientific institution to ensure that it will continue to attract the world's best science, technology, and engineering talent.

After earning a B.A. in physics from Southern Illinois University in 1975 and a Ph.D. in physics from the University of Wyoming in 1980, Bookless began his career at LLNL in 1980 as a project leader and chief scientist with the task of determining the interactions between high current electron beams — which were being considered for ship terminal defense by the U.S. Navy — and potential targets, primarily nuclear weapons. Over his 32-year career at LLNL, Bookless has held numerous positions, including program leader, Nuclear Weapons Information Project; Deputy Associate Director, Defense & Nuclear Technologies; and Associate Director, Safety & Environmental Protection. Since 2009, he has been stationed in Washington, D.C., as the senior advisor to the Undersecretary of Energy for Nuclear Security.

— Diane Greenberg

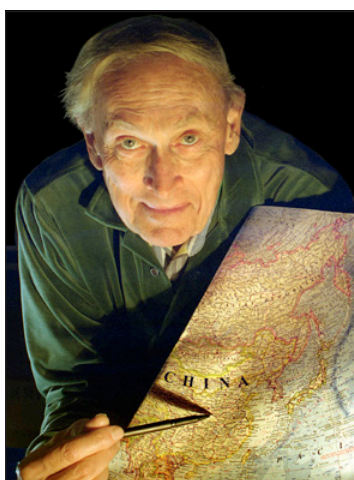
## Garman Harbottle: Senior Scientist Emeritus

Garman Harbottle, a chemist who retired from BNL in 1997 but continues to work part-time in the Chemistry Department, has been named Senior Scientist Emeritus. This status, which carries with it many of the rights and privileges of active employees, was given to Harbottle on the basis of his distinguished contributions to nuclear science and to the application of advanced nuclear detection techniques to archaeology and the fine arts.

Harbottle, who joined BNL in 1949, said, "I've had a wonderful career at Brookhaven. Since the early days, it has been a place where new ideas are welcome, and, over the years, new, powerful instruments have revolutionized numerous areas of research. Still, I enjoyed performing 'primitive science' in the 1950s and 60s. Sometimes big machines are not needed to advance science, only bright people with big ideas."

### Nuclear Science Research

In his initial research in nuclear science, Harbottle determined the decay schemes and half-lives of radionuclides. With David Alburger of BNL/Physics and Elinor Norton of BNL/Chemistry, he calculated the half-life of silicon-32, the last natural radioisotope whose half-life had not been determined accurately. At the Graphite Research Reactor and later at the High Flux Beam Reactor, Harbottle performed basic research on "hot atoms" — atoms that have captured a neutron and momentarily have a large amount of kinetic energy. He also contributed to the development of nuclear instru-



Roger Stoulenburgh CNE-38-98

mentation. For example, with former BNL scientists Edward Sayre and Raymond Stoenner, he developed a small-scale gas counter in the late 1970s that was the first instrument to perform radiocarbon dating of milligram samples.

### The Turquoise Trail

The pioneering work of Harbottle and Sayre in the application of nuclear techniques, especially neutron activation analysis, to the determination of the provenance of artifacts of archeological significance, including works of fine art and sculpture, gave a new scope to the work of archaeologists and art historians. For example, Harbottle and Phil Weigand of Stony Brook University traced out pre-Columbian trade routes in turquoise used in transporting the raw material for Mesoamerican religious jewelry from mines in the American Southwest to markets in central Mexico. "An interesting aspect of this work is that others eventually found out through studying drinking vessels that the Mexican Indians were..."

See *Garman Harbottle* on p. 2

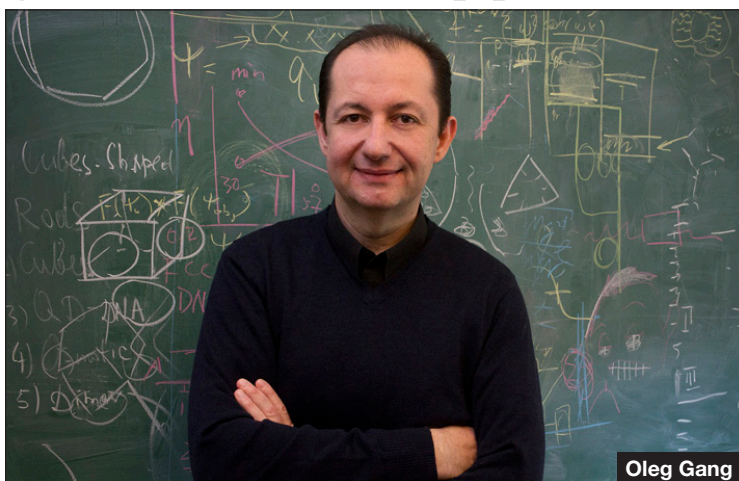
## 474th Brookhaven Lecture, 1/18

# 'Self-Assembly by Instruction: Designing Nanoscale Systems Using DNA-Based Approaches'

In the field of nanoscience, if you can control a way for nanoparticles to self-assemble in particular structures — joining each other, for example, as molecules can form, atom-by-atom — you can design new materials that have unique properties that industry needs.

Nature already uses the DNA genetic code to instruct the building of specific proteins and whole organisms in both plants and people. Taking a cue from nature, scientists at BNL devised a way of using strands of synthetic DNA attached to the surface of nanoparticles to instruct them to self-assemble into specific nanoscale structures, clusters, and three-dimensional organizations. Novel materials designed and fabricated this way promise use in photovoltaics, energy storage, catalysis, cell-targeted systems for more effective medical treatments, and bio-molecular sensing for environmental monitoring and medical applications.

To find out more about the rapid evolution of this nanoas-



Oleg Gang

Roger Stoulenburgh D0060112

sembly method and its applications, join Physicist Oleg Gang of the Center for Functional Nanomaterials (CFN) as he gives the 474th Brookhaven Lecture, titled "Self-Assembly by Instruction: Designing Nanoscale Systems Using DNA-Based Technique," on Wednesday, January 18. All are welcome to this free lecture, which is open to the public and will be held at 4 p.m. in Berkner Hall. Refreshments will be served before and after the event. Visitors to the Lab of

# RHIC

## Enters the Race for Run 12

**RHIC physicists aim to hit the ground sprinting to make the most of a shortened run**

With New Year's Eve behind us and the coldest months ahead, most of us probably aren't thinking of intentionally chilling anything — unless you work at the Relativistic Heavy Ion Collider (RHIC). There, physicists are putting on the big chill, cooling the accelerator's superconducting magnets to near absolute zero (-273 degrees Celsius) to get ready for the 2012 run. A number of accelerator and detector upgrades — and a swanky new Main Control Room — will help them crank out the data as they strive for deeper understanding of the "perfect liquid" quark-gluon plasma (QGP) and the source of proton spin.

