

BNL Collaborates on \$4.5-Million Protein Structure Study

NIH Grant Will Help Turn Genomic Knowledge into Promising Drug Targets

Now that the human genome sequencing project is complete, BNL and four other New York research institutions have formed the New York Structural Genomics Research Consortium (NYSGR) to turn that knowledge into promising drug targets.

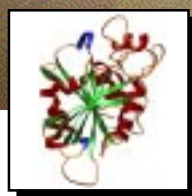
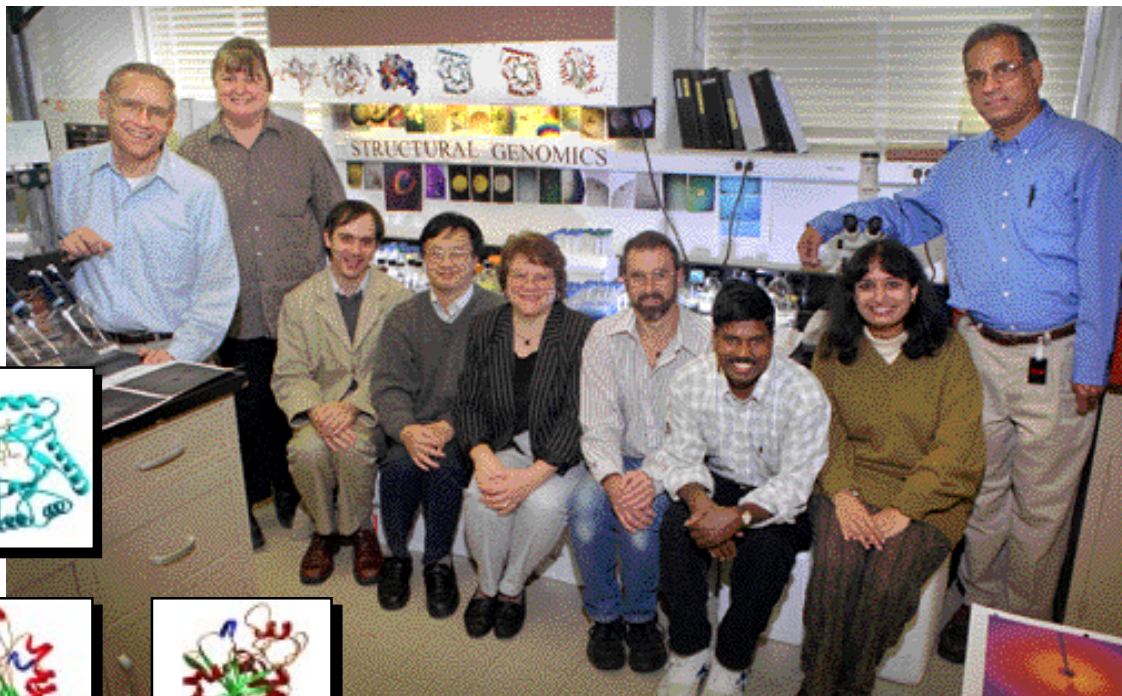
In September the consortium was awarded \$4.5 million by the National Institute of General Medical Sciences (NIGMS), part of the U.S. government's National Institutes of Health (NIH), to decipher the three-dimensional structures of proteins.

The award will fund the first year of a five-year pilot program. NYSGR is one of seven pilot centers each receiving around \$4 million from NIGMS under their newly launched Protein Structure Initiative. NIGMS anticipates spending around \$150 million on these projects over five years, making it the world's single largest funder of structural genomics.

The structural genomics team in Biology includes: (from left) Bill Studier, Helen Kycia, Adrian Goldmann, Jian-Sheng Jiang, Nancy Manning, John McCarthy, Desigan Kumaran, Sharadha Sambasivan, and S. Swaminathan. Not present are: S. Eswaramoorthy, Sue-Ellen Gerchman, Dawei Lin, and Eileen Matz.

In addition to BNL, NYSGR includes: Albert Einstein College of Medicine, the Mount Sinai School of Medicine, Rockefeller University, and Weill Medical College of Cornell University.

For the past 2½ years, the consortium members have piloted procedures to produce proteins more efficiently and to determine their structures more rapidly by x-ray crystallography. At BNL, the preliminary work was supported by DOE and Laboratory Directed Research & Development funds.



(Left) These three-dimensional structures are three of the proteins selected for study by the structural genomics project. These structures were determined at BNL by Swaminathan's group.

BNL Team Also Asked to Study Proteins Involved in Rad Response

In a related project, DOE is funding the BNL structural genomics team to apply structural genomics techniques to determine structures of a range of human proteins that have a role in the response to ionizing radiation.

