BROOKHAVEN BULLETIN
Vol. 54 - No. 29 August 18, 2000
BROOKHAVEN NATIONAL LABORATORY


Joseph Rubino CN8-121-00

Senator Charles Schumer (left), Energy Secretary Bill Richardson

Schumer, Richardson Meet With Community

Following a meeting with the accelerated cleanup subcommittee of the Community Advisory Council on August 11, U.S. Senator Charles Schumer and U.S. Energy Secretary Bill Richardson toured the Brookhaven Graphite Research Reactor complex, where decommissioning is under way.

Schumer commented that the community group has made a strong case for accelerated cleanup of the Lab's contaminated areas, and he cited environmental protection, rapid growth in Brookhaven Town and a savings of $18 million as compelling reasons for accelerating the cleanup. Five percent of the Lab's acreage is contaminated with hazardous or radiological waste due to past use and disposal practices.

Richardson spoke about progress in community relations, saying that BNL "has become a much better neighbor on Long Island." Richardson then outlined the steps he will take in considering the request for accelerated cleanup: reviewing funding options, looking at innovative technologies, considering incentives, and, with the CAC, exploring ideas for ecological protection of the BNL site.

Under the present schedule, all cleanup systems will be in place by the year 2006, at a cost of $178 million. If the cleanup is accelerated, systems will be in place by 2003, at a cost of $160 million.

RHIC, AGS Users Celebrate Start of RHIC Science Program

The "Year of the User" has been a "wonderful year for RHIC," said Jim Thomas of Lawrence Berkeley National Laboratory, Chairman of the RHIC & AGS Users' Executive Committee, as he opened this year's users' meeting. The meeting took place on site on August 7 and 8.

Some specific successes noted by Thomas included:

- "striking gold" with first collisions at RHIC
- the new RHIC & AGS Users' office
- improvements in the dorms, including phone service in all rooms, with Ethernet on the way
- new users' Web pages (see http://www.phy.bnl.gov/users)
- monthly meetings with Lab management
- greater efforts to state BNL's case in Washington.

The meeting then got under way with welcoming remarks from Peter Paul, BNL's Deputy Director for Science & Technology. Unable to attend, Lab Director John Marburger was in Washington, D.C., at the swearing in of Mildred Dresselhaus, DOE's new Director of the Office of Science.

"This meeting is the end of the beginning," Paul said, remembering the years it has taken to bring RHIC to fruition. "It took that time to bring the theory and experimental technology up to the level where today we can start this program with confidence."

He emphasized the different style of physics that RHIC's large collaborations represent, pointing out all who have been and will be essential to RHIC's success — from those at DOE "who had the foresight and the stamina to guide RHIC to the point where we are today," to those in the audience "who conceived of the experiments, developed the technology, and are seeing it through and starting to take data."

Paul congratulated the group on the publication of RHIC's first scientific paper. "But we shouldn't be fooled by the early success of this [complicated] machine," he continued, saying that glitches will arise. He urged users to have a certain "human understanding" for all the people and parts that have to work together as the program moves forward.

A case for support

Peter Rosen, DOE Associate Director for Nuclear and High-Energy Physics, also emphasized the human element in his remarks, which stressed the importance of communicating the relevance of RHIC's success not only to the scientific community, but also to the general public and the elected officials who control the funding.

"The funding for high-energy and nuclear physics has not been a very good scene this year," said Rosen, who revealed that the Senate voted to cut $50 million from DOE's high-energy physics program and $25 million from nuclear physics.

With competition from so many other scientific endeavors that have stimulated public interest, such as the human genome project and nanotechnology, high-energy and nuclear physicists have to present strong reasons for supporting their research, Rosen said.

Among the many reasons for doing this, he said, is that research into the fundamental nature of matter is a "continuation of the age-old quest to understand the world around us."

