

BNL's Science & Technology Awardees Honored

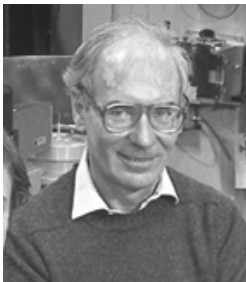
BNL's Science & Technology Award recognizes distinguished contributions to the Lab's science and technology mission over one or more years, in any scientific or technical discipline other than engineering and computing.

This year's individual winners of the \$5,000 award were: David Cox, Physics Department; Laurence Littenberg, Physics; and Marshall Newton, Chemistry Department. Lonny Berman, National Synchrotron Light Source Department; Malcolm Capel, Biology Department; and Robert Sweet, Biology, shared one award, receiving \$3,000 each.

All were honored at the first-ever BNL Employee Recognition Award Conferral Ceremony on February 2 (see Brookhaven Bulletin, February 18, 2000). Summaries of the accomplishments of the honorees follow.

David Cox, Physics

Senior physicist David Cox is being honored for his contributions to materials science and synchrotron powder x-ray diffraction, and for the design and operation of state-of-the-art spectrometers at the National Synchrotron Light Source (NSLS) and the High Flux Beam Reactor (HFBR).



Cox came to Brookhaven in 1963 as an associate physicist. In his career, he has used neutron powder diffraction techniques to determine the ordered arrangements of atomic mag-

(continued on page 2)



Roger Stoutenburg

This year's Science & Technology Award winners are (from left) Lonny Berman, Malcolm Capel, Laurence Littenberg, Marshall Newton, and Robert Sweet. Not present was David Cox (see photo, left).

Laurence Littenberg, Physics

Nominated for a Science & Technology Award by Physics Department Chair Michael Murtagh, Senior Physicist and Electronic Detector Group Leader Laurence Littenberg was cited for his leadership and pioneering experiments in high-energy physics.

"Through his kaon physics research at BNL's Alternating Gradient Synchrotron [AGS], Littenberg has kept BNL at the forefront of experimental particle physics," notes Murtagh.

(continued on page 2)

Marshall Newton, Chemistry

Senior Chemist Marshall Newton is an internationally recognized leader in quantum mechanical modeling of chemical systems. He has made outstanding contributions to the development and application of quantum mechanical models that show how the chemical mechanism of a condensed phase electron transfer process depends on the details of the molecular structure, energetics, and dynamics of the reactive system.

(continued on page 2)

All-Hands Meeting Tuesday, 3/14

General Eugene Habiger, Director of the U.S. Department of Energy's Office of Security & Emergency Operations, will speak at a meeting with BNL employees on Tuesday, March 14, in Berkner Hall (time to be announced by e-mail). Habiger, who will be accompanied by DOE security specialist Jack Pope and cyber security expert Raymond Holmer, will spend the earlier part of the day discussing security and cyber security issues, and assessing the effects of new DOE security policies. At the all-hands meeting, the three visitors will be available to respond to employees' concerns in these areas.

Lonny Berman, NSLS

Malcolm Capel, Biology

Robert Sweet, Biology

For their development of structural biology beam lines at the National Synchrotron Light Source (NSLS), Lonny Berman, NSLS Department; Malcolm Capel, Biology Department; and Robert Sweet, Biology, shared a Science & Technology Award.

Each of the three scientists was honored for contributions to designing instrumentation at NSLS structural biology beam lines X8C, X12B, X12C, X25 and X26C. The scientists were also cited as a resource for the hundreds of users from around the world who conduct their research at these beam lines each year.

Additionally, they were commended

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Brookhaven Lecture

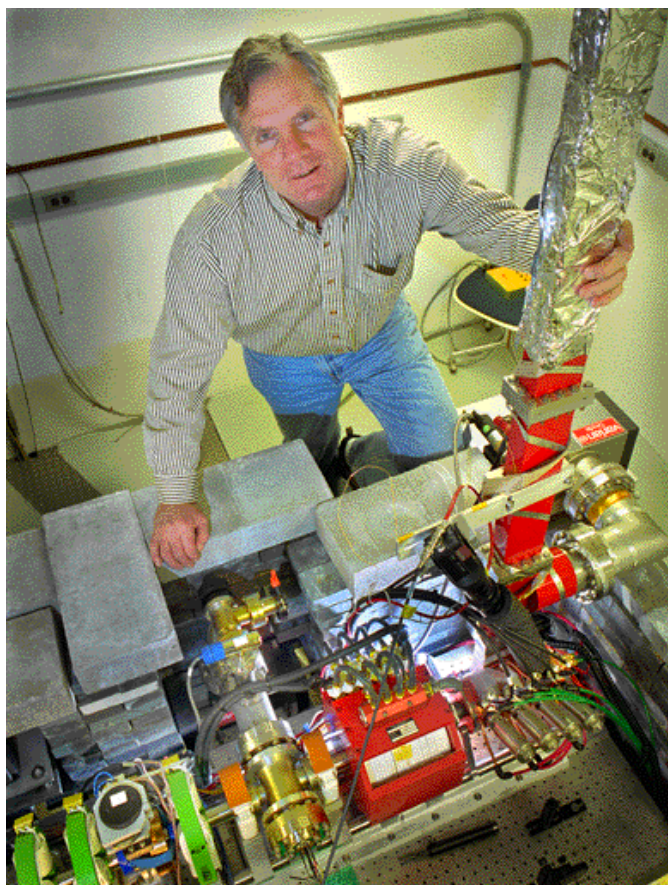
Measuring Fast Chemistry With Brookhaven's New LEAF