This project is being done in collaboration with the laboratory of Al Fornace of the National Institutes of Health and in continuation of a collaboration with the laboratory of Arthur Grollman at USB. Fornace uses DNA chips to identify human proteins whose levels change in response to radiation, while Grollman works on structures and functions of proteins directly involved in the repair of damage to DNA.

The BNL team, which is in the Biology Department, is led by Bill Studier. Sue-Ellen Gerchman, Helen Kycia, Eileen Matz, and Nancy Manning are implementing techniques for protein cloning, expression, purification, and crystallization. S. Swaminathan, S. Eswaramoorthy, and Desigan Kumaran work with the resulting crystals to determine a protein's three-dimensional structure by x-ray crystallography, using facilities managed by Biology's Bob Sweet at the National Synchrotron Light Source.

Other team members include Jian-Sheng Jiang, who improves the efficiency of

computational tools for processing the x-ray data, and Dawei Lin and Sharadha Sambasivan, who develop data-base and informatics tools for selecting protein targets and tracking data flow.

"We are pleased to be a part of this exciting enterprise," said Studier. "Genome sequencing projects are providing a catalog of the types of proteins found in nature. The Protein Structure Initiative will help us to understand what these proteins do."

As Studier explained, BNL and the other consortium members are focusing primarily on disease-related proteins.

Structures of proteins implicated in disease processes will be of immediate relevance to academic and/or industrial research teams studying the biological roles of these proteins. Knowledge of the structures should aid in the search for therapeutic drugs.

"We are embarking on a program, which, if proven effective, will provide a way for researchers to deal with the impending flood of genetic data and speed its translation into therapeutic use," said consortium leader Stephen K. Burley, Rockefeller University and Howard Hughes Medical Institute.

— Karen McNulty & Joe Bonner

BNL Achieves ISO 14001 Registration in Eight More Areas

In September, BNL achieved ISO 14001 registration for eight internal organizations, certifying that its environmental management system conforms to the stringent requirements of this international standard.

"This is a great achievement for the Laboratory and reflects our strong commitment to ensuring that Brookhaven's environmental performance measures up to our world-class status in science," said BNL Director John Marburger.

ISO 14001 is an international standard that sets specifications for an environmental management system (EMS).

BNL has also been recognized by others for its leading role in ISO implementation and registration. For instance, the Environmental Protection Agency's Region II recently recommended BNL's Process Evaluation Project and EMS Project for inclusion in the Clinton Administration Library of Accomplishments.

Following issuance of an executive order requiring all fed-

eral facilities to implement an EMS, representatives from many DOE national laboratories have been contacting BNL for guidance.

Also, BNL's mechanisms for integrating community outreach into the decision-making process were presented as a case study at an international ISO 14001 meeting.

ISO 14001 requires an organization to identify potential environmental impacts and establish controls needed

to minimize any impact appropriately, to monitor and communicate environmental performance, and to establish a formal process for continually improving the system.

"The ultimate goal is to put a system in place that enables us to improve and sustain performance in the area of environmental stewardship," said Bet Zimmerman, Environmental Services Division Manager.

In 1999, BNL's Relativistic Heavy Ion Collider project be-

came the first DOE national laboratory facility and first Long Island-based facility to obtain third-party registration to the ISO 14001 standard. Steve Musolino, the Assistant to the RHIC Project for ES&H, was responsible for coordinating that effort.

Under the guidance of Susan Briggs, EMS Project Manager, eight additional organizations have been registered to the ISO standard: the Superconducting Magnet, Reactor,

Waste Management (WM), and Environmental Restoration (ER) Divisions; the Collider-Accelerator, Medical, and Biology Departments; and the Brookhaven Linear Isotope Producer and associated target processing laboratory.

The management representatives on EMS who helped their organizations achieve these registrations were: Mike Gaffney, Safety & Health Services; Rich Travis, Reactor; Pete Kwaschyn, WM; Achyut Tope, ER; Ed Lessard, Alternating Gradient Synchrotron Department; and Ann Emrick, Biology. (continued on page 3)



Front (from left) are Deborah Johnson, Internal Audit; Stephen Musolino, Collider-Accelerator; Susan Briggs, Environmental Safety (ES); Bet Zimmerman, ES Manager; Ken Brog, Assistant Laboratory Director for ESH & Quality; and Tom Sheridan, Deputy Director for Operations; with many other management representatives and team members who helped BNL achieve the recent ISO 14001 registration.

