

Federal Agency to Begin Public Health Assessment of BNL

This fall, the federal Agency for Toxic Substances and Disease Registry (ATSDR) will begin a public health assessment of BNL. This assessment is required under Superfund Law for each one of the more than 1,000 Superfund sites nationwide.

A sister agency to the Centers for Disease Control, the ATSDR is under the U.S. Department of Health and Human Services.

During the public health assessment, which only addresses environmental exposure, not worker exposure, ATSDR will review data on contamination at BNL, pathways by which the public can be exposed to contaminants, community-health data and concerns of area residents. From this information, the agency will evaluate the degree of current contamination and the potential for harm now and in the future.

Even though BNL was named a Superfund site in 1989, the ATSDR is conducting health assessments of federal facilities according to a ranking compiled in 1991. At that time, BNL was ranked after such sites as Hanford in Washington State and Mound in Ohio, part of the U.S. Department of Energy's (DOE) weapons complex.

Over the next few months, ATSDR will also conduct a public health consultation specifically for groundwater. DOE requested this consultation, following that agency's public water hookup announcement in January.

ATSDR's regional representative is Steve Jones, who can be contacted at his office in New York City at (212) 637-4306.

ATSDR representatives met with the Community Work Group on July 8 to answer questions about the health assessment and the health consultation. According to ATSDR representatives at that meeting, the agency uses existing data to conduct its studies, but does verify that the data are valid. In addition, its work is based on current medical knowledge and the most protective health standards.

The Community Work Group, organized by community members in January to serve as a conduit between BNL and the community, met twice in June: on the 10th, to air concerns about BNL to an investigator from the U.S. House of Representatives, and, on the 27th, to hear a presentation by the New York State Department of Health, Division of Environmental Health, on risk assessment and how standards are set.

Next week, on Thursday, July 25, at 7 p.m. in Berkner Hall, the Community Work Group has scheduled a meeting to hear from Lab staff on future plans for the High Flux Beam Reactor. In January, the work group came up with a list of topics that were of concern to the community, including BNL's research reactors. BNL staff gave an overview of the reactors on May 27 and repeated that talk this week, on July 15. — Mona S. Rowe

The AGS — Fertile Field for Groundbreaking Research

A Strange Story: Elusive Particle May Have Been Spotted at AGS

July 29, 1996, marks the 36th anniversary of the Alternating Gradient Synchrotron's (AGS) first reaching its design energy. With about 800 experiments under its belt — three of them Nobel Prize winners — the AGS continues to provide scientists with a fertile field for groundbreaking research.

This is the second of a series of stories that the Brookhaven Bulletin is running this month highlighting current research at the AGS.

After a 20-year search, researchers may have had a glimpse of a very elusive particle.

The H particle's existence was predicted by Massachusetts Institute of Technology physicist Robert Jaffe in 1976, and a hint of the particle's sighting in an experiment was reported just this year at BNL's Alternating Gradient Synchrotron (AGS).

Since Jaffe's prediction, researchers have been interested in finding the H because it could lead to a greater understanding of the forces that fasten quarks together, explained Morgan May, a BNL physicist in the Physics Department who helped develop AGS Experiment 888.

May and collaborating researchers from six universities published an article in the April 25 issue of *Physical Review Letters* presenting their two possible sightings of this rare particle.

What researchers described were two "candidate" particles that showed all the signs of being the H. Princeton professor Alan Schwartz and his graduate student Brent Ware, University of Texas, Austin, analyzed the data that turned up the two sightings.

"If we had more events, then we wouldn't have to call them candidates," May said. "But with two events there is always the possibility that there is some other explanation."

"I regard their two events as a very intriguing possibility," Jaffe said. "I certainly think it is a good place to look in the future."

A Different Kind of Particle

If the H particle exists, it would have a makeup different from that of other particles. But to understand the H, you need to know about quarks.

Physicists now believe all matter is made up of these fundamental particles, and most matter consists of only two "flavors" of quarks: up and down. Other, heavier, quark flavors



BNL physicists (from left) Sebastian White, Morgan May and Steve Kettell all were involved in the search for the H particle at BNL's Alternating Gradient Synchrotron. Behind them is an adapted version of the detector they used in the search.

