

353rd Brookhaven Lecture

Genes to Improve the Quality of Cotton Fiber

The U.S. cotton industry is faced with a problem of declining cotton-fiber quality. Most cotton fiber produced is shorter, coarser and, to some extent, weaker than in the past.

In part, this is because cotton growers are only paid for yield. As a result, breeding for fiber quality has reached a plateau.

To fulfill this need and to enhance conventional plant breeding, researchers in BNL's Biology Department are discovering key genes and learning how to manipulate their fiber length, strength, and thickness.

Benjamin Burr, a senior geneticist in Biology, will speak on "A Genetic Approach to Cotton-Fiber Quality" during the 353rd Brookhaven Lecture. Burr will give the lecture in Berkner Hall on Wednesday, April 26, at 4 p.m., after being introduced by Carl Anderson, Biology Department Chair.

As Burr will relate, his group's first task was to learn which genes are involved in cotton fiber and how these genes are regulated. To date, these BNL researchers have described the partial sequences of some 5,400 unique genes for the fiber. Burr will explain the technology that the team used to learn which of these genes are specific to fibers.

Burr will also describe how the



Joseph Rubino

Benjamin Burr

small weed, *Arabidopsis*, was used to provide a model system to test cotton-fiber genes. The results of these and other developments to improve quality can help the cotton and textile industries and, since the U.S. is a major cotton grower and manufacturer, they may significantly boost the national economy.

Benjamin Burr earned his Ph.D. at the University of California at Berkeley and did postdoctoral work at the University of Wisconsin and the

Institut Pasteur in Paris. He joined the Biology Department in 1976. He and his colleague, Frances Burr, have worked in corn genetics for many years, during which time their emphasis has been on transposable elements, gene regulation and gene mapping. For the last ten years, Ben Burr has served on the Scientific Advisory Committee for Rockefeller Foundation's Rice Biotechnology Program, and he is currently the coordinator for the International Rice Genome Sequencing Project.

Burr Comments On Rice Genome

Employees listening to National Public Radio earlier this month might have heard Ben Burr on the airwaves.

Because of his relationship with the Rockefeller Foundation's rice biotechnology program (see lecture article), Burr was called on for expert comment when Monsanto announced on April 4 its public release of a rough draft sequence of much of the rice genome.

Rice is a major part of the diet for half of the world's population. "With dwindling land and water resources, as well as increasing population," says Burr, "we are in a race to increase rice production."

Conventional breeding, still the primary means by which crops are improved, involves knowing where genes are located and where new genetic variation can be found. If plant breeders know the complete sequence, they can accurately correlate genes with traits and search for novel variants.

Also, since the rice genome shares common gene alignments with other cereal grasses, what is learned about the rice genome can be applied to corn and wheat improvement.

Through his affiliation with Rockefeller, Burr coordinates the International Rice Genome Sequencing Project, which is composed of ten member countries, including the U.S. For more information on this effort, go to www.staff.or.jp/Seqcollab.html.

Monsanto undertook sequencing the rice genome in support of its ongoing crop research and development programs. The company has made its data available to the international consortium, as well as to outside researchers.

Positrons May Lead to Sensitive Paint-Durability Test



Roger Soutenburgh

Bent Nielsen

Painting a bridge can be a costly and time-consuming undertaking, especially if the paint job does not last. So scientists such as Bent Nielsen, formerly of BNL's Department of Applied Science and now a visiting scientist in the Physics Department, have been working on ways to test paint durability before the brushes even get wet.

In collaboration with Jerry Jean and others at the University of Missouri at Kansas City, Nielsen has developed a way to use positrons to probe the molecular structure of paints. Findings from this research, which could

lead to a quick, sensitive test for paint durability, were presented last month at the American Physical Society meeting in Minneapolis.

The technique Nielsen uses is called positron annihilation.

Essentially, the scientists bombard small painted samples of metal with a beam of positrons, or positively charged electrons. When these "anti-electrons" interact with the electrons in the molecules of the paint, they annihilate, sending out gamma rays that give the scientists information about the molecules in the paint.

