BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

DOE Awards Support BNL'S Research Partnerships With Industry

BNL is a partner in four of the 16 awards that the U.S. Department of Energy's (DOE) Office of Energy Research is giving to DOE laboratories under the Laboratory Technology Research Program, for work in the areas of biotechnology and advanced materials research.

The projects selected to receive the DOE awards, totaling nearly $12 million, support high-risk, multidisciplinary, cost-shared research partnerships with industry to investigate scientific problems with solutions that have promising commercial potential.

DOE's awards support the national laboratories' research, while their industry partners support their own research and often provide equipment or funds to the laboratories. Industry expects to provide $17.5 million in private funding for the three-year partnership programs.

"This research is of value both to industry for its eventual commercial applications and to the Department of Energy with its broad range of mission needs," said Secretary of Energy Federico Peña, in a DOE press release on March 19 announcing the awards. "By working together, we will be able to benefit from sharing our unique and complementary research facilities and expertise."

Roger Stoutenburgh

Gathered outside of the U.S. Department of Energy's (DOE) on-site Brookhaven Group (BHG) office, to mark the four awards BNL researchers have received from DOE under the Laboratory Technology Research Program, are: (from left) researcher Carl Anderson; Michael Furey, Office of Technology Transfer; Bob Gordon, BHG; researchers Xiao-Qing Yang and Sanjeev Mukerjee; researcher Prantika Som; Frank Crescenzo, BHG; and researcher Masaki Suenaga.

The projects were chosen by peer review on the basis of their scientific and technical merit and commercial potential. A cooperative research and development agreement, or CRADA, will spell out the objectives and responsibilities for each research partnership.

In addition to BNL, other national laboratories that received awards were: Argonne, Lawrence Berkeley, Oak Ridge (ORNL) and Pacific Northwest.

BNL has been granted funds for the following research projects:

• **Development of radioactive stents for prevention of reformation of arterial blockage after coronary balloon angioplasty** — For this project, BNL Principal Researcher Prantika Som, Medical Department, teams with collaborators from ORNL, the State University of New York at Stony Brook, and InnerDyne, Inc., of Sunnyvale, California. The DOE investment in this research totals $656,550 shared by BNL and ORNL, and

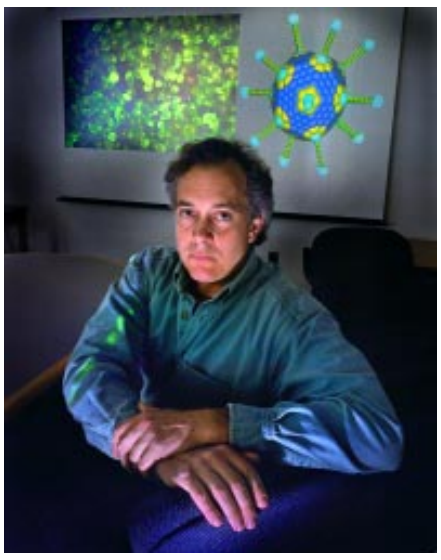
(continued on page 2)

336th Brookhaven Lecture

Gene Cloning: Stepping Stone Vital to Gene Therapy

This century's amazing advances in medical treatment have been so consistent and so well publicized that many breakthroughs are almost taken for granted. People seem more surprised that there should be a delay.

One such breakthrough is gene therapy, in which genes are introduced into a patient to cure or alleviate inherited or acquired diseases. This concept is so appealing and has become so generally accepted after preliminary testing that many people assume gene therapy is already widely used. In reality, the procedure is at a comparatively early stage. The true focus is still on research rather than results and treatment.


Roger Stoutenburgh

Paul Freimuth

Some of this vital pioneering research is being done at BNL. To discuss his work on the CXADR gene and how it relates to the broader horizons of treating infection, Biochemist Paul Freimuth of the Biology Department will deliver the 336th Brookhaven Lecture, "Cloning a Human Virus Receptor Gene: Implications for Gene Therapy." Freimuth will give his talk in Berkner Hall on Wednesday, April 22, at 4 p.m., when he will be introduced by Structural Biologist Robert Sweet, Biology Department.