"Due to budget constraints,

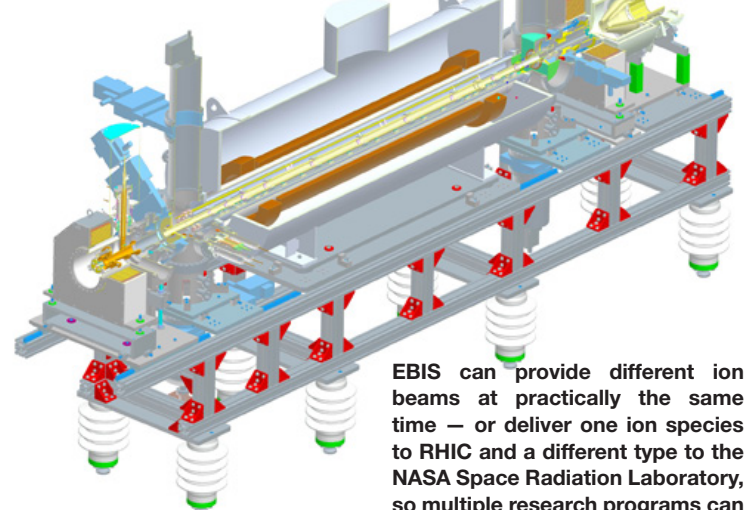
we'll be faced with a tighter running schedule this year — about 20 weeks instead of the 26 weeks we operated in 2011," said Associate Laboratory Director for Nuclear and Particle Physics Steven Vigdor. "But even with reduced running time, I'm confident that the advances we've made in accelerator operations will provide high collision rates, and that the STAR and PHENIX experiments will quickly commission their new detectors to gather useful data."

### New Beam Injector

On the accelerator end, the Electron Beam Ion Source (EBIS) will serve as the main heavy ion...

See *RHIC Run 12* on p. 2

**A cut-away diagram of the Electron Beam Ion Source (EBIS) pre-injector that enables acceleration of a wider range of ions than the previously used Tandem Van de Graaff accelerators**



EBIS can provide different ion beams at practically the same time — or deliver one ion species to RHIC and a different type to the NASA Space Radiation Laboratory, so multiple research programs can potentially run simultaneously.

manner via self-assembly. Gang and his colleagues used the CFN and the National Synchrotron Light Source (NSLS) facilities to perform their groundbreaking research. At the CFN, the scientists used an electron microscopes and optical methods to visualize the clusters that they fabricated. At the NSLS, they applied x-rays to study a particles-assembly process in solution, DNA's natural environment.

Gang earned a Ph.D. in soft matter physics from Bar-Ilan University in 2000, and he was a Rothschild Fellow at Harvard University from 1999 to 2002. After joining BNL as a Goldhaber Fellow in 2002, he became an assistant scientist at the CFN in 2004. He became the CFN's leader for Soft and Biological Nanomaterials Theme Group in 2006, and earned the title of scientist in 2009. Gang has received numerous honors and recognitions, including the 2010 Gordon Battelle Prize for Scientific Discovery.

— Liz Seubert

*Garman Harbottle from p. 1*  
...trading chocolate for tur-  
quoise,” Harbottle said.

Medieval Sculpture Origins

Harbottle and his former BNL collaborator, Lore Holmes, identified the geographical origins of celebrated limestone sculptures created in France during the ninth through fifteenth centuries. The results of this research were highlighted in an exhibition called “Set in Stone: The Face in Medieval Sculpture,” presented at the Metropolitan Museum of Art from September 26, 2006 to February 19, 2007. The Brookhaven Limestone Database Project is now affiliated with more than 33 museums in the U.S., France, and Great Britain.

Ancient Flutes

In the late 1990s, Harbottle was a member of the research team in China that uncovered six complete crane-bone flutes between 7,000 and 9,000 years old, along with 30 other flutes at an early Neolithic site in Jiahu in Henan province. Several flutes may be the earliest playable instruments to be dated and acoustically analyzed.

The Vinland Map

In 2002, Harbottle, with collaborators from the University of Arizona and the Smithsonian Institution, used carbon-dating technology to determine the age of a controversial parchment that might be the first-ever map of North America. The scientists concluded that the so-called “Vinland Map” parchment at Yale University dates to approximately 1434 A.D., nearly 60 years before Christopher Columbus set foot in the West Indies. While the date of the parchment cannot prove that the map is authentic, it is an important piece of evidence to be considered by those who argue that it may be a forgery.

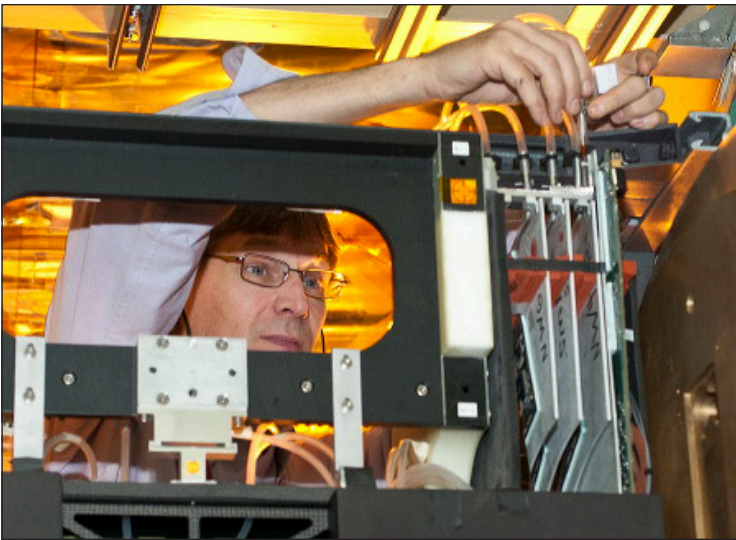
Other Projects

Since his retirement, Harbottle also has served on the Board of Consulting Editors, Studies in Archeological and Museum Science, and as a member of the Honors and Awards Committee of the American Nuclear Society. He is a research associate in the Medieval Department of the Metropolitan Museum of Art, and he has continued to publish on the limestone sculpture project. Also, he has presented numerous public lectures on his work.

After the events of 9/11, Harbottle began work on projects of potential interest to the Department of Homeland Security. With Walter Kane of BNL’s Non-proliferation and National Security Department, he performed a number of studies, including the construction and bench testing of an improved portable instrument for detecting nuclear materials.

A Distinguished Career

Harbottle earned a B.S. in chemistry from the California Institute of Technology in 1944 and a Ph.D. in chemistry from Columbia University in 1949. He joined BNL’s Chemistry Department in the same year as an associate chemist, and he worked his way through the ranks to become a senior chemist in 1968, having received tenure in 1957. He was a Guggenheim Fellow at Cambridge Univer-



Mike Lenz adjusts part of the forward silicon vertex tracker in the PHENIX detector at RHIC.

*RHIC Run 12 from p. 1*  
...injector for a RHIC run for the first time. EBIS enables acceleration of a wider range of ions than the previously used Tandem Van de Graaff accelerators. Though the upcoming RHIC run will be focused in part on colliding polarized proton beams for investigating the mysterious source of proton spin, there will also be a brief (five-or-more-week) heavy-ion run, during which physicists will accelerate and collide copper ions with gold, and if time allows, uranium ions with uranium.