Calendar of Lab Events

- The BERA Sales Office is in Berkner Hall, open weekdays 9 a.m.-3 p.m. For more information on BERA events, contact Andrea Dehler, Ext. 3347 or M. Kay Dellimore, Ext. 2873.
- Additional information for Hospitality Committee events can be found at the Lollipop House and the Laundry Room in the apartment area.
- The Recreation Building is located in the apartment area.
- Calendar events flagged with an asterisk (*) have a longer story appearing in this week's Bulletin.

*Reimbursement Accounts

Enrollment through November 30. Benefits Office, Ext. 2877.

Each Week

Tuesdays: Welcome Coffee

10-11:30 a.m. Recreation Bldg. Newcomers meet friends. Mimi Luccio, 821-1435—Hospitality.

Wednesdays: On-Site Play Group

9:30 a.m.-11:30 a.m. Recreation Bldg. Parents can meet while children play. Free, drop in any time. Monique de la Bey, 399-7656. —Hospitality.

*Wednesdays: Dance Club

Brookhaven Center North Room Latin & Swing Dance Club - Beginner Lessons 6-7 p.m. \$30 per person for 8 classes Marsha Belford, Ext. 5053.

Wednesdays: Yoga Practice Sessions

Free, 12:10-12:50 p.m. Rec. Bldg. Contact: Ext. 3924.

Tues. & Thurs: Aerobic Dance

5:15 p.m., Rec. Bldg. \$4 per class or \$35 for any 10 classes. Pat Flood, Ext. 7886, Susan Montelone, Ext. 7235.

Mon., Tues., & Thurs:

Cardio Kickboxing

Day Classes: noon-1 p.m. Mondays & Thursdays
Evening Classes
5:15-6:15 p.m. Tues. & Thurs.
Mary Wood, Ext. 5923,

— NEXT WEEK —

Tuesday, 11/7

Take Our Sons to Work Day

Contact: Sue Foster, Ext. 2888

Wednesday, 11/8

Rifle & Pistol Club Meeting

Noon, 535A Conference Room Contact Joe Gatz, Ext. 4212, Jim Durnan, Ext. 5993, the club hot line, Ext. 2658; or see www.berahome.bnl.gov/clubs/rpc/rpc.html.

Friday, 11/10

In observance of Veteran's Day, the Lab will be closed on Friday, November 10. As a result, the following schedules will be in effect:

The Bulletin — There will be no Bulletin next week; the next issue will be published on Friday, 11/17. The classified ad deadline for that issue is noon on Thursday, 11/9.

Credit Union — The Teachers Federal Credit Union on site will be open on Friday, 11/10. Upcoming Lectures

Food Service — The Cafeteria will be open 7:30 a.m. -2 p.m. on Friday, 11/10. The Brookhaven Center Club will be closed for dinner on Friday, 11/10, reopening on Sunday evening, 11/12, 5 p.m.-9 p.m.

Gym, Omega Leisure Travel Office, Recreation Bldg., Research Library, U.S. Post Office — All closed 11/10.

Veteran's Day 2000

Camp Upton Collection Opens Wednesday to Employees; Postcards of Camp Upton Grounds, Soldiers Now on Sale



Sergeant songwriter Irving Berlin (center) and two "beauties" in drag, star in *Yip! Yip! Yaphank*.

BNL sits on what was the U.S. Army's Camp Upton, a World War I training center and a World War II induction center and rehabilitation hospital. Camp Upton was named for Emery Upton, a Civil War general and commandant of the U.S. Military Academy at West Point.

Since BNL's founding in 1947, the Museum Program of Community Involvement, Government & Public Affairs has amassed a significant collection of Camp Upton memorabilia, some of which was found on site and the rest donated by Camp Upton veterans or their families.

This memorabilia makes up the Camp Upton Historical Collection, which, since 1998, has been housed in the front of Bldg. 184 (pictured below, when it was the camp chapel).

The Lab community is now invited to view the collection on Wednesdays, by appointment, between 9 a.m. to noon. For more information, call Ext. 4495.

A series of eight postcards (pictured) of Camp Upton's grounds and soldiers — including its most famous, songwriter Irving Berlin — is now on sale in the BERA Sales Office, Berkner Hall, weekdays, 9 a.m.-3 p.m.



At Camp Upton during World War II, Irving Berlin wrote and performed in *This Is The Army*.



WWI "aerial."



The Camp Upton chapel during World War II, now the home of the Camp Upton Historical Collection.



WWII "aerial."

The preview of Irving Berlin's *This Is The Army* at Camp Upton.



The cover of *Yip! Yip! Yaphank* program, signed by Irving Berlin.

During World War I, Irving Berlin's hit song "Oh! How I Hate to Get Up in the Morning" was inspired by Camp Upton scenes such as this.



