BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

Energy Secretary Peña Resigns, Comments Favorably on BSA

On Monday, April 6, Secretary of Energy Federico Peña announced his resignation as head of the U.S. Department of Energy (DOE).

In a memo to all DOE employees, Peña said, "This weekend, I advised the President [Bill Clinton] and Vice President [Al Gore] that I would be leaving the Administration on June 30. I made this difficult decision with mixed emotions. There is never a perfect time for a decision like this, but I believe that after five-and-a-half years as a member of the Clinton Cabinet, the time is now right.

"I am leaving the Administration

(continued on page 2)

Secretary of Energy Federico Peña at BNL last May.

D'Amato's & Forbes's Legislation Would Shut HFBR Through 1999

On Thursday, April 2, U.S. Senator Alfonse D'Amato and U.S. Representative Michael Forbes announced that they had written the Senate and House Appropriations Subcommittees requesting reapproval of legislation to stop the reactivation of BNL's High Flux Beam Reactor (HFBR) through fiscal year 1999.

This legislation would continue the moratorium on HFBR operations that D'Amato and Forbes assured last year by attaching similar legislation to the U.S. Department of Energy's (DOE) fiscal year 1998 budget.

The HFBR has not operated since December 1996, when it was shut down for routine maintenance. In January 1997, before the reactor's scheduled restart, groundwater near the reactor was found to be contaminated with the radioactive element tritium. Suspecting a link to the HFBR, DOE then made a commitment not to restart the reactor until the cause of the leak was found and corrected.

The leak was soon determined to be coming from the pool in which fuel elements were stored after they were depleted, or "spent," and corrective measures began at once.

The HFBR itself was not leaking and was in no way a cause of the leak.

(continued on page 3)

DAS Basic Research Applied to Geothermal Problems

Fifteen years of funding for his research from the U.S. Department of Energy's (DOE) Office of Geothermal Technologies has had excellent results, said Department of Applied Science (DAS) Chemist Toshifumi Sugama.

Through this research, Sugama explained, he has developed high-efficiency cement for use in geothermal wells. This cement has performed so successfully in three operational wells begun in September 1997 in Indonesia that two more such wells are being completed now, and 40 more are planned in the near future.

The 5,500-foot-deep wells, which have a down-the-hole temperature of 280°C, are in Sumatra, Indonesia. Operated by Unocal Corporation of Sugar Land, Texas, with cement supplied by Halliburton Energy Services of Duncan, Oklahoma, the wells are funded by DOE.

Geothermal wells pump hot water or steam from the Earth's interior to drive electricity-generating turbines, providing about 2 percent of the world's electricity. However, abundant carbon dioxide (CO_2) in the geothermal environment causes conventional cement to deteriorate rapidly through a chemical process called carbonation.

In contrast, Sugama's high-performance cement creates three minerals — zeolite, hydroxyapatite and aluminate — that block carbonation. Laboratory tests showed that after six months' exposure to steam as hot as 300°C, with four percent CO_2 concentration, the high-performance cement became only 1 percent carbonated, while conventional cement was ready to crumble, with 50 percent carbonation.

In addition to being resistant to CO_2 damage, the new cement adheres well to steel and soil and protects steel from corrosion. It has high mechanical strength and low water permeability and withstands extremes of temperature.

Said Sugama, "Because of its range

(continued on page 2)

Roger Stoutenburgh

Toshifumi Sugama examines a sample of a nickel and chrome alloy panel, which was coated with yttrium oxide using his sol-gel-grafting technique (see page 2). Behind him is a scanning electron microscope image of the coating.

Refinements to Roster, Protocols Delay Worker Cancer Assessment

The assessment that the U.S. Department of Energy (DOE) has initiated with the New York State Cancer Registry to look at the incidence of cancer among BNL employees, past and present, is on target for completion by the end of the summer.

Cliff Strader, an epidemiologist in DOE's Office of Epidemiologic Studies (OES), came to BNL last January 29, to participate in employee briefings about the assessment. In devising the protocols for the assessment, OES staffers conferred with Laboratory and DOE personnel at Brookhaven. Strader also worked with BNL's Human Resources (HR) Division to create a computerized database of all of BNL's current and former employees, who number over 21,200.

Although the original plan was to forward the roster to the Cancer Registry shortly after the meetings and to have results of the assessment early this summer, Strader now expects to send the roster to the Cancer Registry in May.

He explained that three factors have contributed to the delay.