— strange, charm, bottom and top — exist only in exotic places like neutron stars or particle accelerators such as the AGS.

Quarks bind together to form larger particles, the most common of which — protons and neutrons — exist in groups of three quarks of the up and down type. Another three-quark particle, which only can be seen on Earth in an accelerator, is the lambda, which consists of one up, one down and one strange quark.

The H particle is different because it consists of six quarks instead of the standard three, May explained.

"Theoretically, there is no reason (continued on page 2)

High Density Matters: A Sambamurti Lecture

Near Thomson Road at BNL, violent, high-speed collisions have occurred. No one has been hurt, but high density matter is believed to have been created.

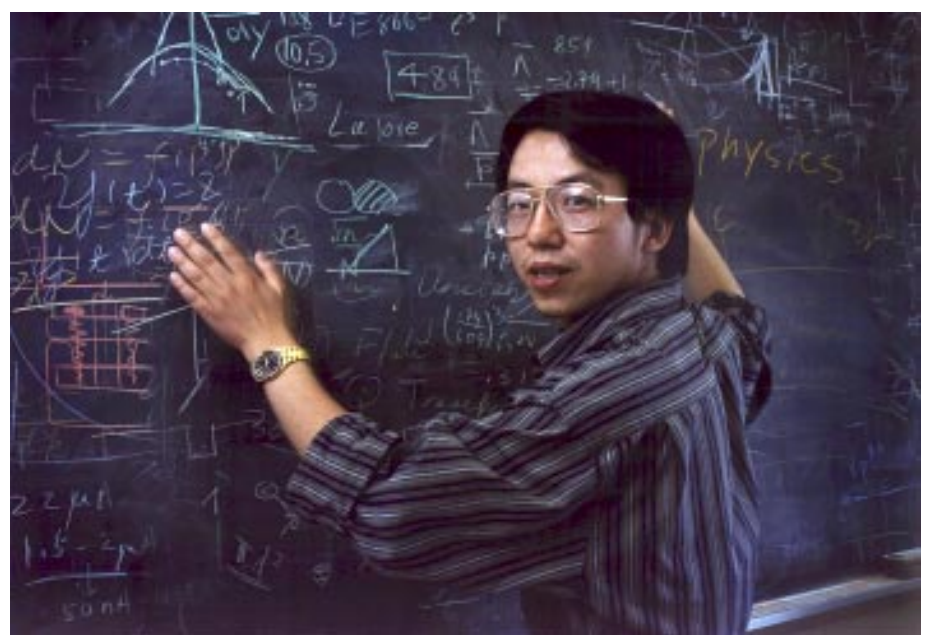
This high-density matter was the result of gold ions' smashing into a stationary gold target in BNL's Alternating Gradient Synchrotron (AGS).

Ziping Chen, a physicist in BNL's Physics Department will present the results of these high-density matter experiments on Monday, July 29, when he delivers the 1996 Sambamurti Memorial Lecture entitled "Creating High-Density Matter with Heavy-Ion Beams at the AGS." His talk will begin at 3 p.m. in the large seminar room of Physics, Bldg. 510. Students interested in nuclear physics are especially encouraged to attend.

Four years ago, BNL scientists began to try to understand the properties of tiny portions of high-density matter created when two gold ions stick together momentarily after a collision.

"We now have evidence that high density matter has been created," said Chen.

This evidence comes from a comparison of the results of gold collisions with the results of silicon collisions performed a number of years earlier at the AGS. In general, silicon ions tend to pass through each other during a collision, whereas gold ions tend to stick together creating tiny portions of high-density matter.