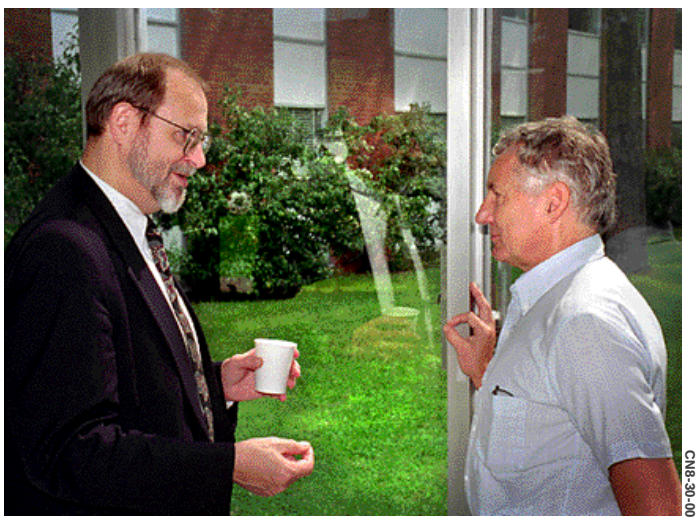
Such research puts us at the intellectual and technological cutting edge, he said, which helps to extend science on a broad front. "The more we understand about the world around us, the more we can adapt it for our own comfort and advantage."

Rosen also outlined the scientific, technological, and sociological accomplishments made or driven by the physics community over the past 50 years, including the discovery of quarks, gluons, the standard model, and even the World Wide Web, which developed as a way for scientists to share their research plans and discoveries.

"If we had a tenth of a penny for every time there's a hit on the web, we wouldn't have to ask Uncle Sam to support our programs," he said.

(continued on page 2)

Attendees at the RHIC & AGS Users' Meeting, August 7-8


CN8-30-00


CN8-56-00


CN8-44-00


CN8-16-00

RHIC-AGS Meeting photos by Michael Herbert

Top, from left: Dennis Kovar, DOE; Frank Plasil, ORNL

Bottom, from left: Peter Paul, BNL; Ken Imai, Kyoto University; Tomokazu Fukuda, KEK

Top, from left: David Hendrie, DOE, retired; Peter Rosen, DOE
Bottom, from left: Brad Keister, NSF; Wlodek Guryn, BNL

RHIC, AGS Users' Meeting Held August 7-8 *(cont'd)*


CN8-64-00

Andrea Palounek, Stephen Steadman


CN8-71-00

Nicolas Samios, Jim Thomas, David Hendrie, Satoshi Ozaki


CN8-19-00

Photos by Michael Herbert

Saskia Miduszewski, Peter Rosen

The fields of structural biology, materials science, environmental science, chemistry, medicine, and even industry have also benefited from accelerator technology and the collaborative approach to addressing scientific problems developed in the physics community, Rosen said.

Voice your opinion

Dennis Kovar, DOE's Director, Nuclear Physics Division, discussed the department's role in training a large fraction of the new Ph.D.s in nuclear physics, and cited several successful research programs in addition to RHIC.

"Our facilities are performing well and we are a strong, world-class program," he said. There will be some increases in funding for selected projects at the AGS and a large increase in funding for scientific computing, Kovar revealed. But he acknowledged that RHIC and AGS users, for the most part, have been suffering with tight budgets. With the Senate's deep budget cuts, he said, "RHIC will be taken back to the fiscal year 2000 funding level," which will translate into a six-to-ten week reduction in running time.

Can users do anything to influence these funding decisions? "Write a letter to your representative to ensure that this money is allocated properly," Kovar suggests. "You have the numbers and you can voice your opinion."

There may be other ways to get funding through programs sponsored by the National Science Foundation (NSF), said NSF Program Director Brad Keister. Information about specific programs can be found at: http://www.nsf.gov/cgi-bin/pubsys/browser/select.pl. The key to getting funding, he said, is to "make a concise case for the science and articulate the things you want to do."

Presentation

Providing a respite from budget concerns, RHIC & AGS Users' Executive Committee Chair Thomas presented plaques thanking David Hendrie, former Director, DOE Nuclear Physics Division; Nicholas Samios, former BNL Director; and Satoshi Ozaki, Associate Laboratory Director for RHIC; for sustained dedication to the RHIC facility (see photo, top center).