First, at the January meetings, some employees expressed concern about their names' being included on the roster. So, the submittal was delayed at least two weeks to give employees who wished to have their names removed from the roster time to follow through.

One employee did not want to participate, Strader said, and that individual's record will be removed from the roster before it is sent to the Cancer Registry.

During this period, Strader also began a quality review of the roster, which was the second contributing factor to the delay. "I found a number of possible typos and logic errors, that needed to be double-checked," he said.

For example, Strader noticed what seemed like an unusually high number of employees born in the 1800s. He included that as one of the queries that he has sent to HR, but it turned out that no error had been made: When BNL started up in 1947, many of the new hires were in their 50s and 60s, and so would have been born at the end of the previous century.

Some of Strader's other concerns, however, require more work on HR's part. But Strader says the double-checking is important because, "before we send the roster to the Registry, we want it to be as free from errors as we can make it."

The third factor contributing to the delay arose from concerns about the assessment's protocol that were raised by two outside organizations.

On March 4, DOE's on-site Brookhaven Group received a letter from Standing for Truth About Radiation (STAR) asking for an independent review of the protocol. DOE agreed to delay the beginning of the assessment until March 31, to permit the review.

By March 31, DOE had received two sets of comments, one from STAR and one from the Community Alliance for Laboratory Accountability (CALA), an umbrella group of 28 local organizations, including STAR, which was formed in January.

"Their reviews of the protocol seem to reflect the desire for a full study," Strader said, "and this protocol was clearly not designed to be a full analytical study. That's because, while DOE can choose to conduct limited, short-term rate assessments on its own, major epidemiologic studies of the DOE work force are selected and conducted independently by the Centers for Disease Control (CDC) and Prevention's National Institute for Occupational Safety and Health [NIOSH] to ensure the independence of the studies and their results."

To this end, he explained, DOE has a memorandum of understanding with CDC and funds CDC to conduct full epidemiologic studies of exposures and health outcomes at DOE sites.

Thus, Strader said, "a study such as the one recommended by STAR and CALA would be performed by our counterparts at NIOSH or by a grantee or contractor selected by them as part of its overall health research program at DOE sites conducted under the memorandum of understanding. Should NIOSH undertake a full study, DOE will cooperate fully to facilitate the research and provide any assistance it can to ensure that workers, the community and other stakeholders are provided with the study results in a timely manner."

As to the recommendations made by CALA and STAR, Strader acknowledged, "Some of their recommendations are feasible for the cancer rate assessment so we are incorporating them into the protocol."

For example, the protocol is being revised to have the Cancer Registry look at the relationship between cancer rates and duration of employment; compare cancer rates at BNL separately with Suffolk and Nassau Counties, rather than combining both counties for the comparison; and explicitly incorporate additional cancer types for analysis.

As to that last point, Strader said, "Some confusion may have arisen because we presented a recommended minimum list of cancers that have been identified as strongly associated with radiation exposure, but we fully expect the analysis to examine all cancer types if there are enough cases to permit analysis. That determination will have to be made by Cancer Registry staff based on their direct experience with identifying cases from their computerized database."

This past Wednesday, April 8, Dean Helms, Executive Manager of the Brookhaven Group, met with the full membership of CALA and STAR, to fill them in on how their concerns are being addressed. — Anita Cohen

DAS: Resourceful in Geothermal Energy

As more people are realizing, environmental reliability and cost advantages make geothermal energy an attractive resource for use in electric power generation, direct heating and air conditioning.

The world's largest developed hydrothermal field, located at the Geysers in California, is one of the most successful renewable energy projects in history. The Geysers, together with several smaller fields in California and geothermal power plants in Nevada, Utah and Hawaii, supply approximately 3.7 million people in the U.S. with electric power. Also, geothermal heat pumps are increasingly popular as a means of heating and cooling homes and buildings. These heat pumps, which take advantage of the Earth's relatively constant temperature a few feet below the surface, can be used throughout the U.S.

To help cut costs in using this form of renewable energy, BNL's Department of Applied Science's (DAS) program of research and development (R&D), supported by the U.S. Department of Energy's Office of Energy Efficiency & Renewable Energy, has produced several durable, cost-effective materials of construction that are already being used in the industry.

Said James Davenport, DAS Chair, "It is not widely appreciated that BNL researchers have made major contributions to geothermal energy development and that some of our technology is being used now around the world, helping to provide a clean, renewable resource to millions of people."