The technique detects nanometer-

Annual NSLS Users' Meeting, May 22-24

Registration is due by April 30 for the National Synchrotron Light Source (NSLS) 2000 Annual Users' Meeting and Workshops, which will be held on May 22-24.

As usual, the annual meeting will include invited speakers, contributed posters and contest, and an exhibition of equipment.

First, on Monday, May 22, two workshops will be held: one on environmental and geological sciences, and another on XAFS studies of dilute systems.

Then on Tuesday, May 23, at the users' meeting, the keynote speaker will be Arthur Bienenstock, the Associate Director for Science in the Office of Science & Technology Policy, while the scientific highlight speaker will be Janos Hajdu of Uppsala University, Sweden.

On Wednesday, May 24, three more workshops will be given: very bright infrared sources and applications; new approaches to solving protein crystal structures; and chemical applications of synchrotron radiation.

Information on the conference and registration fee schedule is available from www.nsls.bnl.gov/; or from Linda Feierabend, conference coordinator, phone Ext. 5763 or fax Ext. 7206.

A late fee of \$25 will be charged on registrations received after April 30.

scale holes and defects in the paint molecules; free radicals, which indicate the presence of broken chemical bonds; and cross linking, which may make the paint brittle.

Nielsen says, "These experiments show that this technique is extremely useful in detecting damage early," well before the formation of any visible cracks in the paint.

The scientists typically test the paint samples before and after exposure to ultraviolet (UV) light, one of the components of sunlight known to damage bridge coatings.

The more sensitive the paint is to UV damage, the less durable the paint would be on a bridge exposed to sunlight day after day.

They have also exposed samples to UV light during the positron annihilation test to see if they could detect the damage as it occurred. In both cases, the damage increased with UV exposure time, and was most severe near the surface of the paint.

In addition to laying the foundation for a quick paint durability test, the detailed observations made possible by positron annihilation may also help scientists learn more about the fundamental mechanisms of paint degradation. That knowledge, in turn, may eventually lead to the development of more durable paints.

— Karen McNulty

BNL Web Update

On Tuesday, April 18, the Community Involvement, Government & Public Affairs Directorate unveiled a redesigned World Wide Web site for the Lab, featuring a new look and a new, user-friendly organization designed to help WWW users worldwide find the information they need about Brookhaven quickly.

To view the new pages, go to www.bnl.gov.

The updated pages incorporate the Lab's new logo and graphic identity, and they include a search engine and navigation bar to simplify moving around the Lab's estimated 500,000 pages.

Soil Excavation Begins Next Week

Recently, several sections of lawn around the Lab — including areas near the Brookhaven Center, the Chemistry and Medical Department buildings, and other locations — were roped off in preparation for the removal of landscaping soils that have low levels of cesium. Over the next three weeks, these areas will be excavated as part of the Lab's environmental restoration. During the digging, monitoring will be conducted to ensure the continued safety of on-site employees and visitors. Once the removal of the contaminant is verified, the soil will be replaced and reseeded. For more information, go to www.oer.dir.bnl.gov, or call Ken White, Ext. 4423.

IBEW Meeting

Local 2230, IBEW, will hold its regular monthly meeting on Monday, April 24, at 6 p.m. in the Knights of Columbus Hall, Railroad Avenue, Patchogue. There will be a meeting for shift workers at 3 p.m. at the union office. The agenda includes regular business, committee reports and the president's report.

Bowling

Purple & White League – April 6

P. Callegari 217/180, G. Mehl 215/181, J. Addressi 204/188, E. Sperry IV 210, E. Mamay 210, P. Wynkoop 222, C. Holstrom 202, D. Keating 193, K. Batchelor 190, G. Diamantis 182, P. Kennedy 181, K. Dilgen 178, A. Wynkoop 176, T. Mehl 175, K. Kryger 173, L. Simes 172.