Scientific optimism

Despite the budget struggles, RHIC and AGS users discussed the current research atmosphere with scientific optimism. Fulvia Pilat, of BNL's Collider-Accelerator Department, recapped RHIC's first year. Thomas Roser (C-A) laid out the plans for studying spin physics with polarized protons at RHIC. And Tom Throwe gave a presentation on the RHIC Computing Facility.


CN8-11-00

Poster session at Berkner Hall

CN8-50-00

David Hardtke, Gaspare LoCurto, Mike Lisa


CN8-66-00

Mike Zeller, Sally Dawson, Tom Kirk


CN8-46-62

Xin-Nian Wang, Peter Seyboth, Helmut Satz, Christof Roland, Sonia Kabana


CN8-69-62

Brian Cole, Wit Busza


CN8-70-62

Volker Eckhardt, Maurice Goldhaber

The afternoon session followed with reports from the four RHIC experiments, a poster session, and presentations on several research projects at the AGS, including heavy-ion physics, medium energy physics, kaons, and g-2.

Day two began with two mini town meetings, where the group discussed long-range plans, including upgrades for the RHIC accelerator/collider and the four detectors, as well as new experiments and future directions at BNL and elsewhere.

Future directions

Tom Kirk, BNL Associate Laboratory Director for High-Energy and Nuclear Physics, described a proposal to increase RHIC's luminosity to 40 times its current level. "We'll be able to do in one week what we can do at present in one year," he said.

Several speakers invited users to attend planning sessions and other meetings, such as one scheduled for next summer in Snowmass, Colorado, to help identify the next round of physics questions and the kinds of tools that will be needed to get the answers.

"It's difficult to ask people as RHIC is just going on line to think five years or more into the future, but the planning for these upgrades has to begin now," Kirk said.

"We must make such efforts to continue RHIC's viability," echoed Peter Paul.

Advances in theory are also essential to keep the field vital. As Larry McLerran said in his presentation, BNL's theory group is strong and growing. "I've never had so much fun in my whole life as I've had in my last year here," he said. "And that's because of the dynamic intellectual interactions with the people here."

But he outlined areas that need strengthening on the theory side, including spin physics, astrophysics, and RHIC event modeling.

The plan for eRHIC — configuring the collider to accelerate an electron beam to 10 billion electron volts — was also discussed in detail, as were the finer details of the search for quark-gluon plasma.

With lively discussions spilling out into the lobby during each break for coffee and other refreshments, the meeting was obviously a huge success.

As Lab Director John Marburger, who spoke at the banquet following the meeting, said, "The fact that new physics is appearing so soon after start-up is astounding. This happens only when well-prepared teams put in long hours. It's an impressive start for a program that promises a lot of excitement in the future."

—Karen McNulty with John Galvin

Rent-a-PC Demo, 8/22

Rent-a-PC will be in Berkner Hall on **Tuesday, August 22**, 11 a.m.-2 p.m., to discuss short-term computer rentals for BNL employees. Rent-a-PC provides desktops, notebooks, LCD projectors, servers, etc., for a day, a week, a month or more.

They offer immediate availability as well as local delivery, setup and on-site support. Equipment is pretested, delivered and installed with a "no excuses" guarantee. For more information, call 273-8888.

Vacuum Seminar

Varian Vacuum Technologies will offer a four-hour vacuum course, 8:30 a.m.-12:30 p.m., on two days: **Tuesday and Wednesday, August 29 and 30**, in Room B, Berkner Hall.

From skilled practitioners to those with minimum experience, those interested in vacuum science will benefit from this seminar in high and ultrahigh vacuum. Topics will include HV/UHV introduction, materials selection, gas load, system pumping speed, vacuum gauges, system operation and troubleshooting, and a question and answer session.

Advanced registration is required, so call 516-795-3320 or e-mail jim.primm @varianinc.com. Include your name, affiliation, phone number, and specify which date you will be attending.

Wireless Demo, 8/23

On **Wednesday, August 23,** 10 a.m.-2 p.m., in Berkner Hall, **CTP Wireless** will discuss the AT&T corporate cellular rate for BNLers. One service plans has airtime rates of 20 cents/minute and 40 minutes' airtime at $19.99/month, 20 percent off airtime charges, and unlimited off-peak airtime for an extra $4.99/month. Free features include a digital phone with car adapter, caller ID, voice mail with notification, and more. For more information, call Dennis Lamm, 585-2900.