Because EBIS can serve up these different ion beams at practically the same time — or deliver one ion species to RHIC and a different type of ion (think carbon, helium, or iron) to experiments at the NASA Space Radiation Laboratory (NSRL) — multiple research programs can potentially run simultaneously. It also provides heretofore-unavailable ion beams, such as highly non-spherical uranium nuclei. And in contrast to the Tandems, the new beam injector operates practically automatically, with much less need for human intervention.

At the Controls

Of course people still play a vital role in the research at RHIC and the other facilities fed by the Collider-Accelerator Department (C-AD), and a brand new, state-of-the-art main control room (MCR) on the second floor of Building 911 is bringing them closer together and streamlining operations.

“We needed to make room for more operators to help manage the multiple research programs that can now run concurrently at RHIC and NSRL,” said C-AD Chair Thomas Roser. “During high-demand study periods, we can now integrate all our operators — who run these machines 24 hours a day, seven days a week — in one centralized location for efficient operation.”

Data from accelerator systems now comes to the MCR in fully digital form, making it easier to store and compare — and make adjustments, when needed.

Cooling beams

While accelerator physicists make beam adjustments at the macroscopic scale, sophisticated monitoring devices, signaling systems, and electromagnetic “kickers” have been installed to

sity, 1957-1958, and he taught radioisotope procedures at the American University in Beirut, Lebanon in 1959. From 1965 to 1967, he directed the Division of Research and Laboratories at the International Atomic Energy Agency in Vienna. He also has

tweak RHIC’s beams in subtle ways that keep the circulating ions tightly bunched. This beam-tweaking system is known as “stochastic cooling” because it monitors the random statistical fluctuations in beam shape and size that occur as the ion bunches naturally spread out, or heat up — and sends corrective signals across the RHIC ring to kick the ions back into place, thus “cooling” the beams.

Run 12 will mark the first time this beam-cooling technique has been fully implemented in both RHIC rings — keeping each heavy ion beam from spreading lengthwise, widthwise, and vertically. These tighter bunches are expected to yield dramatically improved collision rates.

New Detector Components

Upgraded and new detector components at both STAR and PHENIX will be ready to capture those collisions and gather the data they need to answer scientific questions.

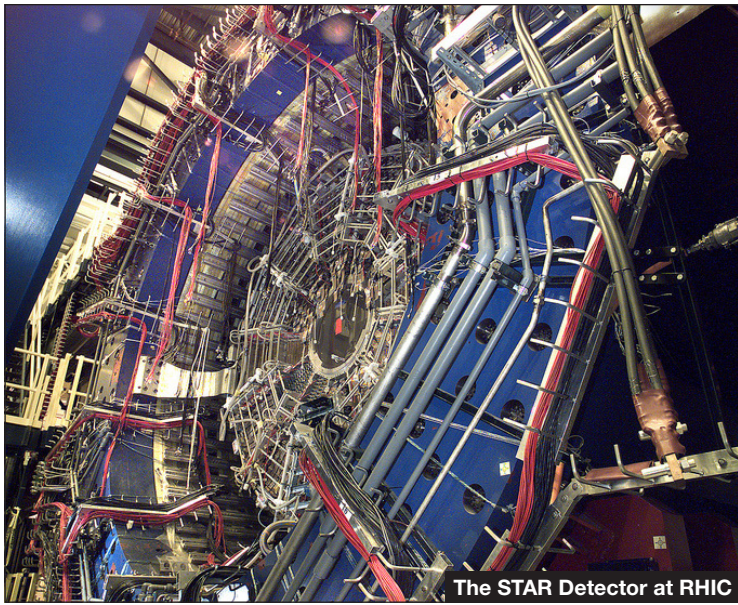
For instance, PHENIX has installed new silicon tracking detectors, known as the barrel and forward vertex detectors, which allow researchers to identify the production of very short-lived particles that decay mere microns away from the primary collision zone. These will enable the researchers to use so-called heavy quarks as a tool for studying the quark-gluon plasma created in RHIC’s high-energy heavy-ion collisions. That’s the free-flowing, superhot (4 trillion-degree!) liquid substance scientists believe filled the early universe some 14 billion years ago, before even protons and neutrons formed. Scientists will use the heavy quarks to see if they, too, are carried along with the flow of the quark-gluon plasma, like heavy rocks in a force-

Below: The Collider-Accelerator Department’s spacious new main control room will help accommodate multiple simultaneous research programs at RHIC and NSRL.



been an adjunct/research faculty member of Stony Brook University intermittently from 1983 to the present.

Harbottle is the recipient of numerous awards, including, with Edward Sayre in 1983, the George Hevesy Medal for out-



fully flowing stream. A positive result would deepen the mystery about how such strong interactions among the constituents in the QGP arise from a fundamental theory that predicts relatively weak quark-quark and quark-gluon coupling.

For the investigation of proton spin structure, PHENIX has also installed a set of “chambers” that will allow scientists to identify high-momentum muons emerging from proton-proton collisions. These muons are a sign of the production of W bosons, which help elucidate how different “flavors” of quarks contribute to proton spin.

STAR also has a new detector system to enhance the tracking of W bosons via the energetic particles they decay into to help tease out details of the spin properties of the proton. It is known as a forward GEM tracker, where GEM stands for gaseous electron multiplier — the state of the art for accurate charged particle detectors based on gas. This detector will share components with another precision detector to be installed in the next few years — a technological advancement that has already captured international attention.

For the heavy ion collisions, STAR has added the first set of new detector elements called muon telescope detector (MTD) trays, which will enable measurements of muons that pass through the tons of steel of the STAR magnet. The relative streams of these particles can be translated into precise measurements of the temperature and density of the quark gluon plasma. The system was developed by a collaboration of groups in the U.S., China, and India, and will be continually added to over the next few years.

New Kinds of Ions

Both detector groups are excited to explore new kinds of ion collisions at RHIC — for example, interactions between gold ions and smaller copper nuclei, and collisions between football-shaped uranium nuclei.

“The ability to circulate and collide two completely different beams is unique to RHIC, and offers the opportunity to study the asymmetric conditions that result and how those conditions affect the patterns of particles emerging from the collisions,” said David Morrison of the Physics Department, deputy spokesperson for the PHENIX collaboration. “It will be interesting to study collisions where, under the right conditions, the smaller copper ion gets completely occluded by, or ‘buried’ in, the larger gold ion, providing new insight into the mechanism by which quarks and gluons lose energy as they traverse the quark-gluon plasma.”

In the case of the uranium collisions, the shape of the ions and their higher density of protons and neutrons (compared with gold) could offer new insight.

“Because of the oblong shape of these nuclei, the shape of the resulting collision zone varies greatly depending on whether the ions collide tip-to-tip, like spiraling footballs — producing energy densities even higher than those produced by colliding spherical gold ions — or slam into one another broadside,” said STAR deputy spokesperson James Dunlop, also of Physics. “By studying the effect of these various geometrical configurations, and their fluctuations, on the patterns seen in the STAR detector, we expect to get a much deeper understanding of the way that the initial shape of the collision zone is transferred through the evolution of the system — and therefore of the properties of the liquid produced at RHIC.”