Ziping Chen

— Photos on this page by Roger Stoutenburgh

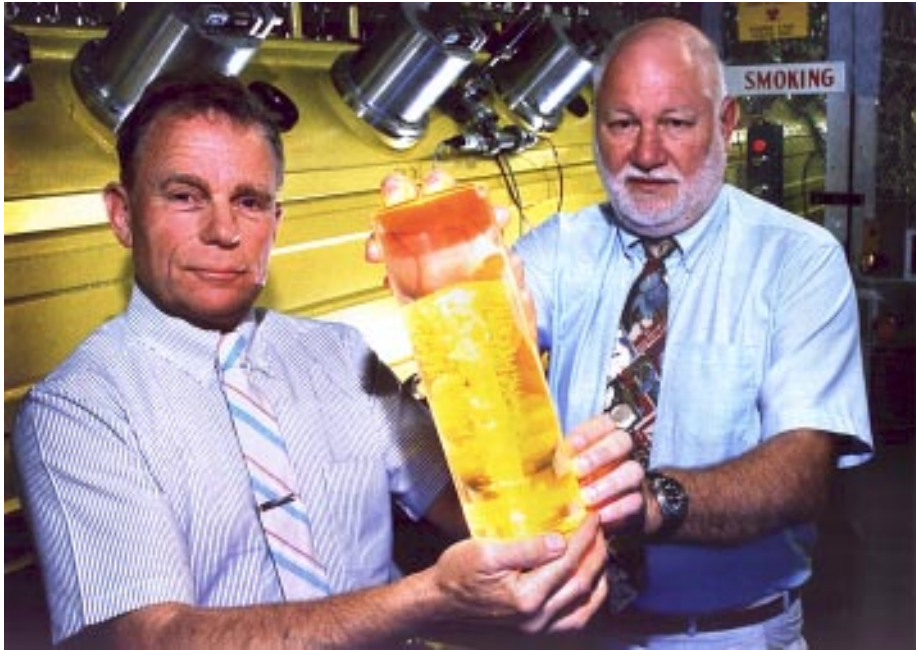
The results of this research have caused physicists to formulate new and intriguing questions that they hope to answer with BNL's Relativistic Heavy Ion Collider (RHIC). For example, at higher acceleration rates, will ions continue to "stick" together or, due to the momentum of the acceleration, pass through each other?

Chen came to BNL in 1988 as a research associate, after receiving a Ph.D. at Michigan State University. While at Michigan, he worked at the National Superconducting Cyclotron Lab on heavy-ion collisions at lower

energies. At BNL he advanced to an assistant physicist in 1990, and then associate physicist in 1992. He became a full physicist in 1995.

The Sambamurti Memorial Lecture was established to commemorate Aditya Sambamurti, a young BNL physicist who made contributions to the Lab before succumbing to cancer in 1992, at age 31. Each year, an outstanding young physicist whose professional interests overlap those of Sambamurti is selected by a BNL Physics committee to deliver the lecture. — Sarah Gilbert

To the Smithsonian: From BNL



Roger Stoutenburgh

Ron Dobert (left) and Lew Snead, both of the Department of Advanced Technology, hold up a Lucite cylinder like the one that has been donated to the Smithsonian.

If you visit the National Air and Space Museum of the Smithsonian Institution in Washington, D.C., in a few years, you might notice another artifact from BNL: In April, BNL donated a Lucite cylinder to the Smithsonian for a planned exhibit on space defense.

Approximately 25 cylinders were made at BNL's Radiation Effects Facility (REF) to show the penetrating power and associated radiation damage that a neutral particle beam could inflict on an Inter-Continental Ballistic Missile (ICBM) warhead. As part of the Strategic Defense Initiative program, from 1985 to 1992, an REF team headed by Lew Snead, with Ron Dobert as chief of operations, tested the effects of radiation on things ranging from computer chips to the guidance or detonation devices of nuclear weapons.

The Lucite cylinder, essentially pure Plexiglas, is approximately a foot long and four inches in diameter. The beam gives the cylinder an amber hue and forms a cracked and bubbled center in the shape of a giant golf tee. The entire cylinder appears full of tiny hairs — trails from the crackling electrical discharges that go to ground during the 200-million-electron-volt (MeV) beam penetration. It gives the impression of frozen electricity.