Bellport Art Show

Susan Chrien, who co-chairs the BNL Art Society with retiree Robert Chrien, Physics Department, is one of two artists whose work is featured in an exhibit at the Brookhaven Youth Orchestra (BYO) & Arts Academy, Bellport.

Vibrant color and originality of conception characterize Chrien's oils, watercolors, monoprints and collages, which include subjects that range from portraits to landscape, realistic to abstract.

The exhibit is free, and all the BNL community is cordially invited. The Arts Academy is next to the GAP store at the west end of Bellport Outlet II, which is north of Sunrise Highway at Exit 56. For more information about the Academy, call 776-2084 or visit www.BYO-ARTS.org.

Attn. Site Residents: Extra Shuttle Service

Effective tomorrow, Saturday, August 19, the Saturday shopping shuttle offering free transportation to and from the Southport Shopping Mall in Shirley will have new departure times and locations to its route (with return to the same locations). The first departure is:

8:30 a.m. Fleming House - Bldg. 180
8:35 a.m. Curie House - Bldg. 258
8:45 a.m. Lollipop House.

The shuttle operates continuously to and from the Southport Shopping Mall, with the last trip departing from the Mall at 12 noon in front of the Walbaum's supermarket. The vehicle is provided by Sunrise Coach Lines. For more information, contact BNL's Transportation Office, Ext. 2535.

BNL's Alternate Gold-Gold Events

John Usher's golf play resulted in his winning two Long Island Senior Games' gold medals this May in the 50-55 year age group, one for his low gross score, one for his low net score.

Anyone who is interested in attending next year's Long Island Senior Games, whether as a player or a spectator, is invited to contact Lois Marascia, marascia@bnl.gov, Ext. 8600.

BNL's best-known gold-gold events began in June, when two beams of gold ions were collided at the Relativistic Heavy Ion Collider (RHIC). But perhaps they had a precedent!

In May, a small group of BNL sports enthusiasts competed in several categories of the Long Island Senior Games held at Nassau Community College and Eisenhower Park. Between them, they won a bunch of gold medals — five in all.

Golfer John Usher circuited the course in his 50-55 age group to produce two gold wins, one for his low gross score, the other for his low net score. And BNL's volleyball teams — women's, men's, and co-eds — each ran rings around the opposition to win a gold medal.

Says Lois Maracia, who played in both the women's and co-eds' teams, "Next year, we expect to return, so we hope that others from BNL as well as retirees and friends, will join us to compete in some of the other events. Winning was a plus, but the main fun we had was in meeting up together and enjoying the games. — Liz Seubert

Three BNL volleyball teams won gold medals at the May Long Island Senior Games. Pictured are the co-ed team champions: (from left) Carol Canuscio, a friend; Bill Kropp, BNL retired; Jean Spears, BNL retired; Gene Schumacher, a friend; Lois Marascia, BNL; Jim Higgins, BNL; and Dan Mullaly, BNL. The women's team played with Canuscio, Spears, and Maracia; the men's included Kropp; Higgins; Walt Reams, BNL; and Mullaly.

To Learn Some English, Meet New Friends Join Hospitality's Program in September

Roger Stoutenburgh CN5-257-62

With instructors Joe O'Conor (second from right) and Mary Jane Sheridan (third from right), some students from BNL's "English for Speakers of Other Languages" program celebrate the end of their first session.

Over the past six months more than 40 family members of visiting scientists have improved their English speaking skills. They attended the English for Speakers of Other Languages Program, run by Joe O'Conor, Reactor Division, with volunteers Mary Jane Sheridan and Helga Guthy.

O'Conor, who has been affiliated with the Suffolk County Chapter of the Literacy Volunteers of America for the past eight years, was asked this past March by BNL's Hospitality Committee to look into what could be done to enhance BNL's existing English-language program. After discussions with residents, and using the existing program as a base, he decided that five different levels of instruction were needed. Each level meets once a week for 1.5 to 2 hours.