As Freimuth will explain, in the initial step of virus infection, the virus binds to specific "receptor" molecules on the target cells. The receptor's real role is to provide some important function to the cell, not to bind the virus, but viruses evolve to bind the receptors. Human genes can be spliced into viral genomes and delivered into cells that produce virus receptors, but not into other cells. Genes delivered into cells by this approach can, potentially, correct genetic disorders or augment other types of therapy.

Freimuth and his team studied the CXADR gene, which is the cellular receptor for adenovirus, a virus involved in cystic fibrosis. From earlier work, they knew that this adenovirus receptor is also used by another virus, called Coxsackie B, which is related to the common cold viruses and to poliovirus. Freimuth will describe cloning the CXADR gene and the work on characterizing the adenovirus-binding properties of the CXADR protein.

Now, as he will relate, his current work on determining the crystal structure of the receptor bound to a fragment of adenovirus will eventually permit the design of small molecules that could act as antiviral agents and prevent the virus from binding. This could have important applications in developing antiviral treatments or in adapting the virus for use in gene therapy.

After receiving his B.S. in biology at the University of Connecticut in 1977, and his Ph.D. in microbiology at Columbia University in 1986, Freimuth took up postdoctoral fellowships first at the Rockefeller University's

(continued on page 2)

Facility Representatives Expected To Facilitate DOE-BNL Interaction

Four members of the U.S. Department of Energy's (DOE) Brookhaven Group have been named Facility Representatives, each with primary responsibility for monitoring day-to-day operations at specific BNL facilities.

The appointments were made official on Tuesday, April 7, when, at a ceremony held in the Biology Department's lecture hall, Dean Helms, Executive Director of the Brookhaven Group (BHG), and John Marburger, BNL Director, signed the DOE-BHG/BNL Agreement on DOE Facility Representative Program Support.


Joe Rubino

BNL Director John Marburger (seated, left) and Dean Helms, Executive Director of the U.S. Department of Energy's (DOE) Brookhaven Group, shake on the just-signed Agreement on DOE Facility Representative Program Support. Behind them (from left) are newly assigned Facility Representatives Lawrence Hinchcliffe, Peter Kelley and Maria Dikeakos. Not shown is Mark Parsons.

The agreement arose from the Operational Awareness Program that BHG has implemented at BNL to provide additional assurance that Laboratory facilities are operated safely, efficiently, and in accordance with DOE's expectations and requirements.

While BHG representatives have previously been assigned to some BNL facilities, Helms said to the approximately 50 people on hand for the signing ceremony, "This is a new and improved version of this program here at Brookhaven.

"I know I'm preaching to the choir when I say it's incumbent on us to continue to do world-class research and to do it safely," Helms continued. "That translates into responsibilities and accountabilities at all levels of the Lab. This is one of the things we're doing to improve the way we do business at the Lab."

Helms then pointed out that it was Marburger's idea to hold a formal signing ceremony, to demonstrate that attaining the program's goals is a joint effort.

"One of the things that I was struck with as I began to learn what it is like to work with DOE was the desire I felt at DOE at all levels to have our Lab succeed," said Marburger. "I find a tremendous commitment within DOE to have us succeed, to *make* us succeed, to *direct* us to succeed! And when we succeed we make everybody look good. We're here to make this Lab work for the DOE and for the people of the United States."

Marburger added that, with the Facility Representatives' "knowledge base of the facilities, they can be advocates for us. It's a marvelous way for us to learn mutually about our problems at the level where it really counts.

"This program is more than a symbol," he emphasized. "It's an instrument for bringing BNL and DOE together in a union to get our work done

(continued on page 3)

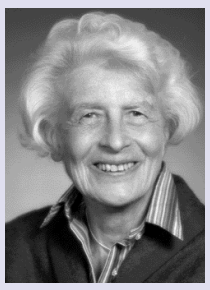
Posthumous Honors Bestowed on Two Giants of Physics

The contributions of two renowned physicists with long associations with BNL, both of whom passed away recently, will be acknowledged at two leading universities at the end of this month.