One example of BNL's success in this field was reported in the Brookhaven Bulletin of August 8, 1997, discussing Scientist Eugene Premuzic and his team's work on sulfur-eating bacteria, which they used in their award-winning process to clean toxic waste from geothermal energy electricity-generating plants and, simultaneously, to recover valuable metals.

Other DAS geothermal R&D projects, such as developing thermally conductive, corrosion-resistant composites for heat-exchanger applications, methods for mitigating corrosion problems, advanced corrosion-protective systems for hypersaline brine transport systems and thermally conductive grouting materials for geothermal heat pumps, are done in DAS's Energy Efficiency & Conservation Division headed by DAS Associate Scientist Marita Allan. Descriptions of that work are found on the division's home page on the World Wide Web, http://www.das.bnl.gov/ps_eecd.017.html, under "Geothermal Materials Development." —L.S.

Peña Resigns (cont'd.)

for personal and family reasons," Peña explained. "[My wife] Ellen and I have three wonderful children, and it is now time for us to focus on their futures."

Peña also held a press conference at 11:30 a.m. that day in DOE Headquarters in the Forrestal Building in Washington, D.C.

In his opening remarks, he observed, "I came to the Department of Energy with four years of experience running a major department in our government, and I quickly became immersed in defending our '98 budget, addressing a management crisis at Brookhaven National Laboratory, and then, of course, recruiting a very solid team of managers here in the Department. I believe we have made very important progress in these key areas."

Peña further emphasized, "I have been requiring good management, that our sites be good neighbors to the community in which they live, that we be open and honest, and that environment, safety and health be a priority for all of us. Today, we are requiring our contractors to perform, as in the case of Brookhaven National Laboratory."

After his announcement, Peña accepted reporters' questions, and one of them asked: "Are you satisfied that the Brookhaven situation is under control, and do you think the High Flux Beam Reactor should eventually be restarted?"

"Well, I am very pleased with the new team [Brookhaven Science Associates, or BSA] that we have on board at Brookhaven," Peña responded. "As you know, they have been there just for a very few months, but I think the early signs — based on responses from the community, based on responses from the elected officials on Long Island and throughout the state of New York — are all very positive. So we're very pleased with their work thus far. We also have some new managers from the Department of Energy who are working on Brookhaven. But I want to be sure that we continue to see steady progress.

"And as respects the reactor," he continued, "obviously, all of those decisions will be made in due course, consistent with Congressional guidance [see accompanying story on page 1] and the commitment I have made to conduct a full analysis before any decision is made, finally, to restart any reactor."

On the day of Peña's announcement, U.S. Representative Michael Forbes issued a press release commending Peña "for his personal involvement in addressing decades of sloppy environmental practices that led to widespread contamination problems at [BNL]" and urging Clinton "to expeditiously name a successor who will continue to make sound environmental and safety procedures the Lab's top priority."

"I have long been working to convince [DOE] to give environmentally sound practices the same top priority as the Lab's scientific research," Forbes said. "During his short tenure at the helm of the Energy Department, Secretary Federico Peña's personal interest in ending the indifferent attitude toward environmental, health and safety issues at Brookhaven National Laboratory have given many of us great reason for optimism." — Anita Cohen

Pick a Student Today

Today, Friday, April 10, is the last day to review the electronic database of applications for the Energy Research Undergraduate Laboratory Fellowship (ERULF) Program, offered by the U.S. Department of Energy, and formerly the BNL Summer Student Program. Obtain address and passwords from the Office of Educational Programs (OEP), Ext. 4503, or get more information from your departmental education coordinator.

In the ERULF program, freshmen to senior undergraduates will receive ten-week summer research appointments, June 8 through August 14. OEP will pay for the student's round-trip travel and $300-per-week stipend. The sponsoring department will pay weekly housing costs of $108.50.

Geothermal Research (cont'd.)

of advantages, this cement is not only excellent for use in geothermal wells, but also particularly suitable for use in oil and gas wells, for soil remediation as a means of immobilizing environmentally hazardous metals, and any other place where cement is used."

The formula for the cement includes fly ash, calcium aluminate, sodium polyphosphate and water, in amounts that vary according to the depth at which the cement is to be used. Because these materials are easily obtained and inexpensive, and no technical training is needed to mix them, the new cement is comparatively inexpensive, saving about 20 percent of the cost of conventional, polymer-modified CO_2-resistant cement systems.

Care for the Environment

Sugama emphasized that a very important advantage of the new cement is that, because it's made mainly of recycled fly ash, a byproduct of coal production, and because no harsh chemicals are needed in the manufacturing, it's environmentally friendly.