Located within BNL's Chemistry Department, the Laser Electron Accelerator Facility (LEAF) is the first such device in the world to be dedicated to studying the rates and energetics of chemical reactions — including electron transfer reactions similar to those in photosynthesis within plant leaves.

Photosynthesis is a well known example of a common phenomenon called an electron-transfer reaction. Involving no broken chemical bonds, electron transfer is the simplest chemical reaction: it takes place when one or more electrons move from a donor to an acceptor molecule.

Beginning in the 1950s, it became possible to determine the speed of electron-transfer reactions — but only ones that are relatively slow. Using BNL's LEAF, however, the speed of measurable reactions has dropped from 30 picoseconds in the 1990s to an impressive 7 picoseconds today. And the goal of Chemistry's Thermal & Photochemical Reactions Group is to push LEAF to 5 picoseconds, or 5 trillionths of a second, to look at chemistry happening even faster.

To explain "Fast Chemistry With BNL's New LEAF," Senior Chemist John Miller, spokesperson of Chemistry's Thermal & Photochemical Reactions Group, will present the next Brookhaven Lecture. His talk will take place on Wednesday, March 15, at 4 p.m., in Berkner Hall, where Miller will be introduced by former



John Miller at LEAF

Roger Stoutenburg

Chemistry Department Chair Carol Creutz.

Miller will set the stage by describing LEAF, an electron accelerator inspired by the accelerator-development work ongoing within BNL's Accelerator

Test Facility of the Center for Accelerator Physics.

As the speaker will reveal, LEAF aims a short-pulsed titanium sapphire laser at an electron gun having a photocathode, a light-sensitive metal disk

that emits electrons from its surface when that is struck by the right wavelength of light. Electrons are liberated in 7 picosecond pulses, and this pulsed electron beam is then boosted to higher energy in a linear accelerator.

After giving that background, Miller will explain why using a laser accelerator such as LEAF is better than using a stand-alone laser or a conventional electron accelerator to examine not only electron transfer reactions, but also their inverse, or what are known as hole transfer reactions, and a host of other chemistry, including molecular manufacturing, or nanotechnology.

John Miller, Ph.D., came to Brookhaven from Argonne National Laboratory in September 1998 and was granted tenure in March 1999. At Argonne, Miller had used a linear accelerator to probe long-distance electron transfers, and he and his colleagues were attempting to couple an electron accelerator to an ultra-fast laser. Since LEAF is the outcome of such a marriage of technology, Cook moved to BNL to work with LEAF and the group developing and using it. Miller had earned his Ph.D. in physical chemistry from the University of Wisconsin at Madison in 1971.

To join the speaker for dinner after the lecture on Wednesday, March 15, at the Brookhaven Center, contact Sabrina Parrish, Ext. 4303.

— Marsha Belford

David Cox

(cont'd)

netic moments in countless materials, including one of the earliest oxide superconductors and many high-temperature superconductors.

Cox also recognized in the early 1980s, as the NSLS was being constructed, that synchrotron x-rays could be a powerful tool for powder diffraction work, and did seminal experiments to demonstrate its superior capabilities in comparison to then standard methods.

He went on to build and operate an extremely productive spectrometer for powder diffraction studies at the NSLS. This work depended greatly on his ability to get funding and forge collaborations with outside researchers, including scientists at Mobil, Dupont, Air Products, the Carnegie Institution as well as universities.

Through these efforts, Cox has been a leader in structure-property studies of zeolites (important catalysts in the oil industry), copper-oxide superconductors, giant magnetoresistance compounds, and Bucky-ball compounds. And in the midst of his growing X-ray career, Cox took time out to design the High Resolution Powder Diffractometer at the HFBR. He was tenured in 1987.