Stony Brook's WISE Will Celebrate Gertrude Goldhaber

Pioneering nuclear physicist Gertrude Scharff Goldhaber, who began her 48-year association with BNL in 1950 as the Laboratory's first woman Ph.D, and who died this past February, will be honored on Wednesday, April 29, by the Women in Science & Engineering (WISE) Program at the State University of New York at Stony Brook (USB).

WISE chose Goldhaber to be the honoree at its fourth annual program recognizing Stony Brook scientists because "she has been a good friend to the Stony Brook science community and, having played a very important role in the development of nuclear models, she is an outstanding role model for younger generations of scientists," explained WISE Director Wendy Katkin.



Gertrude Goldhaber

Also, two of three woman graduate students in physics who have been honored with Brookhaven Women in Science's Gertrude S. Goldhaber Prize since its inception in 1992 have been enrolled at USB.

The event will also celebrate the graduation of the first cohort of WISE women. Established in 1993 with funds from the National Science Foundation, WISE is a unique program designed to encourage talented women who are interested in math, science or engineering. It offers special enrichment courses, extracurricular programs and interaction with other bright women — undergraduates, graduates and faculty — some also affiliated with BNL.

"We hope many of Gertrude Scharff Goldhaber's colleagues will join us for this occasion," said Katkin. The program will run from 4 to 6 p.m. at the Student Activity Center, Room 302, on the USB campus.

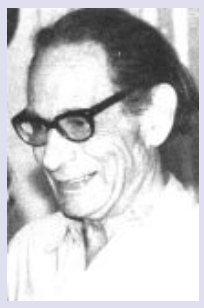
If you plan to attend, call Toby Speed at 632-6947, or e-mail toby.speed@sunysb.edu, by Wednesday, April 22.

Memoirs Just Published, Robert Serber Will Be Honored by Columbia

In 1994, theoretical physicist Robert Serber, a long-time BNL consultant and trustee of Associated Universities, Inc., came back to Brookhaven to deliver a three-part George B. Pegram Lecture Series entitled "Peace and War."

Before his death last June, Serber worked with BNL Historian Robert Crease to complete a book based on the memoirs. This month, Columbia University Press released Serber and Crease's *Peace and War*, the eighth book to come out of the Pegram Lecture Series.

In conjunction with the book's publication, the Columbia Physics Department will hold a Commemorative Symposium honoring Serber on Thursday, April 30, from 2 to 6 p.m., at 428 Pupin Laboratories, Columbia.



Robert Serber

After a welcome by Norman Christ, Chairman of Columbia's Physics Department, talks will be presented by: Leon Cooper, Brown University; Robert Crease, BNL; Maurice Goldhaber, BNL; Vernon Hughes, Yale University; and T.D. Lee, Columbia.

The symposium will be followed by a dinner at 6:30 p.m., at the Columbia Faculty House, 400 West 117th Street, New York City. The symposium is free and all are welcome to attend, but if you wish to attend the dinner, which costs $35, you must RSVP by Friday, April 24, to: Lalla Grimes, (212) 854-3366 or lalla@phys.columbia.edu.

As the book jacket for *Peace and War* notes, Serber was "a prominent member of the Manhattan Project, and an intimate friend of J. Robert Oppenheimer. [In this memoir,] Robert Serber tells, movingly, of his life before, during and after World War II, with firsthand accounts of the aftermath of the bombings of Hiroshima and Nagasaki. The people, events, and issues of this period in American history . . . are vividly brought to life. From the excitement of Oppenheimer's inner circle to the discovery of black holes and quarks, this is an incisive portrait of one of the most important theoretical physicists of the twentieth century."

The jacket also contains comments from Laurie Brown, Northwestern University, who said, "An excellent raconteur, Serber describes his personal and scientific life frankly, with dry humor and incisive wit. I found the book difficult to put down."

And Phil Morrison, Massachusetts Institute of Technology, wrote, "... An informed, candid, and telling witness to men, machines and policy, [Serber] had a keen ear and a sharp tongue for the droll, and views the decades with an insider's eye. You can hardly know American physics in W.W. II or the Cold War, nor its hopes and burdens right into the present, without weighing what Bob Serber says — not without some poignancy."