Red & Green League – April 4

E. Larsen 277/238/208/723 scratch series, R. Deem 244/200/617 scratch, M. Meier 243/238/678 scratch, J. McCaffrey 237/219/621 scratch, A. Pinelli 220/208/619 scratch, R. Mulderig Jr. 214/202, M. Grau 249, R. Mulderig Sr. 244, D. Schiappa 225, W. Rasmussen 222, G. Miltenberger 211, F. Wahlert 202, N. Besemer 201, H. Dawson 200.

HFBR
Inventory
Available

Due to the permanent shut down of the High Flux Beam Reactor, many spare parts and miscellaneous inventory components are available for the possible use in other BNL departments and divisions. Items range from 400 HP motors to O-rings.

Call the Reactor Division's Material Coordinator, Ray LoPresti, Ext. 5755, to arrange a time to review these materials, which will be transferred in accordance with BNL policies.

BERA Bus Trips

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

To Atlantic City, 4/29

There are still seats available on the next BERA-sponsored, one-day trip to the Resorts hotel/casino in Atlantic City, on Saturday, April 29. The initial cost is \$25 per person, but the casino-hotel offers a \$14 coin return.

The bus will leave the Brookhaven Center at 8 a.m., with an extra pickup at LIE Exit 63 if requested. As usual, there will be free movies, games, and rolls or donuts on board; bring your own juice and coffee. After a seven-hour stay in Atlantic City, the bus will return around 11 p.m.

To Yankee Stadium, 5/5

On Friday, May 5, BERA is going to Yankee Stadium in the Bronx, to see the New York Yankees play the Baltimore Orioles. During the game, "Welcome BERA/BNL employees" will be posted on the scoreboard.

The cost of \$49 per person includes admission and transportation on a fully equipped bus. Participants are to arrive at the Brookhaven Center by 4:15 p.m. The bus will leave promptly at 4:30 p.m. for the 7 p.m. game, and will leave the stadium at approximately 10:30 p.m. after the game to return to the Lab.

ISM Awareness

Here is the fifth of eight sets of general questions that all BNL managers, supervisors and staff should be prepared to answer during DOE's Integrated Safety Management (ISM) verification, May 1-14:

- **Managers/Supervisors:** How do you determine whether you can be more effective or efficient in ensuring that your staff works safely?
- **Staff:** How do you inform your manager/supervisor of the ways that you see to do your work safer or better? Have you ever done that? What was the result?

In answering these questions, reference self-assessment and staff feedback activities associated with ESH Standards 1.3.5 and 1.3.6. In addition, suggest soliciting suggestions from staff as a way of obtaining this information. For more information, contact Doug Ports at Ext. 2262 or ports1@bnl.gov.

On-Site Service Station Replaces Windshields

The on-site service station, Upton Industries, Inc. can now replace windshields, and all insurance is accepted. For more information, call Ext. 4034.

Basketball

Scores from games on March 30

Heavers 90		Magic 61	
Seth LeGrand	29	Terry Buck	22
Al Boerner	17	Tracy Fountaine	8
Steve Jao	14	Mike Mallardi	8
Reggie Sanchez	14	Mitch Williams	8
Tim Powers	10	Hector Machado	6
Marlin McAvoy	6	Jan Chaloupka	5
		Mike Glodzik	2
		Rusty Towell	2
<i>Three-point shots:</i> Buck, Machado, Mallardi, Williams (2), Boerner, Chaloupka, Sanchez.			
Bombers 67		Wizards 57	
Brian Hobson	17	Chris Ingoglia	18
Troy Mayo	17	Jerry Gaeta	14
Doug Aichroth	14	Charlie Edwards	11
Jim Rank	9	Chris Fockenber	6
Don Davis	4	Dorian Mergen	6
Pete Ratzke	4	Jim Garrison	2
Gerry Shepherd	2		

Three-point shots: Hobson (5), Gaeta, Ingoglia (4), Rank (3), Mayo (2), Edwards.

PPM Update

Express Deliveries

As stated in a recent Monday Memo, the Procurement & Property Management (PPM) Division has been seeking ways to expedite express-service deliveries to on-site customers while ensuring on-site safety.