"Cox's achievements are recognized worldwide," said Physics Department Chair Michael Murtagh. "His efforts have made BNL a center of excellence in powder crystallography, and have brought in many important outside collaborators."

After 37 years, Cox retired from BNL this January. "We'll miss his talent, creativity, and dedication," Murtagh said. — Karen McNulty

Marshall Newton

(cont'd)

In the words of Carol Creutz, former Chemistry Department Chair, "Marshall's work guides both experimental and computational chemists in the exciting, continuing effort to predict and control electron transfer rates. He is highly deserving of this award."

Newton has used his theoretical and computational expertise to create new insights into the factors determining the dynamics of charge transfer processes in solution, that is, showing how the trade-offs between solvent dynamics and donor/acceptor electronic coupling play out in establishing the 'rate-determining step' in the reaction.

Newton carried out the first calculation of the strength of electronic coupling between transition metal complexes in two different oxidation states in aqueous solution, thereby shedding important light on a process examined in an early, pioneering experimental study carried out in BNL's Chemistry Department in 1952. His calculations provide the cornerstone for the now widely accepted conclusion that most outer-sphere electron-transfer reactions of metal complexes involve relatively weak electronic coupling of the metal centers, and these electron transfers entail only a marginal change in chemical energy.

One of the triumphs of 20th century chemistry is the understanding gained about the fundamental mechanisms of electron transfer reactions, which are crucial to many physical, chemical and biological processes, including photosynthesis, for example. Brookhaven chemists past and present have contributed significantly to this progress, and Newton's invaluable contributions to modeling in this field continue in his ongoing work.

Newton joined the Chemistry staff in 1969, as an associate chemist. He was granted tenure in 1975.

— Mona Rowe



For the past nine years, the Research Library Advisory Committee has provided advice and guidance to the Information Services Division (ISD). The group's primary responsibilities have been to help the Research Library tailor its collection to the needs of the Lab's users, revitalize the collection in those areas that reflect the Lab's research programs, and ensure the most cost-effective investment of Lab resources in information products and services.

In this photo, Gwyn Williams (third from left), the founding chair of the committee, receives a certificate of appreciation for his tenure. Mary White, ISD Manager expressed her thanks for "Gwyn's enthusiastic and constant support, and leadership in guiding the committee's decisions to ensure optimum use of our resources in support of the scientific staff."

Ben Burr, a long-standing member of the committee, will take over as chair for Williams. "Gwyn has done a terrific job as the charter chair of the advisory committee," Burr said. "Our challenges, in the near term, include maximizing electronic access and confronting budgetary constraints."

The committee includes: (from left) Ben Burr, Biology Department; Mary White; Gwyn Williams, National Synchrotron Light Source (NSLS) Department; David Welch, Energy Science & Technology Department; John Gatley, Medical Department; Steven Ehrlich, NSLS; Susan Sevian, Information Technology Division; Michael Blaskiewicz, Collider-Accelerator Department; Charles Springer, Chemistry Department; and Ruth Kempf, Nonproliferation & National Security Department. Not pictured is Robert Hackenburg, Physics Department.

Roger Stoutenburgh

Berman, Capel, Sweet (cont'd)

for the award because, under Sweet's guidance, they secured a five-year, \$8.3 million grant from the National Institutes of Health (NIH) National Center for Research Resources in 1998, matching the U.S. Department of Energy funding for this type of research at the NSLS.

The grant has allowed Berman, Capel, Sweet and others to develop new structural biology techniques, equipment, and software to be used at the five beam lines. It also allows for the hiring of new staff and the implementing of new research projects in structural biology.

Using x-ray crystallography at the structural biology facilities, scientists can determine the atomic structure of biological molecules, such as proteins, viruses and DNA complexes. From this information, they can learn about how these molecules function, which is important in understanding disease mechanisms, the immune system, and heredity.

The data are also used in pharmaceutical development and in the bioengineering of plants.

Recent discoveries at the five structural biology beam lines include images of part of the Lyme disease bacterium interacting with a part of the human immune system.

Also, landmark progress in understanding ribosome structure was reported in two papers in *Nature*. Capel was a collaborator in both ribosome research projects, and Sweet was a collaborator in one of them.

Berman first came to BNL as a student research assistant during the summer of 1980, while he was an undergraduate student at Cornell University. In 1987, he joined Brookhaven as an assistant scientist in the NSLS Department, and, two years later, he became an associate scientist. He was promoted to physicist in 1998.