To order *Peace and War*, which sells for $29.95 plus $5 for shipping, write to Columbia University Press, 136 South Broadway, Irvington, NY 10533, call (914) 591-9111, or check with your bookstore.

DOE Awards (cont'd.)

both laboratories share $840,000 from InnerDyne.

Over 400,000 coronary angioplasties are performed annually in the U.S. to unclog arteries filled with cholesterol. A major problem with balloon angioplasty is that the arteries get filled up with cells damaged from the procedure. This causes a new narrowing of the arteries, called restenosis. Metal devices, called stents, are used in the angioplasty procedure to keep the arteries open mechanically, but this device also has a 25 percent restenosis rate.

The goal of this research project is to coat stents with radioactive material that can prevent the growth of unwanted muscle cells that cause restenosis. ORNL will produce the radioactive substance, called rhenium-188, as well as develop and optimize radioactive stents. BNL will perform animal studies to determine the efficacy and safety of the device. Over 120,000 patients per year in U.S. would benefit from this research, should it prove successful.

• **Analysis of DNA-damage responses in human cells** — In this study, the principal researcher at Brookhaven is Carl Anderson, Biology Department, and his industrial partner is Oncogene Research Products of Cambridge, Massachusetts. DOE is investing $607,000 in this research, which may lead to improved cancer therapies and the ability to evaluate cell damage after nuclear accidents and during space travel. Oncogene Research is contributing $629,000.

Some agents, such as ionizing radiation, ultraviolet light and anti-cancer drugs, cause damage to DNA, the blueprint for the genetic code. The body, however, can repair and minimize that damage. Precisely how the body detects DNA damage is unknown, but the damage and response signals are transferred primarily by protein kinases, enzymes that modify proteins by adding phosphates to them. Often, several protein kinases form a pathway in which one protein kinase activates or inhibits another, thereby sending a signal through a cell to one or more target enzymes or proteins. Currently, these pathways are hard to detect.

The goal of this project is to make antibodies that easily recognize any of the thousands of protein kinase pathways, also called phosphorylation sites. The method will be tested by developing antibodies that recognize phosphorylated forms of the human tumor suppressor protein known as p53, which is critical in repairing DNA damage and in preventing cells from becoming cancerous.

• **New materials for rechargeable lithium batteries** — In BNL's Department of Applied Science (DAS), Xiao-Qing Yang and Sanjeev Mukerjee are the principal researchers in this partnership with Gould Electronics, Inc., of Eastlake, Ohio. The project is being funded with $650,000 from DOE and $764,000 from Gould.

The market for lithium batteries is growing because they are more compact and more powerful than competing metal hydride batteries, and they have greater capacities and longer lifetimes than their conventional counterparts. These advantages are important for devices such as cell phones and laptop computers. Enhancing performance, reducing cost and replacing toxic materials with environmentally benign materials are the goals of this lithium battery research, which will focus on developing new electrolyte and cathode materials for rechargeable lithium batteries.

Gould will evaluate additives to electrolyte materials for potential use in commercial battery cells, while BNL will investigate problems associated with currently used cathode materials and search for new ones. The DAS researchers will use x-ray probes at BNL's National Synchrotron Light Source to characterize the materials.

This project should improve the performance and reduce the cost of current lithium polymer batteries and also develop the next generation of lithium cells, the lithium polymer batteries.

• **Development of a buffer layer for superconducting tapes** — DAS's Masaki Suenaga is the principal researcher from BNL, and his industrial partner is Oxford Superconducting Technology of Carteret, New Jersey. They will be funded with $1,500,000, with half coming from DOE and half from Oxford.

High-temperature superconductors can carry very high electrical currents in liquid nitrogen, with no loss of energy. If suitable conductors for electric utility applications can be made, significant savings in the cost of electricity is envisioned. These conductors would also be used for magnets in future high-energy particle accelerators.