"They are actually quite beautiful," said Dobert, who is now a technical supervisor in the Department of Advanced Technology. "The cylinders are sort of rare and not easy to make," he explained and added that many of them were given to government officials. "I think Margaret Thatcher has one," Dobert said.

After seeing the National Atomic Museum in New Mexico, Dobert decided to call the Smithsonian "just on a whim," and ask if they would like one of the Lucite cylinders. They didn't hesitate to accept the cylinder.

The Lucite cylinder has now joined a list of several items that have been donated to the Smithsonian by BNL, including such things as a high-energy physics bubble chamber donated in 1977 and Ernest Courant's notebook with early calculations about the strong focusing principle that he, Stanley Livingston and Hartland Snyder discovered at BNL in 1952. — Sarah Gilbert

A Strange Story (cont'd.)

why there couldn't be a six-quark particle," May said. "But its existence needs to be confirmed by experiment."

Jaffe theorized that a particle with maximum binding would consist of two up quarks, two down quarks and two strange quarks. That is the same combination you would have if two lambda particles combined.

For years, there has been no sign of the H particle, but that is not because no one has been looking, Jaffe explained.

"There have been several experiments, but, in retrospect, there just may not have been sufficient sensitivity to detect the H," he said.

The Search Is On

This may have changed in 1991 when May, along with Princeton University professor Val Fitch and his graduate student Joshua Klein, became interested in the H particle. In 1980, Fitch won the Nobel Prize in Physics, with James Cronin, for his discovery of CP violation at the AGS.

If the H were tightly bound, as Jaffe had proposed, then the researchers reasoned it would be present in a beam of uncharged, or neutral, particles since the H is a neutral particle.

E791 at the AGS already had a neutral beam set up, as well as excellent detectors, May remembered. Because it produces intense beams of strange particles, the AGS was the perfect place to run the experiment. So, May, Fitch and Klein approached the E791 group about searching for the H while the group was altering its particle-detection hardware.

Bob Cousins at the University of California, Los Angeles, and Schwartz, then at Stanford, both were working on E791. They joined E888 and became spokesmen in this search for the H particle.

The experiment was set up so that protons were accelerated toward a copper target at a high speed, and the collision created a large array of particles. A magnet swept away any particles that had a charge, while neutral particles coursed through the magnetic field unaltered.

Neutral particles then shot toward detecting equipment. In the case of the H, the researchers were looking for either dissociation into two lambda particles or decay into a lambda particle and a neutron.

Lambda particles that came directly from the target were ignored since they could have been created during the initial collision. The researchers instead looked for particles that had a

direction different from that of the other particles in the beam.

When the H broke up, it would send the lambda and neutron sideways. Then researchers could trace the trail of the lambda particle back to where the H particle had broken up.

Early in 1992, the group spent a week looking for each of the H particle's decay possibilities. Two weeks is not very long in the world of particle physics, May said, where one experiment can take data from six months to a year.

"The analysis took a long time, but we were able to have an idea, propose it and do the experiment in a relatively short amount of time," May said. "You are normally talking much longer time scales."

Schwartz and Ware analyzed the data with consultation from the rest of the group. Ware did his doctoral the-

sis looking for the decay products of the H, and Karl Ecklund, a graduate student at Stanford, wrote his doctoral thesis on the experiment.

A Little Competition

But the H has some theoretical competition.

The search also has been on for an object known as a double hypernucleus. A double hypernucleus is the nucleus of any atom with two lambda particles attached. For example, the double hypernucleus of a helium atom would contain two protons, two neutrons and two lambda particles.

The two lambda particles contain the same combination of quarks as an H particle. Except in special circumstances, if double hypernuclei exist, then the H cannot exist. If the H exists, then double hypernuclei cannot exist.