"Green, green, green!" he exclaimed. "We are always thinking of how to use our knowledge of material chemistry to develop applications that are useful for industry, yet benign for the environment."

Further examples of how Sugama's research has benefited both industry and the environment are the two corrosion and oxidation-resistant coatings for the aircraft and aluminum-smelting industries that he developed early last year. He invented and holds a patent on a process he called sol-gel-pyrolysis, which is less expensive and more environmentally friendly than current techniques. In the process, a sol, which is water containing solid particles of polymer, is sprayed on to a metal surface and then converted to a durable ceramic coating when baked at about 350°C.

Corrosion-Resistant Coatings

In one case, funded solely by the aircraft engine manufacturer Pratt & Whitney of East Hartford, Connecticut, under a Cooperative Research & Development Agreement, or CRADA, Sugama developed an oxide coating to use on titanium alloys in the gas-turbine engines of aircraft. The coating is expected to lower manufacturing costs and greatly improve engine performance.

Roger Stoutenburgh

Using an autoclave, a laboratory instrument that simulates the hot temperatures and harsh conditions found in geothermal wells, Department of Applied Science researchers Toshifumi Sugama (left) and Neal Carciello (now retired) test a new high-efficiency cement developed by Sugama.

Sugama also worked on a composite metal-and-ceramic coating to protect the nickel chromium alloy used in a recuperator, an apparatus that recovers heat energy from furnace exhaust. This coating was for a recuperator being designed by Energy Research Company (ERCo) of Staten Island as an aluminum smelter, to recycle scrap aluminum. Funding for this project came from ERCo, DOE and DOE's Idaho National Engineering & Environmental Laboratory.

The new coating helps the recuperator last longer than its typical six-month life span. "The coating is already being used, and it's performing well," said Sugama. With the recuperator's widespread use in the U.S., the aluminum recycling industry could potentially produce 7.6 million more tons of aluminum annually, worth about $2.7 billion.

Contemporary Technology

Currently, under U.S. Army Research Office sponsorship, Sugama has focused on advanced coatings manufactured from cornstarch.

"U.S. corn impacts prices worldwide because the country produces more than one-third of the world's corn and exports as much as 30 percent of its production — about 80 percent of exports from all countries of the world," he explained. "Hence, it's economically worthwhile to use cornstarch because it's a cheap and renewable agricultural resource."

Starch materials have four undesirable characteristics — but these can all be handled by Sugama's sol-gel-grafting technology, which overcomes settlement and growth of microorganisms in the starch's aqueous solution, the high susceptibility of starch films to moisture, the poor chemical affinity of starch films for metal surfaces and the biodegradation of the films by fungal growth.

Tests show that this coating, which was developed for the aircraft market, protects lightweight metals against pitting from corrosion about as well as the conventional coatings do, but at less cost.

"To develop these new, useful materials, we combine them in new ways or make small changes in their molecular structures to modify their properties," commented Sugama. "This takes many years of basic research to learn about the materials, how they act in different conditions and whether they can be made to combine with other materials. But once this research is done, we have the foundation for new applications needed by industry."

— Liz Seubert

Healthline Lecture: Mind-Body Connection

New research revealing the interaction between the mind and the body emerges almost daily.

To highlight some of this research, clinical psychologist and psychoanalyst Anne Kane will talk on "The Mind-Body Connection" at the next Healthline Lecture on Tuesday, April 14.

At the talk, to be held from noon to 1 p.m. in Berkner Hall, you can learn techniques to use in your own life to promote well-being, as Kane addresses such topics as the relationship between stress and illness, how alternative medicine works and how to use the mind to preserve health and wellness.

Now in private practice in Rockville Centre and Manhattan, Kane, who has over 20 years' experience working with people who are struggling with illness, dying or bereaved, has taught and lectured widely on grief, alternative medicine and spirituality.

To register for the lecture, complete and return the bottom portion of the flier recently sent to all employees to Mary Wood, Health Promotion Specialist, Ext. 5923.

BSA Board Will Offer Scholarships

At the April 1 meeting of the Board of Directors of Brookhaven Science Associates (BSA), the Board unanimously agreed to continue the tradition of giving scholarships to the children of BNL employees — a program instituted 33 years ago by Associated Universities, Inc. (AUI).