Michael Hart, NSLS Chair, commented: "Lonny Berman has been in charge of the X-25 beam line since its inception. It is a world-class beam line, with an extraordinary record of performance. Lonny is also a key member of the construction team for our next NIH-funded NSLS project — building a structural biology station for NIH on beam line X6."

Capel came to Brookhaven in 1982 as a postdoctoral fellow at Yale University, and, in 1985, he was hired as an assistant biophysicist in the Biology Department. In 1987, he became an associate biophysicist, and he was promoted to Biophysicist in 1991.

Sweet was an assistant professor at the University of California at Los Angeles (UCLA), and a specialist in molecular biology at UCLA's Molecular Biology Institute before he joined Brookhaven's Biology Department as a scientist in 1983.

In nominating Sweet and Capel for this award, Carl Anderson, Biology Department Chair, said that Sweet's guidance was crucial, in collaboration with Capel and others, in obtaining the NIH five-year award for the NSLS structural biology facilities.

Anderson added that these facilities are currently the most productive in the world. Further, Anderson gave Sweet credit for developing beam line X12C, which, he said, "has become in many ways a gold standard for beam lines around the world, in both ease of use and quality of data collected."

Anderson further noted that Capel's "initial responsibilities were to complete a small-angle station at X12B, which had been designed and partly constructed by others before him. He substantially redesigned the station, developed software for controlling it, and produced an excellent facility, which is used by a wide variety of researchers." — Diane Greenberg

Pick a Student Today

Today, Friday, March 10, is the last day to review student applications for the Summer 2000 Energy Research Undergraduate Laboratory Fellowship (ERULF) program. Addresses and passwords to the electronic database containing the applications are available from the Office of Educational Programs (OEP), Bldg. 438, or from department education coordinators.

ERULF will run from June 5-August 11. OEP will pay for students' stipends and round-trip transportation. Sponsoring departments are asked to cost-share one month's housing for students who require it.

For more information, contact Louise Hanson, Ext. 5849 or hanson2@bnl.gov; or Catherine Osiecki, Ext. 4503 or cathyo@bnl.gov.

Laurence Littenberg

(cont'd)

Particles such as kaons decay into more stable components; each set of resulting components is called a decay mode. The rates of certain decay modes that occur very rarely are powerful indicators of underlying mechanisms of particle physics.

Murtagh lists two of Littenberg's contributions: his leadership as spokesperson of AGS experiment 787, a search for the rare kaon decay $K^+ \rightarrow \pi^+ \nu \bar{\nu}$; and, second, his theoretical study of the closely related process $K_L \rightarrow \pi^0 \nu \bar{\nu}$.

In October 1997, the E787 collaboration announced, after ten years of searching through the decays of 1.5 trillion particles, that they had seen a one-in-10-billion event: a positively charged kaon (K^+) disintegrate into a charged pion (π^+), a neutrino (ν) and an anti-neutrino ($\bar{\nu}$). That observation has provided new information for

HazWoper Training

The on-site PACE Union Local 1-431 has scheduled a free 40-hour Hazwoper course for BNL employees, contractors, and guests.

It will take place 8 a.m.-4:30 p.m. on March 13-17, in the training room of Bldg. 703.

To register, contact Lou Evers, evers@bnl.gov or Ext. 4417, or Steven Coleman, coleman@bnl.gov or Ext. 2760.

Arrivals & Departures

Arrivals

Antonio W. Chan Physics
Matt L. Cowan Biology
Zizhong Li Medical

Departures

Stephen H. Ellerd C-A
Martin J. Kelly Plant Eng.

the standard model, the theory of the most fundamental particles of matter and the forces that work upon them.

In related work, Littenberg evaluated the decay of a long kaon (K_L) into a neutral pion, a neutrino, and an anti-neutrino. In a paper, he has pointed out the unique importance of this decay for studying CP violation.

Discovered at BNL, CP violation, which has so far been observed only in neutral kaon decay, is postulated to be responsible for the excess of matter over antimatter in the universe.

Laurence Littenberg came to BNL in 1974, as an associate physicist. Named physicist in 1977, he was granted tenure in 1983 and promoted to his present position in 1989.

Now, as a spokesperson of AGS experiment 926, Littenberg is attempting to observe $K_L \rightarrow \pi^0 \nu \bar{\nu}$.

— Marsha Belford

Hospitality Committee

The Hospitality Committee invites all on-site residents, their spouses and friends to join in the following events, which will all be held in the newly refurbished Recreation Building in the apartment area. More details are posted in the laundry and on the Recreation Building door.

Welcome Coffee

Coffee is served to apartment area residents every Tuesday, from 10 a.m. to 11:30 a.m., in the lounge. Newcomers are especially welcome to meet new friends and learn about life at the Lab. On the last Tuesday of the month, bring food and the recipe to share. For more information, call Mimi Luccio, 521-2602.