As many residents had requested, the program runs in the mornings when child care is available at the Upton Nursery School. Sheridan offers one-on-one instruction with students who speak little or no English. O'Conor teaches the three intermediate levels, and Guthy works with students who are preparing to take the "Test of English as a Foreign Language" exam, which is often required to gain admission to colleges and universities, and to take professional exams such as medical boards.

While some English grammar is taught, most lessons focus on "survival skills," O'Conor explains. "We are teaching people the vocabulary and dialogue needed for life at BNL: how to handle money, how to make an appointment with a doctor, how to report an emergency, etc."

The last week of the program will focus on how to go to the beauty parlor. "I give them what they want, and this is what they've been asking me for," he says.

The program has increased attendance at many hospitality committee functions. According to O'Conor, "If individuals don't speak English, they are restricted to socializing only with others who speak their language. Once they have some English, they can talk with new people and develop new friendships."

In fact, he says, the English classes themselves have become a way for the residents to socialize.

Over 40 students, representing 15 different countries and languages, have been involved in these English classes. "New students are always welcome," says O'Conor.

Next registration session

The next registration session will be held in the Recreation Building in the apartment area on Tuesday, September 12, at 10 a.m. and 7 p.m., and on Wednesday, September 13, at 10 a.m. Additional volunteer English tutors are also needed. Training workshops for English tutors are given at many local libraries. For more information, contact O'Conor, Ext. 2212.

— John Galvin

Swimming Pool Will Close for Renovations, 9/1

The pool will be closed for major renovations beginning September 1, and will remain closed until further notice. Subsequent locker arrangements will be posted. If you have any questions contact Recreation Supervisor M. Kay Dellimore, Ext. 2873, or dellimore@bnl.gov.

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.

Call for Bowlers

Summer may not yet be over, but it's time to "think bowling" again. All BNL employees, facility users, retirees, family and friends are welcome to join in. You do not have to be a great bowler, just a willing one!

Applications for the Thursday night mixed league that meets in Shirley are available now.

A captains' meeting will be held on Thursday, August 24, at noon, in the Building 211 conference room.

All team registrations are due by August 31. For applications and more information, contact Debbie Keating, Ext. 3888.

IBEW Meeting

Local 2230, IBEW, will hold its regular monthly meeting on Monday, August 21, at 6 p.m. in the Knights of Columbus Hall, Railroad Avenue, Patchogue. A meeting for shift workers will be at 3 p.m. at the Coram Union Office at 3650 Route 112. The agenda includes regular business, committee reports, and the president's report.

New Process for Computer Purchases

Effective August 23, BNL will implement a new procurement process for computer systems, peripherals, and software/documentation. The revised process will help reduce the time and cost of making a purchase.

For example, most standard systems will be purchased through the requisitioner's department/division without additional approval from the Information Technology Division.

Detailed information can be found on ITD's Web site, www.itd.bnl.com.

See Science Museum Thursdays 1-2 p.m.

Two more Thursdays remain — Thursday August 24 and August 31 — when, from 1 to 2 p.m., the BNL Science Museum will welcome visitors.

All the BNL community, especially families living on site, are warmly invited to come and see the exhibits, which are chosen to demonstrate the principles of science in an interesting and exciting way. Children usually love visiting the museum, but any child of 14 or under must be accompanied by a parent or guardian.