For the Record

The LI section of *The New York Times*, October 22, 2000, credited Epoch 5 Marketing, a Huntington public-relations company headed by Katherine Heaviside, as being hired "to handle damage control" over "public outcry over reported radiation leaks." This referred to the 1997 tritium leak from the spent-fuel pool of the High Flux Beam Reactor, announced by the Lab in January 1997. BNL's contract with Epoch 5 began in August 1996 and ended on May 4, 1997.

Cut Medical, Day-Care Costs

BNL offers comprehensive health plans, but not all expenses are covered in full, such as eyeglasses, physical exams, deductibles, coinsurance and expenses above reasonable and customary limits. And, although on-site child care is available at the Lab, the cost of child care, as well as elder care, can quickly add up.

Employees can reduce these costs by opening Health Care and Dependent Day Care Reimbursement Accounts. Through salary reduction, these accounts set aside before-tax dollars to pay for out-of-pocket health and dependent day-care expenses. Actual costs are lower because of the tax savings.

Enrollment in these accounts for 2001 continues through November 30. Employees who work at least 20 hours a week may set aside from \$300 to \$2,500 in the Health Care Account and/or \$300 to \$5,000 in the Dependent Day Care Account.

Employees who want to sign up for 2001 must complete new forms, even if they are currently enrolled for 2000. For more information, contact the Benefits Office, Ext. 2877. Forms are available in Bldg. 185. Return completed forms to the Human Resources Division, Bldg. 185, by November 30, for coverage effective January 1, 2001.

Note: The following expenses are not eligible for reimbursement: agency fees for au pair placements and adopting children; registration fees paid for day care, summer camp, preschool, kindergarten, etc., unless these fees are applied toward the first tuition bill, and only if the fees are shown on the bill to be deducted from the regular tuition charge and only once that bill has been paid. The cost paid to a day care provider for dependents' meals is a reimbursable expense, unless those meals are included as part of the cost of a field trip or other outing.

Defensive Driving

A six-hour defensive driving course is offered on Saturday, December 2, 9 a.m.-3:30 p.m., in Berkner Hall, Room B.

The course is open to BNL, BSA and DOE employees, BNL facility-users, and their families, at \$23 per person. To register, send a check by November 24 to Empire Safety Council, in care of Scott Zambelli, P.O. Box 670, Mount Sinai, NY 11766. Include your phone number in case you need to be contacted.

Arrivals & Departures

Arrivals

Kimberly J. Gottfredsen
Medical

Departures

Theodore A. Daniels
ITD

Steven Keller
Radiological Control

Anne F. Meinhold
Energy Sciences & Technology

Eileen Pinkston
NSLS

Walter Reams
Energy Sciences & Technology

Catherine A. Thomlinson
Information Services

Veena Warikoo
Biology

Coming Up

BNL Lecture, 11/29

On Wednesday, November 29 at 4 p.m. in Berkner Hall, Leslie Fishbone will give the next Brookhaven Lecture on BNL contributions and experiences with the US Program for Material Protection, Control, and Accounting for Nuclear Materials in Russia. Refreshments will be provided before and after the lecture.

Addiction Talk, 12/7

On Thursday, December 7, at 4 p.m. in Berkner Hall, Alan Leshner, Director of the National Institute of Drug Abuse, will present a lecture entitled, "Science and the Treatment of Addiction."

Badge Exchange

Dosimetry badges will be exchanged today, Friday, November 3. Please place your badge in its assigned rack space before leaving work today.

Festival of Lights

The BERA-IndoAmerican Association (IAA) is celebrating Diwali, the Festival of Lights, on November 11, in Berkner Hall. The cultural program of music, song and dance starts at 3:00 p.m., followed by an authentic Indian dinner at 6:30 p.m. Tickets cost \$11 for BERA IAA Members, \$12 for non-members, and \$5.00 for children 5-12 years of age. Children under 5: free.

To reserve your tickets contact Kumi Pandya, Ext. 7734; Dhruva Ghimiray, Ext. 3849; Raj Rao, Ext 7607; or Achyut Tope, Ext 5672.

Computer Training

The Information Technology Division (ITD) has scheduled the following PC training classes for November and December:

11/15 & 16	Access - beginner
11/17	Excel - beginner
11/20 & 21	Project - beginner
11/28 & 29	Access - intermediate
11/30	Front Page
12/4	Outlook
12/7&8	Project - intermediate
12/12 & 13	Excel - advanced
12/14 & 15	Access - advanced

To register for these classes, or to register interest in future classes, submit a training request form and an ILR or Web requisition for the appropriate amount to Pam Mansfield, Bldg. 515. Your name will be placed on a waiting list. Classes are scheduled based on requests received. For more information and for class schedules, see the ITD training page at www.bnl.gov/itd/.