AGS-2000: A High-Intensity Look Forward



Roger Stoutenburgh

With over 6×10^{13} protons per pulse (p/p), the Alternating Gradient Synchrotron (AGS) provides the world's most intense proton beam for particle physics experiments done by users from around the world. By the year 2000, the AGS will be able to offer an intensity of over 10^{14} p/p. And, though the AGS will be used as the injector for BNL's Relativistic Heavy Ion Collider (RHIC) from 1999 on, the AGS will be needed for this duty only four hours per day — leaving 20 hours of operating time open for particle physics. To identify the best physics that can be performed with the AGS during the first decade of the next century, the AGS-2000 Workshop was held at BNL May 12-17. Cosponsored by BNL and the Division of High Energy Physics of the U.S. Department of Energy, the workshop brought together 160 physicists who considered the physics potential of 15 experiments, including muon polarization in kaon decays, rare muon processes and high baryon density heavy-ion physics. Before the working groups on these experiments met in parallel sessions, overview talks were given on the future potential of the physics and the accelerator. These included a talk on rare kaon decays and muon interactions by BNL theoretical physicist William Marciano (pictured at podium). The summaries and conclusions from the working groups will be published. Many of these could then be submitted as letters of intent or developed into proposals for experiments for consideration by the AGS-RHIC program advisory committee, which will next meet in October. — Marsha Belford

"There are two mutually exclusive phenomena out there," Jaffe said. "Either there are double hypernuclei and no tightly-bound H, or vice versa."

Experiments at the AGS are looking for either possibility. Hank Crawford from the University of California, Berkeley, is heading one search for the H particle, and Gregg Franklin of Carnegie Mellon is heading a different search. May, along with Franklin and Charles Davis from TRIUMF, a Canadian national laboratory, is looking for the double hypernuclei.

Jaffe compared looking for the H particle to looking for rare species of animals. If a certain frog is reported in California, you can't go to Oregon and expect to see it there.

"Just because you didn't see it where you looked doesn't mean it doesn't exist," Jaffe said. "You have to go back to where it was reported and look for it there."

But that poses a problem for the E888 team. The hardware changes that gave the group time on the neutral beam in the first place have altered the setup of the detectors.

"It is not just that it has been rebuilt," May said. "There have been some major alterations. It was improved for its main purpose, but we're not sure if it was improved for this secondary purpose."

"We have to act quickly if we want to discover the H because other people are looking," he concluded. "People are certainly taking it seriously."

For now, however, both Jaffe and May want to make sure E888's experimental result are taken with a great deal of caution.

"We are very excited, but we have learned to temper our excitement about reports like these," Jaffe said. "I'm excited about the possibility that this will lead to further research and more data. Right now, the jury's still out." — Andrea Widener

Arrivals & Departures

Arrivals

Lan-Song Jin.....NLSL
Sergei S. Maslov.....Physics
Balchand J. Patel.....Envir. Res.
Christine M. Quiry.....RHIC
John W. Vaughn.....NLSL

Departures

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

Ralf-Hendrik Menk.....NLSL
Noh A. Park.....Advanced Tech.

Note to Employees:

Attendance at lectures, meetings and other special programs held during normal working hours is subject to supervisory concurrence.

A Fair Mix of Science & Fun



Roger Stouenburgh

Two young visitors at the 1996 BNL Elementary School Science Fair on Saturday, May 18, had fun examining Kim Wolk's project called "How Fast Does Your Heart Beat?" Wolk, a fifth-grader from Tooker Avenue Elementary School in

West Babylon, was one of almost 750 students from Suffolk County schools who entered more than 450 projects in the fair. The projects ranged from lighthearted to topical, as in this sampling of titles: "What Kind of Soil Makes the Best Mud Pies?", "Marshmallows on the Moon," "Why Do They Freeze Hockey Pucks During a Game?", "Is the Water from BNL's Sewage Plant Clean?", "Testing Air Quality in East Northport," and "Did the Hampton Fire Make the Soil More Fertile?" Teams of Brookhaven scientists and local elementary school teachers judged the projects based on the students' scientific thought, creativity, thoroughness and clarity. Seven first-place ribbons were awarded — one for each grade from kindergarten through sixth — and many honorable mention ribbons were also given. The science fair was organized by Museum Programs in the Public Affairs Office and funded by the Office of Educational Programs.