As part of this effort, drivers for Airborne Express, FedEx, and UPS have been given BNL's General Employee Training. These drivers are now authorized to deliver express mail and packages directly to the addressee. Deliveries are made to the addressee's room, except when that is located in a controlled area or when otherwise directed by a department, division or office. All non-express deliveries will continue to be made to T-89 or other authorized receiving locations, from where they will be distributed by PPM personnel.

Inventory Matters

As a result of the retirement of PPM's John Scharpeger, those wishing to discuss inventory matters should consult with Ron Ondrovic, Ext. 4553, or Roseann Callister, Ext. 3142.

Computing Corner

The following PC training classes have been scheduled for May:

date	class	level
5/3	PowerPoint	beginner
5/5	Outlook	
5/8	Excel	beginner
5/10&12	Access	beginner
5/15	Word	beginner
5/19	Word	intermediate
5/22	Word	intermediate
5/23	PowerPoint	intermediate
5/24&25	Access	intermediate
5/25&26	Word	advanced

To register for the classes above or to request future classes, submit a training request form and an ILR for the appropriate amount to Pam Mansfield, Bldg. 515. Classes are scheduled based on the number of requests received. See the ITD training page at www.itd.bnl.gov/bnl/training for registration information and course schedules. For more information, contact Mansfield, Ext. 7286 or pam@bnl.gov.

Hospitality News

All Lab guests and their spouses are invited to take part in the following activities. Details are posted in the laundry room in the apartment area and on the door of the Recreation Building. For more information, call Hospitality Chair Susan Hart, 821-4257.

Easter Egg Hunt

A children's Easter Egg Hunt will be held at 10 a.m. tomorrow, Saturday, April 22, at the Recreation Building. To enter your child, bring about 12 eggs 15 minutes before the hunt begins.

Manhattan Bus Trip

On Saturday, April 29, at 9 a.m., a bus bound for Manhattan will leave from the lollipop house in the apartment area. All employees and guests, and their families and friends are welcome to join the trip. The cost is \$8 per person. To make reservations, call Monique de la Bey, 399-7656.

Welcome Coffee

Every Tuesday, at 10-11:30 a.m., in the Recreation Building lounge, newcomers to BNL are invited to find out about life at the Lab and make new friends. At the meeting on April 11, come to share food and recipes. Call Mimi Luccio, 821-1435, for details.

Parent-Toddler Group

Parents and small children are invited to enjoy the chat and play in the Recreation Hall on Wednesday mornings, 9:30-11:30 a.m. For more information, call Sarah Zill, 821-2602.

Heightening On-Site Security Awareness

In light of a recent communique from the U.S. Joint Terrorist Task Force, warning of possible terrorist acts against domestic U.S. targets, BNL's Safeguards & Security Division (S&SD) is heightening site-wide security awareness. In addition to the measures being implemented by S&SD itself, the division requests that the BNL community heighten its security awareness, as explained below.

In particular, S&SD requests, if any of the following is observed, that it be reported to S&SD Police Headquarters, Ext. 2238:

- suspicious persons, particularly those carrying suitcases or other containers, or those who are observed taking photographs of or asking questions about site operations and/or security measures.
- unidentified vehicles parked in unusual locations and/or operated in a suspicious manner on or near the site.
- any other activity that seems non-routine.

In addition, S&SD asks employees to inspect their individual mail for strange or unsolicited items. Before handling or opening suspicious mail, report it to the Police Group, Ext. 2238, for evaluation. Finally, lock all vehicles parked on site when not in use, and inspect them before entering.

Over the next several months, the Police Group will conduct on-site training drills and exercises, some of which will involve various outside law-enforcement agencies. While these are scheduled events, if you are unsure of any activity, including what may be part of a drill or exercise, then please report it to S&SD, Ext. 2238.