JAVA Programming

A five-day class in JAVA programming for C and/or C++ programmers will be held on these dates: November 28 & 30, and December 5, 7, & 12. This five-day class will meet in the PC training room, Bldg. 515, 9 a.m.-4:30 p.m. The fee is \$1,300 per student, which includes documentation and textbooks. To register, send an ILR to Mansfield, Bldg. 515, by November 15.

Noon Music, 11/8



At noon on Wednesday, November 8, Antonio Pompa-Baldi will present "Piano, From Italy," at Berkner Hall. A professor of music at the Annamaria Pennella International Academy, Italy, he has won many awards for his performances in Europe and the U.S., including the first prize in the 1999 Cleveland International Piano Competition.

BSA noon recitals are free and open to the public.



Spreading Speed Awareness

Observing data measurements recorded by BNL's new speed sign are: (from left) Lieutenant Richard Rosetti, BNL's Police Group, Frank Marotta, Emergency Services Division Manager, Lenny Butera, Safeguards & Security Deputy Manager for Operations; Sergeant Robert Lombardi, Police Group; and Kathy Walker, Police Group Training Officer.

In recent years, BNL's Traffic Safety Committee has stepped up efforts to keep on-site drivers safe by adding signs, implementing training courses, and purchasing traffic safety equipment. The committee's most useful purchase to date, however, may be the speed-alert radar trailer which employees now encounter in various areas of the site.

"It's a win-win situation for us and for employees," said committee chair Frank Marotta. "The trailer allows us to provide positive feedback to drivers without writing tickets, and it raises speed awareness for everyone at the Laboratory."

As drivers approach the radar-based device, their vehicle's speed is displayed in large numbers that change as the driver accelerates or decelerates. If the vehicle's speed is above the speed limit for the area (which is posted above the numerical display), the display flashes until the driver slows down and obeys the limit. Marotta says that most drivers exceeding the limit will slow down once they see their speed posted.

The device, which is maintained and operated by the Safeguards & Security Division, provides the committee with data to track and trend the driving habits of on-site drivers. The committee then uses that data to make recommendations for future enforcement actions.

"In the past, we've made decisions based primarily on anecdotal evidence," said Marotta. "Now, we have the data to back up those decisions."

The 1998 purchase of the \$9,000 trailer was made possible by changes made in 1997 to the funding mechanism for the committee. Prior to that year, money collected through the writing of tickets went into the general fund. Beginning in 1997, that money instead went directly to the committee and was invested in signs, training, and equipment such as vehicle counters and measuring wheels. The funding in 1998 was sufficient to purchase the trailer in addition to paying some other operational costs.

"Dave Robbins, from the Safety and Health Services Division, really made this happen," said Marotta. "He did all the research and made the contacts to bring this thing to the Laboratory." Other people who put the trailer into operation included fellow committee member Pat Cahill, as well as Lieutenant Rich Rossetti, and Kathy Walker of the Safeguards & Security Division. —Pete Genzer

BNL's ISO 14001 Achievements

(cont'd.)

To achieve registration, each organization underwent a rigorous, independent audit of its environmental management system to verify that the system conformed to all requirements and that it was effectively implemented. The certification also requires these organizations to undergo audits every nine months by an accredited auditing firm to ensure that the system is maintained.

The entire Lab is scheduled for registration by the end of 2001. Led by Ron Gill in the High Energy Nuclear Physics Directorate; Bob Casey in Basic Energy Sciences; John Boccio in Energy, Environment and National Security; Bill Chaloupka in Facilities & Operations; Zimmerman in ESH & Quality; Sue Davis for the Director's Office and Community Involvement, Government & Public Affairs; and Ken

Mohring in Finance & Administration; implementation teams have readied these other organizations for the upcoming registration.

In its recommendation for certification, NSF International Strategic Registrations, Ltd., an independent third-party environmental review firm from Ann Arbor, Michigan, singled out several aspects of BNL's program as being particularly noteworthy.

These included BNL's strong commitment to implementing pollution prevention initiatives, the integration of the Lab's EMS with existing management systems, and the fact that employees were directly and fully involved in EMS implementation.

More information on ISO 14001 is on the World Wide Web at <http://www.iso.ch/9000/e/isoanden.htm> — Pete Genzer

Wanted: BNL Art For Show, 11/20

The BNL Art Society is sponsoring a fall show at Berkner Hall, Room B, to display fine art by members of the Lab community. Employees, retirees, guests, visitors, and their family members are all invited to exhibit their sculpture, photos, oils, watercolors, cartoons, or other works. More than one piece per exhibitor is welcomed, as space permits.