Parent-Toddler Group

Parents of two- and three-year-olds are invited to bring the children every Wednesday, 9:30-11:30 a.m. For more information, call Sarah Zill, 821-2602.

Family Pot Luck Supper

Bring the family and a dish to share at a pot luck supper on Friday, March 31, at 6 p.m. Plates and soft drinks will be supplied. For information, call Vicky Chang, Ext. 1000.

Equipment Demos

On **Tuesday, March 14**, 10 a.m.-2 p.m. in Berkner Hall, **CTP Wireless** will discuss the AT&T corporate cellular rate that it offers BNLers.

Service plans include one with airtime rates of 20 cents per minute and 40 minutes of airtime at \$19.99 per month, 20 percent off airtime charges, and unlimited off-peak airtime for an additional \$4.99 per month. Free features include a digital phone with limited-time bonus \$30 rebate, caller ID, voice mail with notification, numeric paging, and self-dispatch alphanumeric numbering. For more information, call Dennis Lamm, 585-2900.

On **Wednesday, March 15**, 10 a.m.-2:30 p.m., **Exphil Calibration Labs** will host a product demonstration in Berkner Hall lobby. Products and literature from Tektronix, Hewlett Packard, Fluke, LeCroy, AEMC, Rustrak, Exttech, Pamona, Yokogawa and Huntron will be available.

A Tektronix salesman will answer questions and demonstrate company products. For more information, call Gary Kruger, 563-3520.

On **Thursday, March 16**, 10 a.m.-2:30 p.m., in Berkner Hall, **Omni-point Communications** will discuss special rates for BNLers buying digital PCS wireless services on Omni-point's GSM network. All service plans offer free caller ID, voice mail, SMS messaging, and FOX News headlines. Plans include \$15.99 monthly with free phone, no minutes or contract; or \$16.99 monthly for 40 minutes; or \$26.99 monthly for 250 minutes, with unlimited weekend calling for the year of the contract. Other options are special international calling and roaming. Call Richard Goll, 343-5900.



Roger Stoutenburgh

BNL Volunteers Help Scouts Achieve Badges

Using radiation sources such as a glazed dish, a smoke detector, a lantern, and beach sand, which contain no more radiation than that found in the home or natural surroundings, Buzz Rundlett (right), a health physicist in the Safety & Health Services Division, shows Boy Scouts how the counts per minute change as a radiation source gets closer to a Geiger counter. Rundlett is one of the BNL volunteers who have been helping scouts fulfill the requirements of the Atomic Energy Merit Badge. The Boy Scouts of America merit badge program challenges youth to explore more than 100 fields of skill and knowledge, and, in qualifying for the Atomic En-

ergy Merit Badge, scouts learn about radiation, important for future studies in physics, chemistry, or medicine. BNL's unique facilities and the expertise of Lab volunteers have enabled the scouts to achieve this badge in an intense, one-day session. The effort was organized as part of the Ambassador Program in BNL's Community Involvement, Government, & Public Affairs Division, first at the Science & Environmental Fair on October 16, 1999, and, more recently, on March 4 of this year. As a result, local scouts have achieved a total of 173 Atomic Energy Merit Badges — and approximately 50 more scouts are on a waiting list for the next BNL program.

Lab volunteers who have made this program possible include: Peter Bond, Physics; Linda Cavaliere, Medical; Andrea Epple, Radiation Control; Charles Finfrock, Environmental Sciences (ES); Mark Fuhrmann, ES; Kathleen Geiger, Community Involvement, Government & Public Affairs (CIGPA); Tim Green, Environmental Services; Howard Gordon, Physics; Martin Kramer, BNL retiree; Joseph Indusi, Nonproliferation & National Security; William Lehman, BNL retiree; Bill Leonhardt, Physics; Derek Lowenstein, Collider-Accelerator (C-A); Elaine Lowenstein, CIGPA; Kenneth Mohring, Administrative Support; Michael Renhack C-A; Thomas Roser, C-A; Todd Satogata, C-A; John Searing, Director's Office; Joseph Sheehan, National Synchrotron Light Source; Joseph Skelly, C-A; Karl Swyler, CIGPA; and Craig Woody, Physics.

Wanted: Parent Volunteers

The Lab will this year again offer a "Take Our Daughters to Work" day, on Thursday, April 27, and volunteers with new ideas are needed for an organizing committee. To give your help, contact the event's coordinator, Susan Foster, Human Resources Division, at Ext. 2888 or foster2@bnl.gov.