Cell Phone Demo

On Thursday, April 27, from 10 a.m. to 2:30 p.m., representatives from Omnipoint Communications will be in Berkner Hall to discuss special rates for BNLers on digital PCS wireless services on the GSM network. All service plans include free features, such as caller ID, voice mail, SMS messaging, and FOX news headlines. The cost of service plans begins at \$15.99 per month with a free phone, no minutes and no contract. For \$16.99 per month, the plan includes 40 minutes; for \$26.99, the plan includes 250 minutes and unlimited weekend calling for the contract's full year. International calling and roaming options and more are available. For more information, call Richard Goll, (516) 343-5900.

Arrivals & Departures

Arrivals

Peter L. Ferrara Fin. Services
Jason A. Howitt Biology
Catherine A. Thomlinson... Info. Serv.
Daniel V. Wilson Collider-Accel.

Departures

Jeffrey Aspenleiter NSLS

**BROOKHAVEN
BULLETIN**

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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.

Thanks to BNL Employees, Community Enjoys Fall Science Festival, Spring Earth Day Celebration

Last fall, during BNL's Festival of Science & the Environment on October 16, thousands of Long Islanders enjoyed activities, exhibits and facility tours.

As this picture and the ones below show, it was a fun day for all, thanks to the hundred or so BNLers who had volunteered their time to prepare for the event and help out that day.

To celebrate the 30th anniversary of Earth Day this year, the Lab's Environmental Services Division, with help from the Community Relations Office, organized a series of events this week, many of them open to the public.

Once again, all the employees who lent a hand with the activities made BNL's Earth Day possible. The final Earth Day activities are tomorrow, Saturday, April 22, as follows:

- Four-mile race: 10 a.m., preregistration required 7:30-9:30 a.m., course on trails in the BNL Pine Barrens, forms available at http://www.esd.bnl.gov/esd/earth_run.html.
- Fun run: 11 a.m., for children 12 and under, participants get a tree to take home and plant.
- Activities for children: face painting, a recycling race, and pinecone birdfeeder making.
- Mountaineering slide show: 1 p.m.; Berkner Hall, Douglas Zimmerman on alpine mountaineering in Peru.

Photos on this page by Roger Stouteburgh



Service Awards

The following employees celebrated service anniversaries in January:

35 Years
Joseph R. Klemish Rad. Control
Wayne A. Rasmussen NSLS
Ronald M. Yuhas Info. Tech.

25 Years
Dennis G. Carlson NSLS
R. Bruce Klemm App. Science
Mow S. Lin App. Science
Brian R. Oerter Collider-Accel.
Stephen J. Pendola PPM
Frank A. Perez App. Science

20 Years
James M. Alduino Collider-Accel.
Charles C. Finfrock Adv. Tech.
Ady Hershcovitch Collider-Accel.
John H. Klug NSLS
Michael L. Palumbo Cent. Shops
R. Kenneth Reece Collider-Accel.
Peter F. Stelmaschuk Plant Eng.
Phyllis L. Tinsley-Smith Biology
Mark F. Walker Cent. Shops
Gary M. Zukas Reactor

10 Years
Stephen L. Kramer NSLS
Peter C. Kwaschyn Waste Manage.
Eileen C. Matz Biology
Michael R. Pankowski Reactor
Ernest L. Tucker Saf. & Health Serv.
Vladimir Zajic Collider-Accel.

The following employees celebrated service anniversaries in February:

35 Years
Y. Renee Flack OEP
Joseph F. Gatz Rad. Control

30 Years
Elaine Taylor Superc. Magnet

25 Years
Carl W. Anderson Biology
Sydell Lamb Biology
George T. Walczyk Instrumentation

20 Years
Lois E. Caligiuri Chemistry
Carl J. Czajkowski Adv. Tech.
Robert G. Geib Cent. Shops
Judy L. Liu Info. Services
James A. Mills Plant Eng.
Jean D. Ramirez Saf. & Health Serv.
Frank J. Zambriski Plant Eng.