The first BSA Directors' Scholarships will be announced in a few weeks. This will be possible because AUI processed the applications it received last fall from eligible sons and daughters of BNLers in anticipation of BSA's continuing the scholarship program.

Said BNL Director John Marburger, who is also BSA President, "This is an excellent way for BSA to invest a portion of its fee. The BSA Board's action signals its understanding of the importance of the scholarship program to our employees."

From among those high school seniors who applied last fall, up to 15 will receive BSA Directors' Scholarships. Each award is for $2,500 per year for up to four years of study at the college or university of the recipient's choice.

HFBR Legislation (cont'd.)

Further, the leak, which is now being remediated, was totally contained well within the Laboratory site and never posed a danger to any drinking water wells, on or off site.

Today, the HFBR remains closed pending the outcome of an ongoing Environmental Impact Statement process, which is being conducted by DOE, and a decision by the Energy Secretary on the future of the reactor.

In justifying his and Forbes's drive to continue the prohibitive legislation, D'Amato, who wrote Senator Pete Domenici, Energy & Water Subcommittee Chairman, requesting approval of the provision, said, "Keeping this aging nuclear reactor shut down is necessary for the health of Long Islanders and the safety of their drinking water. Restarting the reactor would not only jeopardize our environment and drinking water, but would imperil the other great work done at the lab."

Forbes said, "We are committed to ensuring this faulty, 32-year-old nuclear reactor will never again threaten our environment, particularly the sensitive sole source aquifer that supplies drinking water to all Long Islanders. Senator D'Amato and I were able to include an amendment in this year's Energy Department spending bill to keep this nuclear reactor shut down, and we will prevail again for 1999. This is critical to protect the future of Brookhaven Lab and the 3,200 jobs held by our neighbors there."

Responding to the press release, BNL Director John Marburger issued a statement acknowledging that D'Amato and Forbes "are taking a position on the High Flux Beam Reactor that is consistent with their previous actions.

"Under the management of Brookhaven Science Associates," Marburger continued, "Brookhaven National Laboratory will also be consistent in the safe, clean operation of all its facilities. I would welcome their support in cleaning up the environmental legacy due to past practices, and in making the best use of BNL's capacity for outstanding science."

Science was also addressed in the press release, which announced that, in letters to the Congressional appropriating committees, D'Amato and Forbes had requested increased federal funding over what is contained in President Clinton's fiscal year 1998 budget for several programs at the Lab, including:

• An additional $6 million to permit the maximum utilization of the National Synchrotron Light Source, one of the nation's premier photon research facilities.

• An additional $2 million to fund biomedical and radiation research with promising applications for cancer treatment and diagnosis (an error in the Labwide e-mail message set this amount at $22 million).

• $500,000 for the development of anti-terrorism technology for identifying biological and chemical weapons fallout.

D'Amato and Forbes also requested an additional $10 million to accelerate the environmental cleanup and to permit the decommissioning and dismantling of the Brookhaven Graphite Research Reactor, which has been shut down since the late 1960s.

"We're encouraged by the ongoing environmental clean-up at the lab and want to help accelerate its pace," they said. "And the additional research funding will help ensure that Brookhaven Lab remains an economic and scientific asset for Long Island and the world's scientific community."

— Anita Cohen

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ANITA COHEN, Editor
MARSHA BELFORD, Assistant Editor
LIZ SEUBERT, Staff Reporter

Bldg. 134, P.O. Box 5000
Upton NY 11973-5000
Tel. (516) 344-2345; Fax (516) 344-3368

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In Memoriam

The following retirees passed away recently:

Mary W. Coyle, who retired from the Medical Department as Head Nurse on September 7, 1973, died on November 13, 1997, at the age of 93. She had been in Medical for almost 23 years, starting as a registered nurse on November 1, 1950.

Donald G. Deininger, a contracts specialist who left the Contracts & Procurements Division on March 8, 1981, died December 4, 1997. He was 75 years old. He had first come to BNL on October 1, 1977.

Helen G. Mottl, who had worked in the Medical Department for 22 years when she retired on December 29, 1972, died on January 31, at the age of 90. She had joined Medical on February 1, 1950, as a laboratory assistant, and was a research services assistant when she retired.

Louis W. Blum, who had been at BNL for 30 years when he retired from the Alternating Gradient Synchrotron (AGS) Department on July 31, 1993, died on February 19. He was 64. After joining the Mechanical Engineering Department on January 19, 1962, as a designer, he became a senior designer in the Physics Department in 1976, then transferred to the AGS, in 1977.