Celebrating Women's History Month

BNL's Women's Program Advisory Committee (WPAC) announces the following events to celebrate March as women's history month:

"American Women and the Census — Women's Work Counts"

Berkner Hall lobby display of posters provided by the U.S. Department of Labor. A new display will be shown each week.

"Women and the Census"

Tuesday, March 14, Berkner Hall, Room B, noon.

At the invitation of WPAC, Geraldine Sheridan, U.S. Commerce Department, will discuss how women's responses to the census shape government services and programs.

"Surviving—Is Thriving Possible? The Challenge of Motherhood & Career"

Tuesday, March 21 and Tuesday, March 28
Medical Department Small Conference Room, noon.

Facilitated discussions on motherhood and careers will be sponsored by Dianne Polowczyk, Employee Assistance Program; and Mary Wood, Health Promotion Program. Preregistration is necessary as space is limited. Call Wood, Ext. 5923.

Gertrude S. Goldhaber Prize

Wednesday, March 22, Physics Seminar Room, 3:30 p.m.

Brookhaven Women in Science will present the annual Gertrude S. Goldhaber Prize, won this year by Diana Vaman, a State University of New York at Stony Brook Ph.D. candidate. The ceremony will begin with a seminar by Vaman on "Consistent Truncations of 11 Dimensional Supergravity to 7 Dimensional Supergravity Theories." Refreshments will follow.

Book Raffle

WPAC will hold a weekly raffle for one of the following books: *Women Who Have Changed the World*, *100 Most Important Women of the 20th Century*, and *A Century of Women*. Free raffle tickets are available at the display in Berkner Hall Lobby.

Clothing Drive Alert

WPAC will participate in Brookhaven Town's "Dress for Success" program, which provides work-related clothing to low-income women seeking a job. On-site collection dates are tentatively scheduled for April 17-19. More details will appear later.

Operatic Preview Wednesday at Noon

At noon on Wednesday, March 15, in Berkner Hall, the Stony Brook Opera Ensemble will present a preview of three one-act operas. The operas will be sung at Stony Brook on April 7 and 9 in full productions with orchestra.

At Berkner, the scenes will be semi-staged and accompanied by piano. The program will be conducted by David Lawton and staged by John Lutterbie, chairs of the Music and of the Theatre Arts Departments at the State University of New York at Stony Brook. The program will include scenes from *Bastien und Bastienne*, a comedy by the twelve-year old genius Mozart; Rimsky-Korsakov's *Mozart and Salieri*; and *Mavra*, which is based upon a poem by Pushkin. Lunchtime recitals are free and open to the public. Come and go as time permits.

Four Nominated to Run For the BERA Board

The BERA Nominating Committee has selected the following slate of candidates for the 2000 BERA Board election: Nancy Concadora, Human Resources Division; Thomas Dilgen, Collider-Accelerator Department; Patrick Moylan, Reactor Division; and Laurie Pearl, Information Technology Division.

From March 27 through March 31, all eligible BERA members, including all employees of BNL, BSA, DOE, and all other permanent on-site employees may cast their ballots to elect two of the four candidates to serve on the BERA Executive Board.

Look for more about the candidates and the election in future Bulletins.

March Into May

March Into May, a ten-week physical activity program, is designed to help everyone, regardless of fitness or activity level. Participants who sign up through the Health Promotion Program should receive a questionnaire and daily activity record from a contact person in their area.

Participants set personal goals for moderate or vigorous exercise, then check off points on the activity chart. One point is earned for 10 minutes of exercise, the point goal for a week being at least 10.

Last year, 328 employees participated in March into May, and 262 participants reached their personal goals. Some reported life-style changes such as: increased energy, better control over weight, better concentration and handling of stress, and being more productive on the job.

Two drawings for prizes will be held: for those who participate and those who complete their 10-week activity chart. Complete the form on the flyer sent around Lab-wide last week and return it to Health Promotion Specialist Mary Wood, Ext. 5923, Bldg. 490, by Wednesday, March 15.

Computing Corner

The Information Technology Division (ITD) is scheduling the following classes in March:

date	class	time
3/27-31	Introduction to UNIX	8 a.m.-noon
3/27-31	Perl Programming	1-5 p.m.

The training fee is \$550 for each class. To register, send an ILR for the appropriate amount to Pam Mansfield, Bldg. 515, by Tuesday, March 21. ITD is also planning a class in LabVIEW. For more information and other class schedules visit the ITD training page at www.itd.bnl.gov/bnl/training or contact Mansfield, Ext. 7286 or pam@bnl.gov.