10 Years
Robert F. Howe Environ. Res.
Edward D. Richards Waste Man.
Sol M. Rosario Diversity
Frederic Sauerbrun Reactor
John E. Willi Plant Eng.

The following employees celebrated service anniversaries in March:

35 Years
William E. Anderson Collider-Accel.
Kenneth R. Asselta Physics
Charles W. Carlson Collider-Accel.
Gary A. Smith Collider-Accel.

30 Years
Gerard E. Tanguay Reactor

25 Years
Mattie L. Brown P&PM
Elizabeth E. Gilbert Human Res.
Elizabeth A. Mogavero Physics
Antonino Realmuto.. Emergency Serv.
Nereida Santiago Adv. Tech.

20 Years
Robert J. Danowski Plant. Eng.
Glaister P. Fraser Cent. Shops
Barbara J. Fridrich Fin. Serv.
Doreen A. Hallinan Fin. Serv.
William F. Hempfling Human Res.
Richard M. Jackimowicz .. Sup. Magnet
James E. Wegrzyn App. Sci.
Joseph F. Zebuda Collider-Accel.

10 Years
Barbara J. Calle Plant Eng.
Charles J. Edwards Safegrds. & Sec.
John J. Ellerkamp S&HS
Barbara Juliano Fin. Serv.
Nicholas B. Spinella ... Safegrds. & Sec.
Nicholas Weih Superc. Magnet

Classified
Advertisements

LAB RECRUITMENT - Opportunities for Laboratory employees.
DD0763. SECRETARIAL POSITION - (part-time, term appointment) - Requires an AAS in secretarial science or equivalent experience, and excellent demonstrated organizational, communication and MS Word skills; TeX experience highly desirable. Will provide varied secretarial support, including arranging extensive foreign and domestic travel, preparing manuscripts, and maintaining files. Physics Department/Director's Office.
DD7366. SECRETARIAL POSITIONS - (term appointments) Requires an AAS degree in secretarial science or equivalent experience. Will provide varied secretarial support as needed. Duties will include preparation of procedures, correspondence and reports; file maintenance and organization; and maintenance of databases and tickler card files. Microsoft Word experience required; familiarity with Outlook highly de-

Pianist Jacques Després Returns To Berkner Hall, Sunday, April 30



Pianist Jacques Després
The Greater Port Jefferson Arts Council will present a concert by pianist Jacques Després on Sunday, April

30, at 3 p.m. in Berkner Hall. A \$5 per person donation is suggested.

Since his debut with the Montreal Symphony Orchestra in 1978, Jacques Després has dazzled audiences in his native Canada and the U.S. with his sympathetic interpretations of a broad range of composers. Després first played Berkner Hall in 1996.

Després completed his doctorate at the State University of New York at Stony Brook, and he earned a master's degree from the Juilliard School of Music. He received several prestigious awards, including a unanimous first prize from the Conservatory of Quebec. In 1996, Després joined the faculty of Western Washington University in Bellingham. He also recorded solo piano repertoire for the Eroica and VDE/Gall CD labels.

During his BNL concert, Després will perform music by Beethoven, Silver, Durand, and Schumann. For further information, call Ext. 4066 or Ext. 2345.

sired. Must handle frequently changing priorities. Reactor Division.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

MK8370. POSTDOCTORAL RESEARCH ASSOCIATE/SCIENTIFIC STAFF POSITIONS - (applications due by June 30) To participate in the spin physics research programs of STAR, pp2pp, and the BRAHMS experiments, as part of a new RHIC Spin Group, which is being formed to lead, develop and support the spin physics program at RHIC. Depending upon experience, the pp2pp and BRAHMS positions may be at the postdoctoral, assistant physicist or higher level, while the STAR position will be at the assistant scientist level or higher. Spin and detector experience with a strong interest in developing these programs is preferred. Will be recruited in close collaboration with the RHIC experiments, as will be members of those experiments who provide focus and leadership at Brookhaven in spin. G. Bunce, Physics Department.