A high-temperature superconductor, yttrium-barium-copper-oxide, can be made into a metallic tape that carries sufficiently high currents for power applications. Fabricating this tape, however, requires forming a ceramic buffer layer between the superconductor and the tape. Synthesis of this buffer layer is so slow that it is not economically viable for power applications.

The project's goal is to improve the fabrication process of the buffer layer. To do so, the BNL researchers will use a high-resolution transmission electron microscope to examine how the buffer layer is formed. Large-scale fabrication of the conductors will be performed at Oxford. — Diane Greenberg

ANS Lunch-Lecture: Fallout, Public Health

All are welcome to sign up for the noon buffet lunch and/or the 12:45 p.m. talk on "Fallout and Public Health," to be given by radiation safety consultant Ralph Lapp at the Brookhaven Center, at the next meeting of the American Nuclear Society (ANS) Long Island Section, on Friday, April 24.

Andrew Hull, Environment, Safety & Health Services Division, will introduce the speaker, who, in addition to having directed the development and production of radiation instrumentation on the Manhattan Project and participated in the atomic bomb tests at Bikini atoll, was one of the first public-interest scientists to oppose atmospheric testing of nuclear weapons.

To ensure sufficient seating, call Ken White, Ext. 4423, to reserve a place for the lunch, which costs $12.50, or for the talk only, which is free.

Fidelity Counseling

A Fidelity Investments representative will be at the Lab on Tuesday and Wednesday, May 19 & 20, to hold individual sessions with employees interested in learning more about their retirement-savings and investment options.

To schedule one of the 30-minute appointments, call (800) 642-7131.

BNL Lecture (cont'd.)

laboratory of bioorganic chemistry and biochemistry, 1986-88, then, from 1988 to 1991, at the University's laboratory of physiology and immunology, where he worked on antigen processing and isolating dendritic cell-specific antigens. In addition, he won the U.S. Public Health Service postdoctoral fellowship award, 1987-91.

On joining BNL's Biology Department in 1990 as an assistant biochemist, Freimuth's research interests centered on the adenovirus. He became an associate biochemist in 1992 and was named Biochemist in 1995.

After the lecture, all are invited to join Freimuth for discussion and refreshments. To accompany the lecturer for dinner at a restaurant off site, call Donna Zadow, Ext. 3415, by noon on Wednesday, April 22.

— Liz Seubert

Monitoring Facilities (cont'd.)

— an investment in a new form of management that we have a responsibility for nurturing."

Robert Desmarais, Director of BHG's Operations Safety Technical Support Division, to which the Facility Representatives belong, said that he expects the new full-time assignments to make a difference in DOE's stewardship of BNL. Previously, he explained, when there were few Facility Representatives, and when they worked on that assignment only part-time, "We did not feel that we were plugged in enough about what was going on at the facilities."

That should change under the new program, Desmarais said, introducing the following four new Facility Representatives and their assigned areas:

• **Maria Dikeakos** — Waste Management Division activities and facilities.

• **Lawrence Hinchcliffe** — Advanced Technology, Applied Science, Biology, Chemistry, Medical and Physics Departments.

• **Peter Kelley** — Relativistic Heavy Ion Collider-Alternating Gradient Synchrotron complex, including the Tandem Van de Graaff and the Booster.

• **Mark Parsons** — Brookhaven Medical Research Reactor and High Flux Beam Reactor.

The Facility Representative for the National Synchrotron Light Source complex will be determined in the near future.

In carrying out their responsibilities, the Facility Representatives will monitor day-to-day operations in their assigned facilities to ensure that work is accomplished safely and in an environmentally sound manner, communicate issues to BNL facility management and personnel for evaluation and action as appropriate, direct contractor personnel to suspend work if conditions are identified involving an imminent danger to safety and health, and complete and maintain training required to permit unescorted access to assigned facilities. In doing this, they will be professional and nonconfrontational and will minimize disruptions of ongoing work.

In turn, BNL staff at the various facilities will provide the Facility Representatives with unencumbered access to facilities, personnel and documents, with office space and equipment, and with timely responses to requests; keep them informed regarding incidents, relevant meetings and changes in programs, activity or mission; and ensure they have access to training required for unescorted access to facilities.