The show will be held daily Monday through Wednesday, November 20-22, 11:30 a.m. to 1 p.m., with an opening reception on Monday, 5-7 p.m., when refreshments will be offered. Exhibits should be delivered to Berkner on Friday, November 17, 2-4 p.m. To enter an exhibit, or for more information, call Liz Seubert, Ext. 2346, or Bob Chrien, Ext. 3903.

Road Closing

In anticipation of operating the Relativistic Heavy Ion Collider (RHIC) at full energy, the RHIC fencing will be extended to include a portion of Thompson Road. From today, Friday, November 3, the part of Thompson Road behind the Alternating Gradient Synchrotron (AGS) around where the AGS injects beam into RHIC will be closed. Local traffic will be able to use access roads to Bldg. 1006B and to the RHIC outer ring road.

IAEA Jobs

The International Atomic Energy Agency currently has five cost-free expert positions that are immediately available. The application deadline is Thursday, November 30. The job descriptions are: Open Source Information Collection, Safeguards Equipment Systems Information Security, Development, Implementation, and Evaluation of Training Courses, Remote Monitored Surveillance Systems Development and Implementation Coordination, and VIFM Systems Development and Implementation Coordination. For more information, see www.ispo.bnl.gov.

Classified Advertisements

Placement Notices

The Lab's placement policy is to select the best-qualified candidate for an available position. Candidates are considered in the following order: (1) present 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 list of all job openings; use a TDD system to access job information by calling (631) 344-6018; or access current job openings on the World Wide Web at www.bnl.gov/JOBS/jobs.html.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees.

DD8363. SECRETARIAL POSITION (Part-time) - Requires an AAS degree in secretarial science or equivalent experience and excellent demonstrated organizational, interpersonal, oral and written communication skills. In addition, a comprehensive knowledge of Laboratory policies and procedures and proficiency in MS Word, PowerPoint, Excel and Outlook also required; Access skills desirable. Must be able to work independently, function effectively as a team member and exercise initiative and good judgement in a climate of changing priorities. Ability to develop and implement systems to improve Division efficiency and effectiveness also required. Will provide varied support, including travel arrangements, preparation of personnel records, records

(continued on page 4)

Calendar

(continued)

Saturday, 11/11

*Diwali, the Festival of Lights

Berkner Hall, Cultural program, 3 p.m., dinner, 6:30 p.m. The IndoAmerican Association invites the Lab community to celebrate Diwali. Buy tickets from: Kumi, Ext. 7734, Dhruva, Ext. 3849.

—WEEK OF 11/13—

Thursday, 11/16

Bridge Club

7:15 p.m., Berkner Cafeteria contact Morris Strongson, Ext. 4192, mms@bnl.gov.

—WEEK OF 11/20—

Mon. 11/20 to Wed. 11/22

*Lab Community Art Show

11:30 a.m.-1 p.m., Berkner Hall Opening Reception with refreshments, 11/20, 5-7 p.m. Exhibits wanted. Contact, Bob Chrien, Ext. 3903 or Liz Seubert, Ext. 2346.

—WEEK OF 11/27—

Wednesday, 11/29

*Brookhaven Lecture

4 p.m., Berkner Hall Leslie Fishbone, "The US Program for Material Protection, Control, & Accounting for Nuclear Materials in Russia."

Thursday, 11/30

Bridge Club

7:15 p.m., Berkner Cafeteria

—WEEK OF 12/4—

Thursday, 12/7

*Lecture of Lab-Wide Interest

4 p.m., Berkner Hall Alan Leshner, Director of the National Institute of Drug Abuse, will talk on Science & the Treatment of Addiction.

—WEEK OF 12/18—

Wednesday, 12/20

*Brookhaven Lecture

4 p.m., Berkner Hall Tom Vogt will discuss advanced battery materials.

Note: This calendar is updated continuously and will appear in the Bulletin whenever space permits. Submissions must be received by the preceding Friday at noon to appear in the following week's Bulletin. Please enter the information for each event in the order listed above (date, event name, description, and cost) and send it to bulletin@bnl.gov. Write "Bulletin Calendar" in the subject line.



Classified Ads (cont'd.)

management tracking deliverables and corrective actions, arranging meetings, coordinating schedules and editing correspondence and reports. Radiological Controls Division.

OPEN RECRUITMENT – Opportunities for Laboratory employees and outside candidates.