With all these new avenues to explore, the big challenge will come from the brevity of the run. Getting new detector systems up and running will take some time before the scientists can begin making the measurements that will help them answer their physics questions.

As Morrison summed it up, “We don’t have to hit the ground running, we have to hit it sprinting!” — Karen McNulty Walsh

that has been especially beneficial to the development of the peaceful uses of atomic energy; and the American Institute of Archaeology’s Pomerance Medal in 2002 for his scientific contributions to archaeology.

— Diane Greenberg



Photos courtesy Andy Newman

Robert Palmer, who joined the Lab in 1960, isn't your everyday high energy and accelerator physicist. He is also something of a daredevil. He and his sister Sylvia, a retired London dress designer and also a daredevil, have a rare tradition: to perform highly unusual feats on Sylvia's major birthdays.

Thirty years ago, the siblings celebrated Sylvia's 50th birthday by parachute jumping at Shobdon in Herefordshire, England. At 60 she flew on a Concorde (unfortunately her brother wasn't able to join her on that adventure). When she turned 70, Sylvia arranged a tandem skydive from 12,000 feet. "I don't know which of us was more nervous, but it was wonderful," she said.

Wearing a big grin, Palmer said, "When my big sister says jump, little brother jumps."

Most recently, for her 80th birthday, the two celebrated by wing-walking on old-style Boeing Stearman biplanes that took off from a field in Gloucestershire, England.

First Came Training

Palmer and his sister waited in the Gloucestershire field for the planes to return from an air show. Suddenly, they heard the roar of engines and saw smoke trails. "We thought we would hear them approach from a distance, but when we looked up the planes were right in front of us," he said. "Wow!"

Before partaking in their adventure, the siblings were required to be trained as members of the wing-walking team of AeroSuperBatics, Ltd. They received detailed safety instructions and field training. "We were happy to learn everything necessary that would help ensure a safe flight," said Palmer.

When the big moment came, the two were strapped onto posts over the wings of separate aircraft and readied for takeoff. Waving to each other and giving a "thumbs-up" sign, the siblings were soon banking and diving — barnstorming at 130 miles an hour over and around the airfield.

"The view was fantastic," said Palmer. "It is not at all like being in a plane. Although you are strapped on tight, your arms are free. It was exciting to hold my arms up and push against the wind."

Making Trails in Physics

But when Palmer isn't parachute jumping or wing-walking, he is busy making trails in physics research.

Originally hailing from England, Palmer earned a Ph.D.



Robert Palmer

in physics at Imperial College, London. On joining the Lab, he worked first with Nicholas Samios and others on high energy physics experiments. Later, his focus shifted to accelerator physics, starting with the invention of the inverse free electron laser in 1972. In 1973, Palmer proposed a method called longitudinal stochastic cooling, now known as the Palmer method, of correcting the momentum spread of particles as they circulate around an accelerator. The method has been used at CERN in Switzerland. He is currently working with his group on the design of muon colliders.

Palmer is the recipient of many prestigious awards, including the 2010 Advanced Accelerator Concepts Prize. In 1993, he shared the American Physical Society's W.K.H. Panofsky Prize with Samios and Ralph Shutt for the 1962 discovery of the Omega-minus particle. He received the American Physical Society's Robert R. Wilson Prize in 1999 for his outstanding achievements in the physics of particle accelerators. He is a member of the National Academy of Sciences. The success of many of today's superconducting accelerator magnets can be traced back to Palmer's ideas.

So what will these two adventurous siblings plan for Sylvia's 90th birthday? "We're looking for suggestions," said Palmer. Any ideas? Send them to [jane@bnl.gov](mailto:jane@bnl.gov).

— Jane Koropsak

Wingwalking siblings



Service Anniversaries

The following employees celebrated a service anniversary during August 2011.

- 35 Years —  
William Lenz..... Physics  
William Pratt ..... NS&T  
Judith Williams ..... Env Scis

- 30 Years —  
David Alexoff ..... Medical  
Dean Ince ..... Magnet  
Susan Wells ..... ITD  
Walter Shaffer ..... C-AD  
Paul Zahra..... NNS

- 25 Years —  
Peter Cameron..... Photon Scis  
John Carlson..... C-AD  
James Frank ..... Physics  
Antonio McGill ..... Site Servs  
James Wright..... Mod Proj

- 20 Years —  
Susan Foster..... Physics  
Joseph Gormley ..... Photon Scis  
Michael Harrison ..... NPP  
Kenneth Jones..... Physics  
Michael Lehecka ..... Photon Scis  
David Passarello ..... C-AD  
Linda Sinatra..... Fiscal

- 10 Years —  
Sherma John-Abbott..... Fiscal  
Alexei Soares ..... Biology  
Safiyh Taghavi..... Biology

The following employees celebrated a service anniversary during September 2011.

- 40 Years —  
Anthony Baltz ..... Physics

- 35 Years —  
Mary-Faith Healey ..... Operations  
Alex Reben..... CEGPA

- 30 Years —  
Colleen Shea..... Medical

- 25 Years —  
Carol Bell ..... Rad Contr  
Theodore Carpluk, Jr. .... En&Utils  
F. A. Dilmanian ..... Medical  
Claudia Jones ..... Facil Ops  
Felice Villani ..... En&Utils  
Douglas Zigrosser .... Photon Scis

- 20 Years —  
William Fortunato ..... Training  
Donna Gill ..... NNS  
Animesh Jain ..... Magnet  
Ann Lamberti ..... C-AD  
Qiang Li..... CMP&MS  
Donald Lynch..... Physics  
Richard Morante ..... NS&T  
Jeffrey Williams ..... Env Prot

- 10 Years —  
David Adams ..... Physics  
Elisabeth Caparelli..... Medical

The following employees celebrated a service anniversary during November 2011.

- 40 Years —  
Marion Blennau ..... NS&T  
Linwood Johnson ..... Staff Servs  
Claire Lamberti ..... Comp Sci

- 35 Years —  
Howard Bell, Jr. .... Site Servs  
Joseph DePace ..... ITD  
Arup Ghosh..... Magnet  
Jae Jo..... NNS

- 30 Years —  
Walter Bay..... En&Utils  
Roseann Callister ..... PPM  
Philip Pile ..... C-AD  
Barry Siskind ..... NNS

- 25 Years —  
Zheng Li ..... Instrum  
Steven McCune ..... Lab Protec

- 20 Years —  
Albert Boerner, Jr. .... Photon Scis  
Marjorie Chaloupka ..... Physics  
Richard Deem ..... NS&Tech  
Donald Farnam ..... F&O  
Edouard Kistenev ..... Physics  
Kenneth Koebel ..... Bus. Ops  
Sabrina Parrish ..... SETech  
Richard Przybylinski..... C-AD  
James Vaz..... En&Utils

- 10 Years —  
Wayne Betts..... Physics  
Donald Gosline ..... C-AD  
Antonio Hammil ..... Bus. Ops  
Maryann Julian ..... NS&Tech  
Ronald Pindak ..... Photon Scis

The following employees celebrated a service anniversary during October 2011.