James J. Ryan, whose 21 years at BNL were all in the Central Shops Division, died on March 5, at the age of 77. He had started on June 18, 1962, as a machinist and was a tool & instrument maker when he left the Lab on April 2, 1984.

Otto Kochman, who was associated with BNL over a 20-year period, died on March 9, at the age of 85. He joined the Mechanical Engineering Division on April 4, 1966, and retired from the AGS Department on June 30, 1978, as a design engineer III. He returned as a guest design engineer for six months in 1979, and then for almost four years, from 1982 to 1986.

Mary A. Simack, a scanner in the Physics Department for 20 years, died on March 9. She was 76 years old. She had come to the Lab as a scanner trainee on August 6, 1962, and she had retired on June 30, 1983.

George Stoll, who was General Supervisor, Electrical, in the Plant Engineering Division when he retired on February 27, 1976, died on March 7. He was 85 years old. He had joined BNL as an electrician B in the Architectural Planning & Plant Maintenance Department on March 12, 1947.

Carlyle E. Murray, who died on March 12 at the age of 63, was a senior technical specialist in the AGS Department when he went on long-term disability on December 22, 1991. He started at BNL on March 22, 1958, as a janitor in the Motor Vehicle Maintenance & Operations Division, and was a technician when he transferred to the AGS in 1966.

Brian C. Vogt, who was at BNL for 38 years before leaving the Relativistic Heavy Ion Collider (RHIC) Project on May 30, 1997, died on March 23. He was 62 years old. He had joined the Lab's Nuclear Engineering Department on October 20, 1958, as a technician C, and transferred to the AGS in 1959 and then, in 1986, to the Accelerator Development Department, which became the RHIC Project in 1992. When he left RHIC on long-term disability last year, he was a technical associate I.

Next BERA Concert: Graduate Trio

The extraordinary caliber of performances Brookhaven audiences have come to expect from the musicians who graduate from the State University of New York at Stony Brook (USB) promises an evening of great pleasure on Thursday, April 16, when USB's "Graduate Trio" will be the featured artists at the next BERA Concert. On that day, at 8 p.m., the excitement of live fine music will fill Berkner Hall as violinist Anne-Marie Hoffman, cellist Jeremy Hake and pianist Vivian Wai Cheng play two classical works: Franz Schubert's Piano Trio in E-Flat Major, Op. 100, and Maurice Ravel's Piano Trio in A Minor.

All are welcome to attend the concert, which is free and open to the public. However, donations will be gratefully accepted to fund future events. To hear a recorded message about the concert, call Ext. 3550.

Traffic Talk

Stop at the Line to Trip the Light

If you have been stopped on Upton Road or Yale Road by the light at the intersection of Upton Road, Yale Road and Princeton Avenue, and if you have been tempted to drive through it because it wouldn't change to green quickly enough for you or because you think the light is broken, then here is a tip: Stop at the line.

If you stop at the white line painted on pavement which is indicated as the stopping mark by a sign by the side of each road, then the presence of your vehicle will trip the detector that changes that light — all within 25 seconds.

If you stop before or beyond that white line, then you will not trip the sensor and much, much more than 25 seconds will elapse before the light changes.

Therefore, stopping at that pavement marking and waiting all of 25 seconds will not only save frustration for drivers going to and from the apartment area, but it will also ensure that they will not run the red light — a moving violation under New York State's vehicle and traffic law and according to the Lab's traffic safety regulations.

In the interest of everyone's on-the-road safety, this on-site driving tip is offered by BNL's Traffic Safety Committee.

Coming Up

Paul Freimuth, a biochemist in the Biology Department, will give the next Brookhaven Lecture, "Cloning the Human CXADR Gene: A Determinant of Virus Susceptibility," in Berkner Hall, on Wednesday, April 22, at 4 p.m.

Spring Fling April 17

Spring has sprung, so it is time for BERA's next seasonal TGIF party: The Spring Fling will be held on Friday, April 17, at the Rock Hill Country Club, off Clancy Road in Manorville, starting at 6 p.m. The cost is $5 to cover hors d'oeuvres and entertainment; a cash bar will be available. The party is open to all BERA members and their friends, and no reservations are required. For more information, call Charles Gardner, Ext. 5214.

Microcomputer Club

On Thursday, April 16, from noon to 1 p.m. in Bldg. 515, in the Computing & Communication Division's second-floor seminar room, MaxiAids of Farmingdale, sponsored by the BNL Microcomputer Club, will present Dragon Systems dictation software called Naturally Speaking.