To both the Facility Representatives and the BNL and BHG staff who will be working with them, Helms said, "We will be evaluating the activities of this program as time goes on, and we would love to get your feedback on an informal, ongoing basis."

— Anita Cohen

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The Brookhaven Bulletin is printed on paper containing at least 50 percent recycled materials, with 10 percent post-consumer waste. It can be recycled.

The Winners Are...

Bob Colichio

Tracy Blydenburgh

Tracy Blydenburgh, Reactor Division, and Bob Colichio, Environmental Safety & Health Services Division, have been elected to the Executive Board of the Brookhaven Employees Recreation Association (BERA).

Chosen by BERA members in elections held the week of March 30, they will replace outgoing BERA Executive Board members Luis Nieves, Siemens Rolm Communications, and Edward Sperry IV, Relativistic Heavy Ion Collider (RHIC) Project.

On May 1, Blydenburgh and Colichio will join the other six Executive Board members: Patti Bender, Plant Engineering Division; Deborah Keating, Division of Contracts & Procurement; Charles Gardner, Alternating Gradient Synchrotron (AGS) Department; Bob Marascia, AGS; John McCaffrey Jr., RHIC; and Ed Meier, Physics.

Service Awards

The following employees celebrated service anniversaries during March:

40 Years

Anthony J. Wisowaty.....AGS

35 Years

Charles M. Johnson.....Plant Eng.
William H. Kollmer.....RHIC
Hugh R. McNeill.....RHIC
Robert A. Scheetz.....Physics
Robert L. Schuman.....Comp. & Comm.

30 Years

Satoshi Ozaki.....Director's Office/RHIC

25 Years

Rippie Bowman.....AGS
Thomas S. Clifford.....AGS

20 Years

Curtis L. Bergh.....Comp. & Comm.
Robert L. Sabatini.....App. Science
John F. Smalley.....App. Science
Frank Terrano.....NSLS

10 Years

Wahfun Eng.....AGS
Bert M. Haug.....RHIC
Albert L. Mack.....Admin. Support
Gary T. McIntyre.....RHIC
David J. Pate.....RHIC
Keith A. Power.....RHIC
Paul W. Sampson.....AGS
Richard Sanniola.....Safeguards & Sec.
Sung-Leung I. So.....NSLS
Michael A. Timm.....Safeguards & Sec.
Joann B. Totans.....Info. Services
Sharon S. Wang.....Financial Services

Bus Trip to U.S. Open

The BERA Tennis Committee is again sponsoring its popular bus trip to the U.S. Open Tennis Championships at the National Tennis Center, Queens. On Tuesday, September 8, the bus will start off from the tennis-court parking lot at 8:30 a.m., with a pickup at the Long Island Expressway Exit 63 park & ride. The bus will depart the National Tennis Center at 7:30 p.m.

The per-person cost of $56 includes the day-session ticket (now $40) and the round-trip bus fare, including a tip for the driver. Paid reservations are being taken at the BERA Sales Office, weekdays, 9 a.m. to 1:30 p.m. Sign up early, as only 49 seats are available.

Spring Fling Delayed

With apologies for the inconvenience, the organizers of BERA's Spring Fling TGIF party that was to have been held today, Friday, April 17, have had to reschedule the event until June 12, due to a booking conflict.

Please plan on saving your enthusiasm for the new date, when you can join in at the Rock Hill Country Club, off Clancy Road in Manorville, starting at 6 p.m. The cost will be $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.

BNL's Ballroom, Latin & Swing Dance Club
and Swing Dance Long Island, Inc.
proudly present:

Swing Into Spring Dance

Saturday, May 2, 1998
8 to 11 p.m.
Brookhaven Center

Dance to swing, fox-trot and Latin sounds of the

Black Tie Affair Orchestra, featuring the K-tones

a 14-piece big band with a four-part vocal ensemble

Tickets: $5 for members, $7 for nonmembers

(Only 125 tickets will be sold for this dance.)

Buy tickets at BNL dance classes on Wednesday evenings;
on site from Gwyn Williams, Ext. 7529, e-mail gwyn@bnl.gov,
or Rudy Alforque, Ext. 4733, e-mail rudy@bnl.gov;
or call off site 821-9883.