Arrivals & Departures

Arrivals

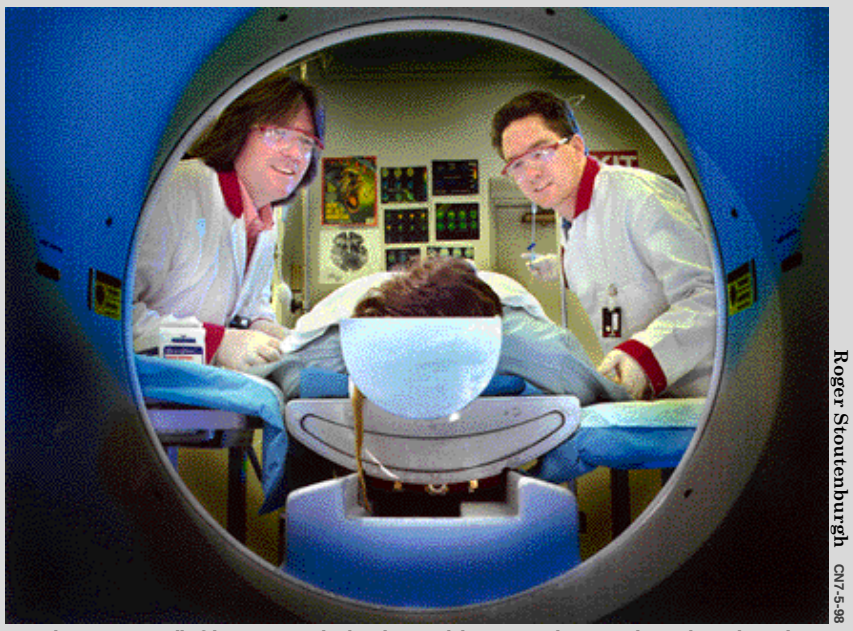
Vibhudutta Awasthi ..... Medical
Joel R. Carney ..... Chemistry
Elena M. Filippova ..... Biology
Richard G. Iaccarino ..... Plant Eng.
Xianghong Liu ..... Chemistry
Cresencio Mascarenas Jr. ..... ITD
Abdallah Naidja ..... Env. Sci. & Tech.

Departures

Andrew Feldman .. Proc. & Prop. Mgt.

Free Summer Sundays Continue Through 8/27

Addiction Research Featured 8/20



Roger Stoutenburgh CN7-5-98

Stephen Dewey (left), BNL, and Charles Ashby, St. John's University, show how a PET scanner is used to investigate brain mechanisms underlying addiction.

This Sunday, come to meet Stephen Dewey, a BNL researcher in the Chemistry Department, to learn how addiction to cocaine, alcohol, and tobacco affects brain function. Dewey is a member of BNL's Positron Emission Tomography (PET) research team, known for making significant discoveries about the mechanisms of addiction and its treatment. This Sunday, Dewey will present information that touches on all addiction: smoking, alcohol, and drugs. The presentations, which will be suitable for children age 10 and up as well as for adults, will be held at Berkner Hall, at 10:30 a.m., noon, 1:30, and 3 p.m., instead of the Whiz Bang Science Show. In addition to Dewey's presentations, there will be science demonstrations set up in the Berkner Hall lobby for younger children to enjoy.

Summer Sunday Tours continue this week with guided bus tours of the Lab site, which run continuously throughout the day. The Camp Upton Historical Collection, located at the former Camp Upton chapel, contains the history of the BNL site during its pre-Lab days as a U.S. Army camp during World Wars I and II. Organized by BNL's Museum Programs of the Community Relations Office, BNL Summer Sunday tours extend from 10 a.m. to 5 p.m., but visitors must arrive before 3 p.m. The tours are free, open to the public, and no reservations are required.

In our 9th year!

BNL Ballroom, Latin & Swing Dance Club

presents

2000-01 BALLROOM DANCE LESSON SCHEDULE

Wednesdays

starting Wednesday, September 13

North Ballroom, Brookhaven Center

time Wednesday	series 1 09/13-11/01/00†	series 2 11/08/00-01/17/01† no class: 11/22, 12/20 & 27	series 3 01/24-03/14/01†	series 4 03/21-05/16/01† no class: 04/11
5-6 p.m.		— EXTRA HELP — — individual/group lessons —		
6-7 p.m.	INTRODUCTION American Ballroom 101: lindy (09/13) swing (09/27) bolero (10/11) tango (10/25)	SYLLABUS American bolero I (11/08) & tango I (12/13)	INTRODUCTION American Ballroom 102: rumba (01/24) cha cha (02/07) waltz (02/21) Vien. waltz (03/07)	SYLLABUS American bolero II (03/21) & tango II (04/25)
7-8 p.m.	SYLLABUS American rumba (09/13) & waltz (10/11) review I & II	SYLLABUS American rumba III (11/08) & waltz III (12/13)	SYLLABUS American lindy III (01/24) & swing III (02/21)	SYLLABUS American lindy (03/21) & swing (04/25) review III & IV
8-9 p.m.	MASTER smooth/ standard A (09/13)	MASTER — American/International style — rhythm/ Latin A (11/08)	MASTER smooth/ standard B (01/24)	MASTER rhythm/ Latin B (03/21)

† *dates as of August 2000; subject to change as necessary.*

These are the best and most affordable group ballroom-dance lessons around, so classes are very popular! Enrollment is limited, so register in advance of the first day of class! BNL employees, retirees, facility-users, guests, family, and friends are welcome!