This easy-to-use, high-performance software is the world's first that accurately recognizes and creates general text from normal continuous speech.

All employees and guests are welcome. For more information, contact Steven Stein, Ext. 5694, visit the club's website at http://www.bnlmcc.bnl.gov; or check Dragon Systems at http://www.naturalspeech.com.

Arrivals & Departures

Arrivals

Mark D. Baker.....Chemistry
Anthony L. Graves.....Com. Inv. & Pub. Aff.
Aljosa Marusic.....AGS
Marvin L. Justice.....Physics

Departures

This list includes all employees who have terminated from the Lab, including retirees:

Richard Allen.....Plant Eng.
Timothy Bowden.....Safeguards & Sec.
Donald Dimassimo.....RHIC
Marilyn Gibbons.....Plant Eng.
Sonja B. Haber.....DAT
Rafael Jimenez.....Plant Eng.
Alice Jimenez-Constantini.....DAT
Joseph Jones.....Info. Services
Michael A. Marshall.....Comp. & Comm.
Robert Meier.....AGS
Ronald Peierls.....Applied Science
Clarence Pittenger.....Comp. & Comm.
Joseph Preisig.....ES&H Services
Mircea Popeanos.....AGS
Matthew Randesi.....Biology
John Schnell.....Admin. Support
John Schmidt.....Instrumentation
Alan Schmidtchen.....Info. Services
Robert Schuman.....Comp. & Comm.
Michel Tytgat.....Physics

Join May 'Spring Riot' Bus to Art, Flowers

Magnificent art and glorious flowers will highlight the day on the Art Society's "Spring Riot" bus trip on Saturday, May 2.

All are welcome, so bring a friend or neighbor to see superb paintings by Gustave Courbet and Marc Chagall at the Nassau Museum of Art; the cherry-blossom festival, flowers, herbs and trees at Brooklyn Botanical Gardens; and dazzling watercolors by Winslow Homer and John Singer Sargent, in addition to renowned African, American, Asian and European art collection at the Brooklyn Museum.

The bus-with-bathroom will leave BNL's tennis-court parking lot at 8:30 a.m. and return to BNL by about 8:30 p.m. Bus seats cost $19; the Nassau Art Museum is $5, ($4 for seniors), the Brooklyn Museum is $4, and the gardens, which are free, accept donations at the gate. For reservations, contact Liz Seubert, Ext. 2346 or 286-8563, or e-mail lseubert@bnl.gov.

Bowling

Week of March 30

Red & Green League

R. Mulderig Jr. 223/211/200/634 scratch series, E. Meier 235/216/620 scratch, R. Mulderig Sr. 209/206/600 scratch, K. Asselta 214/204, K. Koebel 225, G. Mack 220, J. Griffin 218, H. Arnesen 217, G. Miltenberger 216, R. Raynis 213, J. Giuffre 207, E. Sperry III 206, J. Orris 204, L. Mulderig 201.

Purple & White League

K. Koebel 236/210/187/633 scratch series, R. Mulderig Sr. 229/203/199/631 scratch, R. Raynis 212/202/192/606 scratch, A. Warkentien 212/199/182, P. Wynkoop 190/187/186, N. Besemer 235/180, E. Sperry IV 234/215/612 scratch, B. Tozzie 226/201/605 scratch, M. Guacci 225/213/605 scratch, L. Simes 213/177, E. Meier 190/185, J. Zebuda 245, R. Koebel 211, T. Mehl 199, M. G. Meier 193, K. Eggert 192, G. Mehl 189, F. Simes 188, K. Byrnes 188, L. Mulderig 182, K. Batchelor 181, B. Rothe 173.

Volleyball

Final Standings

League I		League III	
Bikers & Spikers	60-12	Silver Bullets	45-9
Set to Kill	44-28	Group Sets	41-13
Scared Hitless	38-34	Just 4 Fun	29-25
RudeDogs	37-35	Upton Ups	28-26
ReTurners	1-71	Six Samurai	23-31
League II		Just in Time	16-38
Safe Sets	51-12	NWO	7-47
Spiked Jello	45-18	**Open League**	
Monday Nite Live	42-21	Spikers	51-21
Jao-About-That	37-26	Shank,Carry&Throw	42-30
Undecided	34-29	Death Volley	32-40
Nuts & Bolts	26-37	Pass, Set & Crush	28-44
Fossils	15-48	Far Side	27-45
Setups	2-61		