BROOKHAVEN BULLETIN

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LIZ SEUBERT, editor
PETER GENZER, DIANE GREENBERG,
KAREN MCNULTY, contributors
ROGER STOUTENBURGH, photographer

Bldg. 134, P.O. Box 5000 Upton NY 11973-5000
phone (631) 344-2345, fax (631) 344-3368, e-mail
bulletin@bnl.gov

On the World Wide Web, the Brookhaven Bulletin is located at www.pubaf.bnl.gov/bulletin.html. A Weekly Calendar listing scientific and technical seminars and lectures is found at www.pubaf.bnl.gov/calendar.html.

Buy Daffodils for Pickup 3/30, 31

To celebrate the coming of spring and to benefit the American Cancer Society, reserve a daffodil bouquet now, at \$6 each, during BERA's annual daffodil sale.

To reserve a bouquet, stop by the BERA Sales Office in Berkner Hall, Monday through Friday, 9 a.m. to 1:30 p.m. Reserved bouquets may be picked up there on Thursday or Friday, March 30 or 31. Extra bunches of daffodils will be on sale Thursday, March 30, from 11:30 a.m. to 1 p.m. in the lobby of Berkner Hall.

For more information, call Andrea Dehler, Ext. 3347.

Coming Up in Berkner

Sponsored by the Brookhaven Retired Employees Association, retiree Eric Forsyth will present a talk and video on his recent journey to Antarctica in his sailboat *Fiona*. The talk will be held on Tuesday, March 28, at 4:30 p.m. in Berkner Hall. All are welcome.

Garman Harbottle, Chemistry Department, will give a BSA Distinguished Lecture on "The Origins of Chinese Civilization: Recent Archeological Discoveries," on Wednesday, March 29, at 4 p.m. in Berkner Hall.

Harbottle was part of a research team that analyzed artifacts, including a flute that might be the world's oldest playable musical instrument, from the early neolithic site of Wuyang Jiahu, in the Henan Province, China.

Batter Up!!!

For more information, contact softball@bnl.gov.

BERA Softball Y2K

Spring is just around the corner and it's time to think about the BERA Softball season. BNL employees and their spouses are eligible. Consider joining a team or starting your own. Or, for the first time this year, join the players' pool for the different leagues.

Beginners through experienced players, women and men are welcome. Join the fun, and meet new people!

Softball Captains' Meeting 3/15

Softball captains are invited to the first meeting of the Y2K pre-season, next Wednesday, March 15, in Room B, Berkner Hall. There, the balance of dues will be collected, and a league structure will be established so schedules can be determined.

Atlantic City Trip 4/29

The next BERA-sponsored, one-day trip to Atlantic City will be on Saturday, April 29, at an initial cost of \$25 per person. The name of the hotel-casino and the amount of the coin return will be announced later.

The bus will leave the Brookhaven Center at 8 a.m. Free movies, games, and rolls or donuts will be on board; bring your own juice and coffee. After a seven-hour stay in Atlantic City, the bus will return around 11 p.m.

Buy tickets now at the BERA Sales Office in Berkner Hall, weekdays, 9 a.m. to 1:30 p.m. For more information, call Andrea Dehler, Ext. 3347, or M. Kay Dellimore, Ext. 2873.

Tread Softly

The Safety Shoe Office, Bldg. T88, will be closed on March 20-21. The office will reopen on March 23.

Volleyball

League standings as of March 3

Open League A	Mixed League 2
Drilling&Ex. Co. 38 - 10	Safe Sets 45 - 6
StarkCany&Thow 30 - 18	Spiked Jello 40 - 14
Far Side 18 - 30	Up-Setters 37 - 17
Death Volley 10 - 38	Inside Out 34 - 23
Open League B	Nuts & Bolts 18 - 36
Late Entry 36 - 12	Group Sets 13 - 44
Bumpin Ugliers 33 - 15	Setups 5 - 52
Mon. Nite Live 19 - 29	
The Stars 8 - 40	Mixed League 3
Mixed League 1	Six Samurai 40 - 8
I Want Your Sets 34 - 14	Upton Ups 36 - 12
Set To Kill 30 - 18	Net Setters 24 - 24
Scared Hitless 17 - 31	NWO 23 - 25
Rude Dogs 15 - 33	Net Workers 16 - 32

Reserve by Monday To Ski BERA 3/22

Reserve your place by Monday, March 13, for the BERA-sponsored ski trip on Wednesday, March 22, to Brodie Mountain ski resort in Ashford, Massachusetts. The cost of \$45 per person includes bus and lift tickets. A restricted new-skier package is available for \$55 per person.