- 35 Years —  
Richard Scheidet ..... Mod Proj  
Gerard Shepherd ..... Rad Control  
Manomohan Subudhi ..... NS&T  
Ronald Webster..... NNS

- 30 Years —  
Michael Caruso..... Photon Scis  
Richard Freudenberg . Photon Scis  
Thomas Gilbert ..... Lab Protec  
Richard Heese ..... Photon Scis  
John Trunk ..... Biology  
Paul Ziminski ..... C-AD

- 25 Years —  
Sara Dawson ..... Physics  
John Haggerty ..... Physics  
Leonard Masi, Jr. .... C-AD  
John Tranquada..... CMPMS  
Susan Young..... Env Protec

- 20 Years —  
John Maraviglia ..... C-AD  
Stephen McAlary ..... Bus Ops  
Thomas Roza..... Facil Ops  
Sebastian White ..... Physics  
John Rubino ..... Photon Scis

- 10 Years —  
Melissa Bittrolff..... HROM  
Kotaro Sasaki ..... Chemistry  
Aimee Sumereau ..... ITD  
Alfredo Temprosa ..... ITD  
Salvatore Zarba ..... Site Servs

The following employees celebrated a service anniversary during December 2011.

- 30 Years —  
Theodore D'Ottavio ..... C-AD

- 25 Years —  
Charles Gardner ..... Photon Scis  
Richard Geib..... M&F

- 20 Years —  
Donald Bruno..... C-AD  
Steven Coleman ..... Rad Contr  
Nanci Hoey ..... Training  
James Johnsen ..... Site Servs  
Robert Lee ..... Env Prot  
Cynthia Longo ..... Photon Scis  
Marc Montemagno ..... Physics  
Stephen Pontieri..... C-AD  
Dennis Poshka..... Photon Scis  
James Rank ..... Photon Scis  
Ronald Ryan ..... Instrum  
Donald Sievers ..... Mod Proj  
Ernest Simon ..... En&Utils

- 10 Years —  
John Burke..... Env Protec  
Bryan Hammer..... Site Servs  
Celia Mauro..... Lab Protec  
Linda Rundlett ..... HROM  
Kathleen Schoenig ..... Dir's Office  
S. David Smith..... Medical  
Kimberly Wehunt ..... Rad Contr

Arrivals & Departures

- Arrivals —  
William Bookless ..... Dir's Office  
Nanditha Dissanayake ... SETechs  
Kent Heckman ..... F&O  
Eugene Sullivan, Jr. .... Site Res  
Mingfeng Wang ..... CFN  
Yongning Zhou..... Chemistry

- Departures —  
Janice DePass..... ES&H  
Xiangyun Chang ..... C-AD  
Randolph Church ..... Photon Scis  
Fonteini Deli..... Medical  
Juan Gallardo ..... Physics  
Dysart Ravenhall, Jr..... C-AD  
M. Claire Retundi..... Bus. Ops  
Ronald Ryan ..... Instrum  
Michael Schwarz ..... Photon Scis  
Abass Wessen ..... Mod Proj  
William Worek ..... SETechs  
Kuo-Chen Wu ..... Magnet

Time to Update '11' Vehicle Stickers

All BNL employees, guests, and retirees who have a blue vehicle sticker beginning with the numbers "11" or under are reminded to update their stickers. If your sticker begins with "12, or 13", you do not have to do anything. To update your sticker, bring your BNL ID badge, driver's license, and vehicle registration to the Badge Office, Bldg. 400, Monday to Thursday, 8:30 a.m. to 4 p.m., and Friday, 8:30 a.m. to 1 p.m. For more information, call Ext. 5690, 2596, 4656, or 5524.

CALENDAR

— WEEK OF 1/16 —

Monday, 1/16

Martin Luther King Jr. Day  
Floating Holiday: Lab Closed  
No Bulletin on 1/20/12

Wednesday, 1/18

\*474th Brookhaven Lecture  
4 p.m. Berkner Hall. Oleg Gang of the Center for Functional Nanomaterials will speak on "Self-Assembly by Instruction: Designing Nanoscale Systems Using DNA-Based Approaches." All are welcome to this free lecture, open to the public. Refreshments will be served before and after the talk. Visitors to the Lab of 16 and older must carry photo ID. See story, p.1.

— WEEK OF 1/23 —

Monday, 1/23

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, 1/26

The Inn & Spa at East Wind  
11 a.m.-2 p.m. Berkner Hall lobby. Representatives from The Inn & Spa at East Wind, Wading River, will give information on rates, including \$112 per diem for overnight (Sun-Thurs.), and a 10 percent discount for The Spa & Studio for those with valid BNL ID. A raffle for an overnight stay gift certificate will be held — you may be the lucky winner, like BNLER Nathalie Bouet in last month's raffle. Contact Nicole Catanzaro (631) 846-2302.

Sam's Club  
11 a.m.-2 p.m. Berkner Hall lobby. A representative will display the advantages of joining the Sam's Club discount group. A \$10 gift card is on offer to anyone who renews their membership or applies for a new one. This offer is valid until January 31.

— WEEK OF 1/30 —

Wednesday, 2/1

\*BSA Noon Recital  
Noon. Berkner Hall. Pianist Nadejda Vlaeva, will play Bach, Liszt, and more. (See below.)



Photo courtesy of Christian Steiner

BSA Noon Recital, 2/1

Nadejda Vlaeva, an acclaimed international pianist who has given solo recitals and concerto performances throughout Europe and North America, will give a recital on Wednesday, February 1, at noon in Berkner Hall. Her program will include works by Bach, Saint-Saëns, Liszt, and von Bulow. Sponsored by Brookhaven Science Associates, the company that manages the Lab, the concert is free and open to the public. All visitors to the Lab 16 and older must bring a photo I.D.

Can You Spare a Can?

Please Donate to the BNL Food Drive

More people than ever rely on your generosity. Collection cans are located in several buildings on site, including Bldg. 400. Thank you.

## Classified Advertisements

### Placement Notices

The Lab's placement policy is to select the best-qualified candidate for an available position. Candidates are considered in the following order: (1) present benefits-eligible employees within the department/division and/or appropriate bargaining unit, with preference for those within the immediate work group; (2) present benefits-eligible employees within the Laboratory; and (3) outside applicants. In keeping with the Affirmative Action Plan, selections are made without regard to age, race, color, religion, national origin, sex, disability or veteran status. Each week, the Human Resources Division lists new placement notices, first, so employees may request consideration for themselves, and, second, for open recruitment. Because of the priority policy stated above, each listing does not necessarily represent an opportunity for all people. Except when operational needs require otherwise, positions will be open for one week after publication. For more information, contact the Employment Manager, Ext. 2882. Access current job openings on the World Wide Web at [www.bnl.gov/HR/jobs/](http://www.bnl.gov/HR/jobs/).

To apply for a position, go to [www.bnl.gov](http://www.bnl.gov). Select "Job Opportunities," then "Search Job List."

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

**CUSTODIAN** (2 regular positions) - Under general supervision. Performs general cleaning and housekeeping duties in all Laboratory buildings. Hours are 3 a.m. - 11:30 a.m. Site Resources Division. If interested please submit transfer form to Diana Hubert, HR Division, Bldg. 400B.