Please bring your own refreshments.

Cell Phone Special

On Tuesday, April 21, from 10 a.m. to 2:30 p.m. in Berkner Hall, learn about the special AT&T Wireless Services corporate cellular rate that CTP Wireless World is offering BNL employees, with rates as low as 20¢ per minute, a monthly access charge as low as $19.99 and including: 30 minutes of air time per month, caller ID, voicemail with notification, numeric paging, self-dispatch alphanumeric messaging and a free digital phone.

Call Michael Weisinger or Dennis Lamm at 585-2900, for more information.

1997 Tax Relief Act

All are welcome at a Money Talks seminar on "How to Take Advantage of the Taxpayer Relief Act of 1997," to be given by American Express Financial Advisors, Inc., on Thursday, April 23, from noon to 1 p.m., in Berkner Hall. The talk is sponsored by the Benefits Office in the Human Resources Division.

Topics will include savings and education incentives such as IRAs and Roth IRAs, Hope scholarship credit, lifetime learning credit, education IRAs and student loan interest deductions.

To attend, complete and return the form sent to all employees to: Denise DiMeglio, Bldg. 185, as soon as possible.

Learn to Teach About L.I.'s Water

If you are interested in learning about Long Island's drinking water supply and in educating the local community about the problems and issues involving water, then here is a volunteer opportunity for you: Participate in VEEP, the Volunteer Environmental Educator Program .

Sponsored by the Suffolk County Department of Health Services and the Nassau County Cooperative Extension Service, VEEP is funded by a grant from the National Environmental Education & Training Foundation and the water supply companies of both counties.

In training water educators and environmental activity facilitators, VEEP aims to inform more Long Island students, their teachers and parents about Long Island's drinking water supply, to help them appreciate, protect and save this resource better.

Before going out into the schools, volunteer water educators must complete 24 hours of training in water facts and in making understandable, interesting presentations. At training's end, they will be able to explain where Long Island's water comes from, how it becomes polluted, correct disposal methods for household chemicals and other hazardous waste, and how to save water. In making presentations to schools, each volunteer will be equipped with an operating groundwater simulator.

Volunteer environmental activity facilitators help students in developing projects to protect and save water. They require less training.

To volunteer for this program, contact Janet Tempel, Museum Programs Office, Ext. 4049.

Volleyball

Quarterfinals

League II:

Jao About That vs. Undecided	1-2
Monday Nite Live vs. Nuts & Bolts	2-0
Spiked Jello vs. Fossils	2-0
Safe Sets vs. Setups	2-0

Semifinals

Open League:

Shank, Carry & Throw vs. Death Volley	3-1
Spikers vs. Pass, Set & Crush	3-1

League III:

Group Sets vs. Just 4 Fun	0-3
Silver Bullets vs. Six Samurai	0-3

Finals

League 1:

Bikers & Spikers vs. Set to Kill	1-3

Volleyball End-of-Season Party

On Friday, April 24, bring your friends to the Volleyball Party at the Recreation Building, in the apartment area on site, starting at 5:30 p.m., and including dinner, beverages and live music by Pumice — all for $10. For reservations, contact Joe Greco, Bldg. 1005, Ext. 7528, by Monday, April 20; the cost will be $12 after that date.

Computing Corner

Colloquium on Cybercrime

Attention: computer-security representatives, system administrators and others interested in protecting their computing environment from misuse: BNL's Computing & Communications Division (CCD), the Safeguards & Security Division and Operations Security Committee are teaming with the Federal Bureau of Investigation to offer a colloquium on "Cybercrime and Cybersleuthing," to be presented by Scott Charney, an attorney with the U.S. Department of Justice, on Tuesday, April 21, at 10 a.m. in Berkner Hall.

New PC Classes

CCD has added two new PC classes to the course catalog: Microsoft Outlook and advanced Microsoft Word for desktop publishing. To register, or to view the catalog for other available courses, contact your department or division training coordinator. To be placed in on a waiting list for a class, submit a completed training request form. All classes are scheduled based on the number of requests received.