MK8611. BUILDING MANAGER PROGRAM MANAGER - Reporting to the Assistant Laboratory Director for Facilities & Operations, will oversee BNL's building manager program, and implement, operate and continuously improve the building manager and facility use agreement (FUA) programs. Responsibilities include establishing qualifications and training requirements for building managers, and coordinating Building Manager activities to ensure that facilities are maintained as operated in accordance with FUAs. Will be responsible for modifying when necessary the building manager program to assure continuous improvement. Requirements include extensive ES&H, project-management and work-planning experience within one or more of the Lab's operating facilities, and excellent communication and computer skills. A bachelor's degree in engineering is preferred. Facilities & Operations Directorate.

NS7955. NT SYSTEM ADMINISTRATOR- Requires a bachelor's degree in computer science or the equivalent, a minimum of five years of experience as an NT-based network administrator; and experience with TCP/IP and local area networks, T1 based external communication links for business critical applications, Microsoft Exchange, Office, Excel, Access, and Crystal Report generation. NT certification is also required; SQL, VB, HTML and applications programming ability with RAS and VPN experience are a plus. Responsibilities will include hardware/software setup, administration, and maintenance; database configuration, and end user report development. Information Technology Division.

NS7956. UNIX SYSTEM ADMINISTRATOR - Requires a bachelor's degree in computer science or the equivalent, a minimum of five years of experience administering UNIX systems in a production environment. Knowledge of TCP/IP networking relating to system/network interactions, certification in Solaris and/or Linux, experience with common tools used to remotely administer systems, working knowledge of scripting languages used for system administration, such as Bourne Shell, Perl, and NIS, are necessary. Experience with C and/or Java, and knowledge of other UNIX flavors and secure access via ssh and Kerberos are a plus. Will manage systems and provide end-user support in a large, heterogeneous environment. Information Technology Division.

NS8373. PHYSICS ASSOCIATE POSITION - (term appointment) Requires a bachelor's degree in physics and experience in electro-optical techniques. Computer literacy, including data acquisitions skills are necessary. Responsibilities will include optical setup, data acquisition and performing comprehensive tests of the electro-optic crystals in the laser lab. Physics Department.

DD8666. BIOLOGY ASSOCIATE POSITION - (term appointment) Requires a BS degree in biology or chemistry. Experience in protein biochemistry, especially enzyme purification and crystallization, and in enzyme assays is desired. Knowledge of basic techniques in molecular biology is required. Will be involved in testing and characterizing new antiviral drugs obtained by structure-based rational drug design and combinatorial chemistry. Biology Department.

DD8617. ELECTRONIC TECHNICIAN POSITION - Requires a BS in technology or AAS and five years of experience, a solid background in analog/digital circuitry and familiarity with programming languages. Data acquisition experience using LabView is highly desirable. Must be able to use standard test equipment and work from schematics, rough drawings and verbal instructions. Must also have experience prototyping circuits and handling of bench and power

tools safely. Primary responsibility will be conducting NSLS magnetic measurements. Duties will also include maintaining and improving instrumentation in the magnetic measurement lab, as well as building and troubleshooting unique circuitry to be used at NSLS, ATF, and SDL. National Synchrotron Light Source Department.

NS7219. WEBMASTER/PUBLIC AFFAIRS POSITION - Requires a bachelor's degree in an appropriate field, experience in Web site design and administration, and knowledge and experience with HTML, Web page editors (FrontPage, Dreamweaver), graphics programs (Fireworks, PhotoShop), and the MS Office Suite. Proven ability to meet deadlines, juggle simultaneous tasks and keep skills current is necessary; strong teamwork and interpersonal skills are essential. Experience with IIS 4.0, Active Server Pages, JavaScript, XML, SQL, and other software associated with electronic publishing is desirable, as is interest and facility in translating complex scientific and technical subject matter into attractive pages for a general audience. Will develop and maintain the content of BNL's Web pages; create static pages and templates for dynamic pages; and work with IT staff in establishing and maintaining a publication process for dynamic pages. Media and Communications Office, Community Involvement, Government & Public Affairs Directorate.