For more information, contact —

- Marsha Belford, club president, belford@bnl.gov or Ext. 5053.
- Ron Ondrovic, vice president, ondrovic@bnl.gov or Ext. 4553.

Classified Advertisements

OPEN RECRUITMENT – Opportunities for Laboratory employees and outside candidates.

MK8688. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in accelerator physics with both theoretical and experimental capabilities. Will work as a member of the Accelerator Physics Group in the Spallation Neutron Source Project. Experience in ring impedance calculation and measurement, ring component impedance minimization, instability threshold and growth rate calculation is essential. Must be able to work with other members of the group and with engineers and technicians of the Project to implement the design effectively. Under the direction of J. Wei, Collider-Accelerator Department.

MK8592. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in physics, chemistry or biomedical engineering. Will participate in laboratory research focusing on the development and application of functional and perfusion MRI, image processing, and relaxographic imaging, and their integration with PET studies. In addition, research will involve studies on the effects of illicit drugs and HIV infection on the human brain, using fMRI and MRS. Other research areas include cancer and aging-related diseases. Under the direction of T. Ernst and N. Volkow, Medical Department.

MK8591. POSTDOCTORAL RESEARCH ASSOCIATE – Requires a Ph.D. in physical chemistry to participate in laboratory research focusing on the development and application of functional and physiological brain MRI techniques including 1H MRS, functional and perfusion MRI, image processing, and relaxographic imaging and their integration with PET studies. Will be involved in studies on the effects of illicit drugs and HIV infection on the human brain, using fMRI and 1H MRS and other research areas including cancer and aging-related diseases. Under the direction of T. Ernst and N. Volkow. Medical Department.

NS8629. MECHANICAL ENGINEERING SECTION HEAD – Requires an MS or Ph.D. in mechanical engineering, or allied discipline, a minimum of 15 years' experience, a high degree of leadership ability, excellent communication skills, and knowledge of ESH&Q. Experience in a scientific research/user facility is highly desirable. Reporting directly to the Chair, and as a member of the NSLS Management Group, will be responsible for the management of a 35-person group consisting of engineers, designers, and technicians. Duties include maintenance of the research machines and their utility systems; management responsibilities over multiple projects, including planning, interpreting and coordinating assigned work; and provision of technical direction and guidance to staff and evaluating and assessing project results. The Mechanical Section works with scientists to create, from concept through installation, new mechanical and electromechanical devices for electron accelerators, storage rings, and experimental beam lines. These designs involve disciplines such as UHV, precision optics, lasers, high precision mechanical measurement, and control and high electromagnetic fields. Analytical design techniques, such as FEA and thermal analysis are routinely used. National Synchrotron Light Source, Department.

NS9040. MEDICAL ASSOCIATE POSITION – Requires a bachelor's degree in psychology, or the equivalent, to participate in clinical research using a functional MRI to study the effects of disease on the brain. Previous experience in human subject research is highly desirable. Responsibilities will include coordinating studies, performing initial screening evaluations, conducting telephone follow-up, responding to questions regarding clinical studies, and coordinating outpatient visits. Will also assist in the collection and retrieval of necessary clinical data for subject files. Medical Department.

DD9003. TECHNICAL POSITION - Requires a BS degree in a physical science (physics, chemistry, engineering), excellent communication skills, and a demonstrated ability to learn to operate complex apparatus and computer software. Experience in the operation of the UNIX computer operating system and in electromechanical debugging and troubleshooting is desirable. Under general supervision, will assist users of the Structural Biology beam lines located at the National Synchrotron Light Source in the execution of x-ray diffraction experiments. Responsibilities include the maintenance and repair of apparatus, as well as the performance of routine computer operations. Biology Department.