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

**ELECTRICIAN(S)-A** (LG - 10, temporary) - Under minimum supervision lays out, constructs, installs, maintains, repairs and operates (in accordance with the national electrical codes, or as otherwise directed) electrical systems, equipment, controls and related devices. May be required to perform similar duties on other than Maintenance Division equipment and facilities. Seven years' total experience composed of 5 years' apprenticeship, and 2 years' experience; or 7-9 years' total experience composed of formal trade school plus minimum 2 years' experience or 9 years' experience preferred. Site Resources Division. Please apply to Job ID #15970.

**PLUMBER(S) A** (LG-9) (TEMPORARY) - Under minimum supervision, lays out, constructs or installs, repairs, and maintains water and gas distribution systems, related facilities and auxiliary equipment and equipment utilizing water, gas and heat distribution services. Requires 6 years total experience composed of 4 years apprenticeship plus 2 years experience, or 6-8 years total experience composed of formal trade school plus minimum 2 years experience, or 8 years total experience preferred. Maintenance and Fabrication Division. Please apply to Job ID #15971.

### Motor Vehicles

07 BMW 328XI - 52K mi. awd 2/dr coupe, a/t, CD-iPod, Comfort Access pkg, excel cond, must sell. \$20,500 neg. 747-3496.  
05 JEEP WRANGLER 4x4/ TJ - 86K mi. 6 spd manual trans, Hard top, 16 mo left on transferable warr. \$13,600 neg. Ext. 3256.  
05 VW PASSAT WAGON - 54.65K mi. black, a/t, 1.8L, 4 cyl, turbo, fwd, 5 spd, orig owner, excel cond. \$8,150 neg. Ext. 7502.  
04 NISSAN SENTRA 1.8 S - 85K mi. 4cyl, 4dr, a/t, a/c, p/s, p/w, p/l, am/fm MP3, tilt whl. Eng, brks excel, V gd Tires. \$6,300 neg. Ext. 4126.  
01 HYUNDAI TIBURON - 153K mi. a/t, int clean, eng v/gd, many new parts, tranny leaks, cold a/c. \$1,000. Omar, 954-8312.  
00 ISUZU RODEO 4X4 - 102K mi. blk w/ tan int, v/clean, all rebuilt eng, <1000 mi, new tires/exhaust. \$5,000 neg. 681-9800.  
00 TOYOTA COROLLA DL - 105K mi. eng works v. well, shows the age, v/dependable. \$3,000 neg. 828-3965.  
95 BUICK LESABRE - 91K mi. runs well. 5k in parts, batt, struts, more, new CD player, on-site for test dr. \$2,900 neg. Ext. 3932.

### Furnishings & Appliances

**BABY'S ITEMS** - crib, sturdy, wood, convertible w/mtrss/\$50, stroller sturdy, folding, swivel wheels, canopy/\$25. Ext. 5080, 766-7701.  
**BR set**, 2 drssrs, ngt stnd, 2 mirrors, ashwd vneer, \$95/neg; corner oak TV stnd \$30/neg; E. Allen comr dsk \$15, u-pic-up, pics. Ext. 3286.  
**CORNER FIREPLACE** - must sell: elect w/ brick facing, corner unit, \$60/obo. 909-7080.  
**CRIB** - wood, ivory w/gold trim, blt-in drwr., mattress, fittd sheet, bumper w/skirt. Excel. cond. \$50 firm. 929-4446, 10 a-5 p.  
**DRESSER** - Oak 5 Drawer/\$25; Oak d/r table, no leaf/\$25, craft table/\$25. Linda, Ext. 2383.  
**DRESSERS** - 2/med oak, 1/high chest, 1/ low double, gd cond, ask/\$500. Donna, Ext. 2716, 878-2425 or storan@bnl.gov.  
**FIREPLACE DOORS** - Brass, excel cond, 38.5w x 28.5h, ask/\$90, photo avail. Ext. 2198 or lilady007@optonline.net.  
**FUTON SOFA BED** - convertible, excel cond, all wood frme, q/size, \$250. 413-3698.  
**HDTV** - Sanyo 46" LCD Flat Screen, full HDTV 1080p, model #DP46840, less than 6 mos old, ask/\$450. 708-4778.

**TABLE**, 4 CHAIRS, BENCH - wood, table 3'x5'8", w/exten 3'x7'8, seats 6 to 10, \$150/ neg, pics Guy, Ext. 2485 or gdubuis@bnl.gov.  
**TWIN BED** - mattress sits in teak frame on flr, perfect for toddler, ask/\$50/neg. Pam or Juan, 828-3965 or pamjuan@gmail.com.  
**WALL CABINETS /KITCHEN-MED OAK** - approx 10 wall cabinets, v/gd cond, ideal for gar/bsmt storage, \$100/obo. 909-7080.  
**WAVEBOX M/WAVE LUNCHBOX** - Ltwt, portable, remvble cooler, plugs into AC, DC, car batt/pwr outlet, \$45/neg. Ext. 2733.

### Audio, Video & Computers

**EMAC**, w/G 4 PROCESOR - .cdrw.i tunes i life. freezes up sometimes. best offer. 954-8312 or olopezhitup@gmail.com.  
**HP INKJET CARTRIDGES**-2 black: 56 C6658A two color: 28 (C8728A)and 57(C6657A), orig unopened pkg/\$10/ea. 566-8261.  
**IPAD** - 1st gen, 64gig 3g+wi, restored to factory defaults w/iOS5, comes w/case, in orig box, \$500. Renee, Ext. 8278.  
**LOGITECH QUICKCAM ORBIT MP** - unused, in box, pls do yr homework before you call, this is an MP, a few yrs old/\$35. Ext. 4681.  
**M AUDIO INTERFACE MIXER** - barely used v/gd working cond, \$200/takes it. Omar, 954-8312 or olopezhitup@gmail.com.  
**PANASONIC PHONE** - cordless, spkrphone in handset, built-in answering syst, caller ID, 2 handsets, \$20. Phone JS, 344-4290.  
**SAMSUNG** - blue ray dvd player wired network ready, wi-fi capable.hdmi.netflix app. \$45. Steve, Ext. 4719 or sbennett@bnl.gov.  
**TV** - 32", Coby, Class LED, High-Definition TV 3226, new in bx, ask/\$300. 588-2098.