PERL Programming in June

CCD has scheduled a three-day class in PERL Programming on June 8, 9 &10, in the Seminar Room, Bldg. 515. To register, send an ILR for $450 to Pam Mansfield, Bldg. 515, by May 8. For more information, call Mansfield at Ext. 7286 or e-mail pam@bnl.gov.

Arrivals & Departures

Arrivals

Frank J. Barta Jr......Plant Eng.
John R. Fogus.....Plant Eng.
Arthur Governali.....Plant Eng.
Stephen E. Springsteen.....Plant Eng.

Departures

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

Charles G. Trahern.....RHIC

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.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

RP2000. SECRETARIAL POOL POSITIONS - (temporary, part-time) Requires an AAS in secretarial science or equivalent experience, as well as excellent communication skills. Requires advanced skills in MS Word, Excel, Assess, PowerPoint and WordPerfect. Will provide secretarial support on a temporary, part-time basis as needed in various departments at the Laboratory. Human Resources Division.

NS7522. COMPUTER ANALYST POSITION - Requires a BSCS or equivalent (MS preferred), several years' experience developing tools and programs for a distributed computing environment; experience in UNIX (Solaris preferred), PERL and shell scripting, C, TCP/IP networking; and ability to deal with scientists resolving mathematical and programming issues. Exposure to the WWW, Java and CGI programming desirable. Will be responsible for developing software tools and on-line services and investigating new computer technology. Computing & Communications Division.

NS7587. PROGRAMMER/ANALYST POSITION - Requires a BS in computer science, physics, or related field, with experience in database management and software development. Experience in a scientific environment is preferable. Requires creative individual with good problem-solving skills who will participate in database administration, data management, development of database interface tools, and other programming tasks for the accelerator-controls environment. Sybase experience desirable. Experience in C, C++, Java, or Perl languages is a plus. (reposting) Alternating Gradient Synchrotron Department.

DD4548. SCIENTIFIC ASSOCIATE POSITION - Requires an MS or equivalent experience in physics or engineering, or comparable training. Will coordinate the operation and development of the two NSLS microfabrication beamlines. Knowledge of LabView programming, MS Office applications, and basic mechanical and electronic skills highly desirable. (reposting) National Synchrotron Light Source Department.

DD7349. ENGINEERING POSITION - Requires a BSME or equivalent; a high degree of proficiency in three-dimensional, computer-aided design, including solids modeling; and a strong background in both design and manufacturing. Position involves the design, fabrication and installation of major tooling and equipment for LHC magnets to be built at BNL for CERN. Must be capable of working independently from conceptual design through final testing of equipment, and must be experienced in directing design personnel, technical staff and tradepersons in support of these activities. Demonstrated experience in developing mechanical and electromechanical equipment and project management is essential. Relativistic Heavy Ion Collider Project.

DD7849. TECHNICAL POSITION - (term appointment) Requires an AAS degree in electromechanical technology or equivalent, and experience in electrical wiring, soldering and fabrication of mechanical assemblies. Will work from prints, rough sketches and verbal instructions. Familiarity with machine tools desired; knowledge of electronic test instruments necessary. Relativistic Heavy Ion Collider Project.

DD7850. TECHNICAL POSITION - (term appointment) Requires an AAS degree in electronic technology or equivalent, and experience in the fabrication and testing of integrated and discrete semiconductor circuits. Must possess strong construction skills and the ability to work from electronic schematics, rough sketches and verbal instructions. Knowledge of machine tools also required. Relativistic Heavy Ion Collider Project.

DD7565. BIOLOGY ASSOCIATE - (term appointment) Requires a BS in biology or biochemistry, and demonstrated ability to problem solve and work semi-independently. Computer skills desired. Will work on genetic engineering of cotton. Major tasks will be the preparation of cDNA libraries, development and testing of an inducible transposable element system, and cloning and engineering of fiber-specific genes. Requires demonstrated technical competence and practical experience in all aspects of recombinant techniques involving nucleic acids, molecular cloning, DNA sequencing and site specific mutagenesis. Biology Department.