Semifinals

League 1: Set to Kill vs. Scared Hitless 3-0

Playoffs

League I: Rude Dogs vs. ReTurners 3-0
League III: Upton Ups vs. Six Samurai 2-0
Just 4 Fun vs. Just in Time 2-0
Group Sets vs. NWO 2-0
Open League: Pass, Set & Crush vs. Far Side 3-2

Volleyball End-of-Season Party

On Friday, April 24, bring your friends to join the end-of-the-season Volleyball Party, which will be held at the Recreation Building, in the apartment area on site. Festivities will begin at 5:30 p.m. and will include dinner and beverages as well as live music by Pumice. To make your $10 reservations, contact Joe Greco, Bldg. 1005, Ext. 7528, by Monday, April 20; the cost will be $12 after that date.

Classified Advertisements

Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position. Candidates are considered in the following order: (1) present employees within the department/division and/or appropriate bargaining unit, with preference for those within the immediate work group; (2) present 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; call the JOBLINE, Ext. 7744 (344-7744), for a complete list of all job openings; use a TDD system to access job information by calling (516) 344-6018; or access current job openings on the World Wide Web at http://www.bnl.gov/JOBS/jobs.html.

The following vacancies are exempt from the Director's hiring freeze.

SCIENTIFIC RECRUITMENT - Doctorate usually required. Candidates may apply directly to the department representative named.

SCIENTIST - Trained in experimental particle physics. BNL is taking a leading role in the DØ Experiment at Fermi National Accelerator Laboratory, with major responsibilities for the next run of the experiment, including the forward preshower detector and the on-line/off-line software. Extensive experience in a major particle physics experiment is required. Contact: Howard Gordon, Physics Department.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees.

DD7780. SECRETARIAL POSITION - (term appointment) Requires an AAS in secretarial science or equivalent experience, excellent communication and interpersonal skills, and a thorough knowledge of Laboratory policies and procedures. Experience with IBM PC, Windows '95 and IPAP, and the ability to make travel arrangements also required. Knowledge of Dbase, Excel and Access desired. Duties will include handling telephones, supplies, mail and filing. Will provide backup support to the Administrative Office. Computing & Communications Division.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

NS7520. PROGRAMMING POSITION - Requires a BS in computer science or related field and experience with Unix, C, Perl and HTML. Experience in the evaluation, selection and implementation of computer security tools and experience with one-time password tokens and firewalls are highly desirable. Will work in a small group developing, enhancing and implementing computer-security tools. Will work with users to determine their vulnerabilities and advise and install fixes to repair them. Computing & Communications Division.

NS7521. COMPUTER ANALYST POSITION - Requires an MS in computer science or equivalent, with significant experience in visualization software and applications, and virtual-reality environments. Proficiency in Unix and C and an understanding of graphics languages, such as Open GL, IRIS Performer and VRML, are required; experience with C^{++}, Java and Perl is desirable. Specific knowledge of the SGI environment and IBM Visualization Data Explorer is a plus. Computing & Communications Division.

DD7634. TECHNICAL POSITION - Requires an AAS in electronic or mechanical technology, and several years' experience with analog and digital circuitry pertaining to nuclear or high energy physics experiments. Will be involved in mounting and maintaining the racks of electronics used in Experiment 787 at the Alternating Gradient Synchrotron, as well as providing electromechanical support. Work will involve maintenance and installation of power supplies, setting up racks of electronics with alarm systems of various types and testing/maintaining phototubes and base circuits. Physics Department.

DD7635. TECHNICAL POSITION - Requires an AAS in mechanical technology or equivalent experience, and experience with precision mechanical assembly and gluing techniques. Familiarity with machine tools and previous experience constructing wire chamber detectors are highly desirable. Will assist in the fabrication of pad chamber detectors for the PHENIX experiment at the Relativistic Heavy Ion Collider. Responsibilities will include the day-to-day operations and related safety requirements of the pad chamber factory. Physics Department.

DD7347. TECHNICAL POSITIONS - (term appointments) Requires an AAS in a technical field or equivalent and knowledge or significant experience in one or more disciplines such as mechanics or electromechanical assembly. Knowledge of superconducting magnet assembly procedures highly desirable. Must be able to adhere to written procedures and follow quality-assurance standards in all work assignments. Responsibilities will include, but will not be limited to, assignments in magnet assembly that require developed skills and performance of functions with minimal supervision. Relativistic Heavy Ion Collider Project.