### Sports, Hobbies & Pets

**BACKPACK CHILD CARRIER** - new/unused Snuggli Cross Terrain mdl, for 6 mos + & 16 lbs to 40 lbs, ask/\$50. sbronson@bnl.gov.  
**EXERCISE BIKE** - upright, magnetic resistance, multiple programs, heart rate monitor, excel cond \$60. 793-1223.  
**HOME GYM** - Weider crossbow w/leg developer, 65 diff exercises, folds for sm space, pics avail/\$25. Paul, Ext. 2899.  
**JAYCO 29' RLS TRAVEL TRAILER** -new 2011, used 6/times, all opts installed, upgraded a/c, more, 7/yr extend transfribl. 872-5074.  
**PROFORM 500 LE FOLDING ELLIPT** - 12 workout progs, heart mon, more, incl manual, iFit card pd/\$1k, ask/\$700. mpotocki@bnl.gov.  
**SKI BOOTS** - Lange, Comp70, size 7, women, junior, almost new/\$30. Eli, Ext. 7179.  
**SLED, TOBOGGAN** - Flexible Flyer wood sled, 50" long, \$30; tbgggn, wood w/pad, \$43. Both gd cond. 929-4446, 10 a.-5 p.  
**SNEAKERS** - for Cheerleading, brand new, incl case, size 8.5 infinity evolution and Kaepa sz 6.5, 612-4568.  
**VOX AMPLUG BASS AMP** - headphone bass guitar amplifier, plug/play w/CD and MP3, fun, ask/\$30. sbronson@bnl.gov.  
**WEBELOS ITEMS** - barely used cap, neckerchief, slide, & Webelos handbook/\$20/ all. Kelly, Ext. 8938 or kellys@bnl.gov.

### Tools, House & Garden

**CHRISTMAS LIGHT SET C7** - approx 150'-200', 6-8 sets of red & green, transparent, incl extra bulbs, \$50/obo. 404-8109.  
**LIGHT FIXTURE** - IKEA 'Magnesium' track lights, 5 higen bulbs, bendable track, ceilg/ wall mnt, unused, pd/\$80, ask/\$50. Ext. 8938.

### Miscellaneous

**BICYCLE BABY SEAT** - Topeak baby/ child seat, like new, v/high quality, capac up to 40lbs, ask/\$50. sbronson@bnl.gov.  
**DRESS, FORMAL** - Jessica McClintock for teen size 4, \$50, blue and black w/ lace. 612-4568.  
**DANCE DANCE REVOLUTION** - 2/ pads/\$40. Donna, Ext. 2716, 878-2425 or storan@bnl.gov.  
**HOT WHEELS & LEGO SETS** - Many Hot Wheels, Lego and original Imaginext sets. Best offer. 678-3299 or dgbdoug@gmail.com.  
**VIRGIN MOBIL** - Pay as you go Starcom Arc phone w/ approx. 500 mins, \$55. Steve, Ext. 4719 or sbennett@bnl.gov.

### Car Pool

**PLAINVIEW LIBRARY** - established car-pool needs 4th, 8am-4:30pm, leave Plainview-Old Bethpage library @7:15 Elliott Ext 2495, Pat Ext 6195. Leon, Ext. 2682.

### Community Involvement

**RENAISSANCE MUSIC ENSEMBLE** - Come play early music once wkly during lunch hr, Guitarists (or lutenists) and percussionists especially welcome! Winds wanted too. Violinists and violists need not apply. Justine, Ext. 2114.

**WINTER CLOTHING DRIVE** - Thee Island INN Soup Kitchen needs new or gently used winter coats, hats, gloves, sweaters & blankets for our guests in local communities. Barbara, royce@bnl.gov.

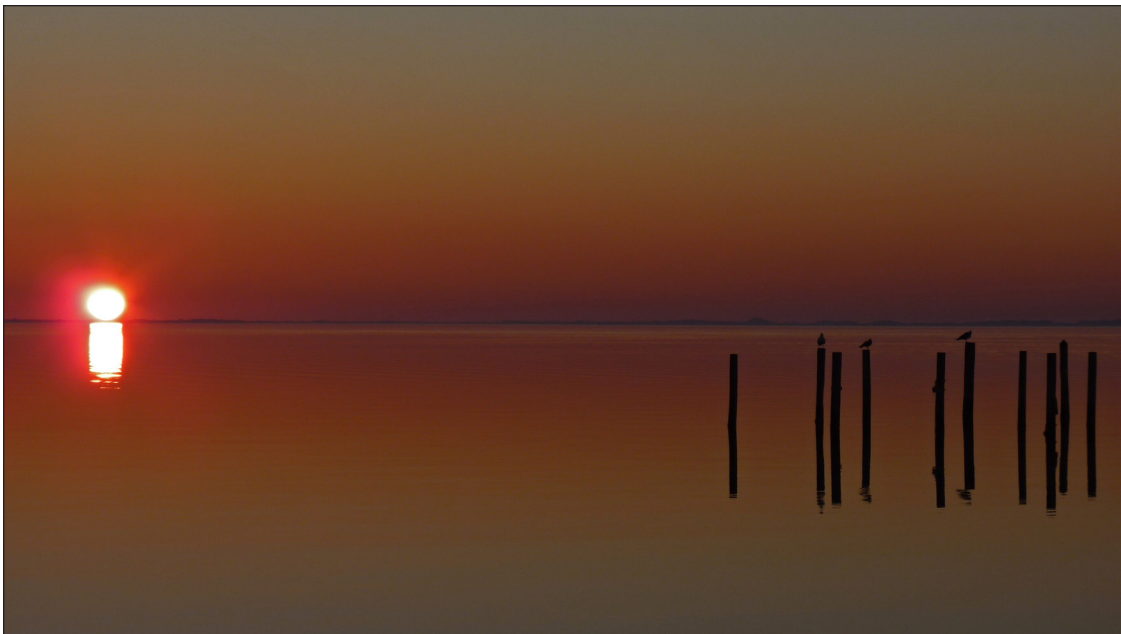
### Happenings

**SINGLE'S EVENTS** - New Year, New Friends, try something fun! [www.laurie.weekenddating.com](http://www.laurie.weekenddating.com) Use discount code "Laurie" to save \$\$ . Laurie, pearlie1@optonline.net.

### Free

**BOOK (FRENCH)** - "Sarko m'a tuer", par Fabrice Lhomme, Gérard Davet. Guy, Ext. 2485.  
**COLOR TELEVISIONS** - 27" Panasonic CT-27E13G w/remote, Surround Sound. Jerry, 678-2651.

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Alex Reben A0010112

## Happy New Year!

Early birds at the first sunrise of 2012 were spotted on Long Island shore by early bird Alex Reben.

### Wanted

**ADOPT-A-PLATOON** - Monetary donations gratefully accepted towards mailing shipments to our platoon stationed overseas and to send goodie packages to BNL family members. Thank you. Joanne, Ext. 8481.

**BNL FAMILY MEMBER IN MILITARY** - If you have a family member that has been deployed overseas, please contact Adopt-a-Platoon so we may send them a goodie package. Joanne, Ext. 8481.

**TUTOR** - Trig and Chemistry for HS 11th grade student, if interested, please email cde-marco@bnl.gov or call Christine, Ext. 2472.

### For Rent

**ORLANDO, FL** - Marriott Timeshare, sleeps 8, Spring, Summer or Fall, you pick the wk and the Marriott Resort. \$1,500/wk. 873-8959.

**BABYLON** - Lge 1 Bdrm co-op w: LR/DR/ AC, EIK w/new applis, updated full ba, hdwd flrs, laundry on prmises, prkg, pool, nr RR & Babylon Village, some furn. if wanted. Incl. heat/hot water. \$1,250/mo. 516-429-7210.