MK9102. ASSISTANT SCIENTIST – Requires a Ph.D. in biochemistry or biophysics with postdoctoral experience related to determining the structure of membrane proteins including experience in cloning, expressing and purifying membrane proteins, protein crystallization, and structure determination by X-ray diffraction methods highly desirable. Will work in collaboration with other biologists to create a Center for Complex/Membrane Protein Structures within the Biology Department. Under the direction of C. Anderson. Biology Department.

MK9009. ASSISTANT SCIENTIST – Requires a Ph.D. in cellular biology and experience and knowledge in setting up and using a cryo-electron microscope, specimen preparation and data handling. Will operate a cryo-electron microscope for the collection of data from membrane protein crystals using electron diffraction and low dose imaging modes from frozen hydrated specimens. Under the direction of J. Hainfeld. Biology Department.

MK8694. ASSISTANT PHYSICIST – Requires a Ph.D. in physics, extensive experience working on beam dynamics issues, familiarity with FORTRAN, C, Unix-based and PC based platforms and ability to do original work and familiarity with large scale codes such as MAD and SIXTRACK. Will work in the Accelerator Physics Group of the SNS Project and conduct investigations on the optimal working point, and the impact of resonance and structure resonance in the presence of magnetic imperfection, misalignment and space charge. Will participate in the R&D program on machine and codes benchmarking and machine study on the AGS Booster. Under the direction of J. Wei. Collider-Accelerator Department.

MK7920. SR. RESEARCH ASSOCIATE – Requires a Ph.D. in nuclear chemistry and experience in analytical nuclear physics with experience in nuclear gamma and neutron spectroscopy using (d,t) neutron generators. Experience in modeling, construction and calibrating of such systems is expected. Will join a multi-institutional team of nuclear physicists and soil scientists working on the design and construction of a device for multi-elemental soil analysis. An emphasis will be put on the ability to carry on independent experiments with nuclear spectroscopy instrumentation and to play a central role in the development, calibration and deployment of the entire system. Under the direction of L. Wielopolski. Environmental Sciences Department.

MK9010. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in biochemistry or molecular biology. Several years' experience and laboratory research in biochemistry or molecular biology beyond the Ph.D. is preferred. Experience in nucleic acid biochemistry or DNA-protein interactions highly desirable as is background in radiation biology/DNA damage or repair and mammalian cell biology. Research will focus on the cellular biochemistry and molecular biology of clustered damages in mammalian cells. This includes determining the induction and repair of specific classes of clustered damages by low doses of ionizing radiation, and the genes involved in cluster repair through use of overproducing, and knockout strains as well as evaluating cluster repair in human deficiency diseases. This position offers the opportunity to participate in the BNL-NASA Heavy Ion Radiobiology Program and in the heavy ion radiobiology program at the BNL Booster Applications Facility now under construction. Must be willing to travel for collaborative research. Under the direction of B. Sutherland. Biology Department.

MK9103. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in biochemistry with experience in mammalian cell molecular biology and cytogenetics and experience in the identification and characterization of mammalian protein complexes that interact with chromatin highly desirable. Research is in the mammalian DNA double-strand break repair group to develop expression systems for isolating human DNA double-strand break repair protein complexes. Under the direction of C. Anderson. Biology Department.

DD8159. LIBRARIAN POSITION – Requires ALA accredited MLS or MS in Library and Information Science, a strong commitment to service and team work and demonstrated ability to establish and maintain effective working relationships with colleagues, publishers and vendors and the Library user community. Must have excellent written and oral communication skills. Experience preferred in technical services, the acquisition of library material, OCLC, and migration of catalog records. Experience with SIRSI integrated library system a plus. Responsibilities include acquisition of print and electronic resources, fund accounting, collection maintenance of print and digital materials, serials; materials processing, and copy cataloging. Includes some scheduled weekend hours at the circulation desk on a rotating basis. Information Services Division.

MK8158. LIBRARY ASSISTANT (Part-time position) – Requires a bachelor's degree or equivalent experience, basic knowledge of library and information science operations, standards, and procedures. Must have demonstrated skills in one or more library functions. Will be responsible for assisting library staff in the Research Library Public Services section. Will work independently within established procedures, handle routine library and information science inquiries and have frequent contact with resource personnel within and outside the Laboratory to obtain essential information for researchers. Information Services Division.

DD8361. ENGINEERING POSITIONS – Requires a MS in nuclear engineering, health physics or related science discipline, five to ten years' operational experience in either nuclear power plant, accelerator, facility decommissioning, licensing or university health physics. Experience working with both professional and technical staff and good communication skills also required. American Board of Health Physics certification desired. Will develop and implement ES&H programs for Laboratory departments/divisions. Radiological Controls Division.