The bus will leave from the BNL tennis-court parking lot at 5 a.m. and return around 9 p.m. Pay for the trip at the BERA Sales Office, Berkner Hall, 9 a.m. to 1:30 p.m. For more information, call Andrea Dehler, Ext. 3347, or Bob Marascia, Ext. 7779.

Defensive Driving

A six-hour defensive driving course will be offered on Saturday, March 18, 9 a.m.-3:30 p.m., in Room B, Berkner Hall. Completing the course entitles participants to a 10-percent discount on vehicle collision and liability insurance for three years, and to have up to four points deducted from their driving records if incurred during the 18 months before completing the course.

To register, send a check for \$23/person, made payable to Empire Safety Council, to Scott Zambelli, Empire Safety Council, P.O. Box 670, Mount Sinai, NY 11766. Checks must be received by Tuesday, March 14. For information, call Zambelli, 582-6544, Ext. 5877 (not the on-site Ext. 5877).

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 in Queen on Tuesday, September 5.

The 49-seat bus will leave from the tennis-court parking lot at 8:30 a.m., with a pick up at the LIE exit 63 park & ride. After the day's session, the bus will leave the National Tennis Center at 7:30 p.m.

The per-person cost of \$60 includes the day-session ticket, which is now \$43, and the bus fare, including a tip for the driver. Paid reservations, in checks made payable to BERA, are being taken at the BERA Sales Office, weekdays, 9 a.m. to 1:30 p.m.

Basketball

Scores from games on March 2

Heavers 83	Magic 40
Seth LeGrand 40	Tracy Fountaine 11
Steve Jao 16	Jan Chaloupka 8
Reggie Sanchez 15	Hector Machado 6
Tim Powers 6	Shane Stadier 6
Marlin McAvoy 4	Mitch Williams 5
Al Boerner 2	Mike Grodzki 2
	Mike Mallardi 2

Three-point shots: Machado (2), Stadier (2), Chaloupka, Powers, Sanchez, Williams.

Bombers 60 Wizards 50

Doug Aichroth 14	Jerry Gaeta 13
Brian Hobson 13	Chris Ingoglia 12
Troy Mayo 13	Dorian Mergen 9
Don Davis 9	Jim Garrison 7
Pete Ratzke 9	Steve Springston 6
Pat Moylan 2	Charlie Edwards 3
Sean Baugh 0	

Three-point shots: Gaeta (3), Garrison, Ingoglia, Mayo (2), Aichroth, Hobson.



LABORATORY RECRUITMENT - Opportunities for Laboratory Employees.

DD8614. ADMINISTRATIVE POSITION - A bachelor's degree in business and or equivalent BNL experience is desirable; excellent oral and written communication skills are required. Should be familiar with Laboratory systems and knowledgeable in the use of

personal computers and software, specifically Excel, Word and PeopleSoft. Responsibilities will include the budgeting of construction and miscellaneous operating accounts, and other administrative functions as assigned. National Synchrotron Light Source Department.

OPEN RECRUITMENT - Opportunities for Laboratory Employees and Outside Candidates.

NS8661. DEPUTY DEPARTMENT ADMINISTRATIVE MANAGER - Requires a bachelor's degree in accounting or business administration, advanced degree preferred, excellent written and oral communication skills, prior supervisory experience, and proficiency in Excel and other MS Office products as well as experience with PeopleSoft. In addition, requires extensive administrative experience which should include financial performance, coordination of program funding, grant preparation, and financial reporting and control. Will assist in the overall management for the Life Sciences Directorate administrative business activities including budget, personnel and procurement. Biology Department/Life Sciences Directorate.

NS8530. COMPUTER ANALYST POSITION - Requires an advanced degree or equivalent experience in computer science, physics, or related field and several years' experience in developing C++/Java applications in a client-server environment. Strong OOD/OOP background, analytical and communication skills are required; experience with CORBA technology, Java Enterprise Edition (J2EE) environment, and Java integrated development environment (IDE) is highly desirable; experience in a scientific environment is preferable. SNS Project/Collider-Accelerator Department.

NS8529. COMPUTER ANALYST POSITION - Requires a BS in computer science, physics or related field with several years' experience developing C++/Java applications. Good analytical and communication skills are required; experience in a scientific environment is preferable. Experience in user interface application software development, Swing, JavaBeans, JavaServer Pages, and Java integrated development environment (IDE) is highly desirable. SNS Project/Collider-Accelerator Department

DD8604. SENIOR STATIONARY ENGINEER - Under minimum supervision operates, maintains and repairs any heat generation equipment, facilities, and auxiliary and related equipment. May be required to assign, direct, or check the work of other personnel in connection with assigned responsibilities. Plant Engineering Division.