**BELLPORT VILLAGE** - grd flr, 1-bdrm apt in 2-family home, priv drway/ent, wood flrs thru out l/r, d/r, bdrm, enclosed porch, use of yard, enjoy village amenities, util incl. \$1,350/mo. Jim, 275-0745.

**CENTEREACH** - 1 bdrm in a 3-bdrm apt, 2 flr, 20 min to Lab. share w/2 other grad students, util not incl. \$550/mo. Kendra, Ext. or klk237@nau.edu.

**CORAM** - 1 bdrm, eik, l/r, grd level, priv ent, fend yd, util incl, no smkg/pets, 10 -15 min to Lab, \$950/mo neg. Swapna, Ext. 5279, 902-0602.

**CTR MORICHES** - 3bdrm/2bath, cac hse, beach/boating rights, wooded bkdy w/ deck, no smkg/pets, avail Feb 1. \$1,950/ mo neg. Ext. 3116.

**MOUNT SINAI** - 1 bdrm cottage, full bath on wooded half acre, v/priv, priv prkg, no smkg. \$1,100/mo. Bill, 662-5305.

**RIDGE** - 1 bdrm, l/r, kitchenette, full bath, sep ent/prkg, util incl, quiet neighborhd, mins to Lab. \$975/mo. Lynne, 924-0002.

**RIVERHEAD** - 3 bdrm 1.5/ba Western Ranch, kit w/dw, l/r, d/r, w/d & gar, new windows, furnace, quiet, nr shops, no smkg/pets, refs & cc reqd, 2mos at signing, +util, avail 2/1. \$2,250/mo. McGill, Ext. 2896, 512-6470.

**ROCKY POINT** - 2nd flr legal 1 bdrm apt, new full ba, huge eik, l/r, priv ent, quiet st, no smkg, access to priv beach, incl water/ heat/cable/wireless int, 1st mo rent & sec. \$975. Kim, 494-5474.

**SHOREHAM** - 1 bdrm, furnd, new garden apt, grnd flr, indep, ent/drwy/prkg, full bath, kit, l/r, cac, no smkg/pets, few mi to BNL, 1 mo/sec, all util incl, avail Feb 22. \$1,150/mo. 566-8261.

**SOUND BEACH** - 3 bdrm hse, l/r, d/r, 1.5 baths, lg yd, Miller Place SD, gar w/d, util not incl. \$1,600/mo. 744-7798.

**WADING RIVER** - 2 bdrm bsmt apt, sep ent, tile flrs, full bath, full kitch & l/r, built-in entertainment ctr/\$ 1,300 incls all, first and last month req. \$1,300/mo neg. Karen, 428-7282 or jfalzone@bnl.gov.

### For Sale

**ORLANDO, FL** - Timeshare at Westgate Vacation Villas,-1 mi from Walt Disney World, wk #7 President's wk, sleeps 10 w/loft. \$5,500 neg. Charles, Ext. 5889 or iei302@hotmail.com.

**CALVERTON** - fully remodeled cape has 2 b/r, 2bath, kitch, d/r, lg l/r w/vaulted ceilings, in quiet neighborhd w/views of Swan Lake and just mins from all. \$274,900 neg. Debbie, 831-0152.

**EAST QUOGUE** - single family, 1 bed, 1 full bath, beautiful 1 acre lot on quiet st, nr water, walk to town center, potential for expansion or use as summer rental. \$260,000 neg. Denise, Ext. 7860 or dcm@bnl.gov.



Alex Reben V0010112

## Safety Solution for When Your Hands Are Full

Cheryl Conrad of the Safety & Health Services Division thought of a safe way to go out of Berkner cafeteria onto the patio while carrying a tray: use an automatic door opener. Her idea was approved and the opener installed - watch the video at the link below to get her comments.

**Safety** makes science possible  
at Brookhaven National Laboratory  
<http://intranet.bnl.gov/safety>

## Health and Fitness at BNL: Taking Advantage of Lab Benefits in 2012

By Christine Carter, Supervisor, Quality of Life/BERA/Recreation Office

Among the many benefits of working at the Lab is access to excellent fitness facilities, clubs, and programs through the Brookhaven Employees' Recreation Association (BERA), Health Promotion Program (HPP), and Employee Assistance Program (EAP).

Each spring, HPP Manager Michael Thorn administers a weight management program available to all employees. And EAP Manager Nancy Losinno administers a set of programs to help manage stress, sleep problems, family and workplace issues, and more. See:

- BERA: [www.bnl.gov/bera/](http://www.bnl.gov/bera/)
- HPP: [www.bnl.gov/hr/occmcd/hpp/](http://www.bnl.gov/hr/occmcd/hpp/)
- EAP: [www.bnl.gov/eap/](http://www.bnl.gov/eap/)

## BERA Updates

**BERA Executive Board elections:** will be held for four vacancies in March. Interested in participating? Contact Linda Barrett, [lbarrett@bnl.gov](mailto:lbarrett@bnl.gov), for more information.

**Weight Room Registration:** by mail or at the three "in person" dates in the gym: [www.bnl.gov/bera/recreation/gym\\_membership.asp](http://www.bnl.gov/bera/recreation/gym_membership.asp).

**Retirees:** Call Ext. 5090 for information on your benefits, including free swimming pool use and Weight Room membership

**Free Knitting:** 2 p.m., Tuesdays. Rec Hall in the apartment area  
**Hospitality Coffee:** for all families & newcomers each Tuesday at 10:30 a.m. at the Rec Hall in the apartment area

**Play Group:** each Wednesday at 10 a.m. at the Rec Hall

**Great trips/events,** such as Knicks & Rangers games: [www.bnl.gov/bera/recreation/events.asp](http://www.bnl.gov/bera/recreation/events.asp)

**English for Speakers of Other Languages and Scientific Presentation Practice:** classes are always available. Contact Jen Pieniazek, Ext 4894 or [jpieniazek@bnl.gov](mailto:jpieniazek@bnl.gov)

**Sam's Club:** Free trial day in the Club, Sat., 1/14, 11 a.m.-3 p.m.

**S. SETAUKET, NY** - Pristine 3 bdrm, 1 bath ranch, Three Village SD, CAC, new kitch, bath, windows, siding, drway & roof patio, priv yd, igs. \$289,000 neg. Andrea, awund@bnl.gov.

### For Rent or Sale

**WEEKI WACHEE, FL** - priv ranch on Gulf, 70m Orlando, 45m Tampa, fly Islip direct, near beach/tennis/park, SW architecture, 3/bdrm, 2/bath, d/r, t/p, 2gar, ipp in lanai, fruit trees, see review.oktane.net/HouseTour. \$400/wk., \$950/mo. \$125,000 neg. 3344-5537.

### In Appreciation

I would like to thank all my BNL friends for making my 27 years at BNL so enjoyable. I wish you all the best in the future. - Lance

Many thanks to my co-workers & friends for participating in the winter clothing drive, "adopting" children/families, and/or for donating \$\$/toys, etc. for Christmas at Thee Island INN soup kitchen. We greatly appreciate everything received to date; we are still accepting more items.

- Barbara Royce