DD9051. MEDICAL ASSOCIATE POSITION – Requires BS in biology, chemistry or a life science such as psychology to participate in clinical research using the MRI to study the effects of disease on the brain. Will coordinate studies, perform initial screening evaluations, conduct telephone follow-up, respond to questions regarding clinical studies and coordinate outpatient visits. Will also assist in the collection and retrieval of necessary clinical data for subject files. Previous experience in human subject research highly desirable. Medical Department.

DD8935. REFRIGERATION & AIR CONDITIONING ENGINEER – Under minimum supervision constructs installs, repairs, maintains and operates refrigeration, air conditioning, ventilating and auxiliary and related equipment. Will perform the same work on air compressors and vacuum pumps whether or not associated with the above equipment. Plant Engineering Division.

DD9025. TECHNICAL POSITION – Requires an AAS degree in electronic technology or equivalent experience and significant experience in cryogenic operations, instrumentation and controls. A background in computer process control systems (CRISP system is preferred) and programmable logic controllers is also required as is the ability to work independently, and an aptitude for programming. Will troubleshoot and repair complex electronic equipment for MAGCOOL. Superconducting Magnet Division.

TB9075. TECHNICAL POSITION - Requires a BS in physics (or equivalent) with experience in electronics and RF techniques. Will operate and maintain two cyclotrons for the Brookhaven PET Imaging Program. Responsibilities will also include participating in developing, maintaining and operating systems for radionuclide, radiotracer and imaging instrumentation research. The position is within a large multidisciplinary group which focuses on developing new scientific tools for imaging in humans and animals with a view toward understanding fundamental mechanisms in aging, addiction and degenerative disease. Chemistry Department.

TB9076. CHEMISTRY ASSOCIATE POSITION - Requires a BS or MS in chemistry or equivalent. Will be responsible for synthesis and quality control of radiopharmaceuticals labeled with isotopes of short half-life for the Brookhaven PET Program. Experience with organic synthesis, chromatography and analytical methods is needed. Meticulous laboratory technique and record keeping is required for radiopharmaceutical formulation and documentation. The position is within a large multidisciplinary group which focuses on developing new scientific tools for imaging in humans and animals with a view toward understanding fundamental mechanisms in aging, addiction and degenerative disease. Chemistry Department.

NS9056. PROGRAMMER/ANALYST POSITION - Requires a BS in computer science and prior experience in biomedical engineering and/or software development. Experience with C-language required; MATLAB, SPM, IDL and AVS preferred. Under broad assignment, will acquire, analyze and organize MR data using computer workstations and specialized neuroimaging. Will interact with MR clinical investigators, and perform computer and software maintenance. Medical Department.

Got Their Start in the BNL Dance Club Cause, Chen Place 2nd, 6th At Amateur Ballroom Nationals

BNL's Nelson Cause, Plant Engineering Division, and Wei Chen, Instrumentation Division, placed second and sixth in American style at the U.S. Amateur Ballroom Dance National Championship competition this August in Providence, Rhode Island.

Competing at the silver (intermediate) level in the B division (age 35 and over), Cause and Chen earned their second place in the American rhythm category, dancing bolero, cha cha, rumba, and swing. Their sixth place was awarded in the American smooth section, in which they competed in fox trot, tango, waltz, and Viennese waltz.

This is the first time that these partners have placed at the nationals: two years ago in Delaware, Cause and Chen danced American style at the bronze, silver and gold levels in the A and B divisions, bringing home a dozen placings. At that time, "We were new to dancesport, so we had no fear,"

(photo by Roger Stoutenburgh cN10-159-00)

explains Chen. "This year, we thought we knew better."

While Cause and Chen have been dancesport competitors for only the past three years, both got their start eight years ago as founding members and formed their partnership within the BNL Ballroom, Latin & Swing Dance Club. Their coach is the club's instructor, former U.S. Ballroom Champion Giny Rae Scurca. In addition to helping beginners in the club's earlier classes, Cause participates in the club's 8-9 p.m. master class.

Cause and Chen's goal: "to be competitive at the gold level and above in the A division in International style as well as American style," says Cause. To prepare for next year's nationals in Utah, the partners continue with lessons at their coach's Smithtown studio, practice in BNL's North Ballroom, and local competitions.

Attention Beginners

Get Your Start in Ballroom Dance

Starting Wednesday, November 8, the BNL Dance Club is offering eight weeks of beginner classes in American style bolero and tango, from 6 to 7 p.m. in the North Ballroom of the Brookhaven Center. The cost is \$30 per person. Registration before the first day of class is recommended, as classes are popular and limited in size. For more information, contact Marsha Belford, club president, belford@bnl.gov or Ext. 5053.