— Diane Greenberg

Healthline Lecture

Lyme Disease: A Medical Update

In 1995, 4,641 cases of Lyme disease were reported to the U.S. Center for Disease Control — and some 40 percent of those reports came from Suffolk County. While natives or long-time transplants to the eastern half of Long Island should be aware of this tick-borne disease, summer guests may not have even heard of it — or realize that flu-like symptoms may mean the onset of Lyme disease.

Therefore, long-term employees and short-stay visitors alike are invited to learn about Lyme disease at the next Healthline lecture, sponsored by the Health Promotion Program (HPP) of the Occupational Medicine Clinic. From noon to 1 p.m. on Tuesday, July 23, in Berkner Hall, rheumatologist Robert Kalish will present "Lyme Disease: A Medical Update." The talk will be available on audiocassette afterwards in the Research Library, Bldg. 477.

As Kalish will relate, though the symptoms of Lyme disease are well-documented and include the infamous bull's-eye rash, no two victims have the same symptoms, no less the same test results or response to treatment. After discussing recent clinical trials and medical controversies regarding the disease, Kalish will focus on related diseases also transmitted by the deer tick and outline the current status of vaccine development for Lyme disease.

Robert Kalish, M.D., is the Director of the Rheumatology Clinic at New England Medical Center Hospital, Boston, and an assistant professor of medicine in the rheumatology division at Tufts University School of Medicine. Board certified in internal medicine and rheumatology, Kalish has recent publications on the treatment of Lyme disease.

To register, return the completed bottom portion of the Healthline flyer recently sent to all employees to Health Promotion Specialist Mary Wood, Bldg. 490, by Monday, July 22. For more information about HPP and its Healthline lecture series, call Ext. 5923. — Marsha Belford

Long Island Science Bowl — Baldwin Is a Three-Time Winner



For the third consecutive year, Baldwin Senior High School won the Long Island Science Bowl, which is aimed at increasing interest in math and science among pre-college students. As the winner of the academic tournament held at BNL on March 16, the Baldwin team (above) won an all-expense-paid trip to Washington, D.C., from May 3-6, to participate against 54 teams in the National Science Bowl. Overall, some 8,500 students from 1,800 schools nationwide participated in regional contests, but the winning team in the national contest was Venice High School in Los Angeles, which had its choice of a trip to either the British Petroleum Alaska Prudhoe Bay facility or to one of three U.S. Department of Energy (DOE) national laboratories. Thirty teams from Nassau and Suffolk high schools competed in the Long Island competition organized by BNL's Office of Educational Programs. The other high schools that placed in the top eight locally were: Garden City, Half Hollow Hills West in Dix Hills, Sayville, Schreiber in Port Washington, Syosset, Vandermeulen in Port Jefferson and Ward Melville in Setauket. The 1996 National Science Bowl was sponsored by DOE, the Bechtel Foundation, British Petroleum Alaska, Duracell and Texas Instruments.

— Diane Greenberg

Register for CPR

Registration is now being accepted for two courses in cardiopulmonary resuscitation (CPR): CPR of adults, 6-9 p.m. on Thursday, August 1; and CPR of children, 6-9 p.m. on Tuesday and Thursday, August 6 & 8. Sponsored by the Health Promotion Program of the Occupational Medicine Clinic, the courses are open to employees, guests and family members.

The cost for the three-hour course is \$22.50 per person; the six-hour course costs \$35. To register, send a note with your name, building number, extension and name of the CPR course to Health Promotion Specialist Mary Wood, Bldg. 490. For more information, call Ext. 5923.

Computing Corner

The Computing & Communications Division (CCD) offers the following. For more information about training classes and/or to register, call Pam Mansfield, Ext. 7286, or e-mail pam1@bnl.gov.

Windows 95 Demo

The PC Resource Center will present a one-hour demonstration of Windows 95 at 2 p.m. on Wednesday, July 31, in the CCD seminar room, Bldg. 515. For more information or to reserve your seat, call Pat O'Connor, Ext. 7341.

PC Training

A few seats remain for the following classes scheduled for August:

Fri., Aug. 2	intermediate Harvard Graphics for Windows
Tue., Aug. 6	intermediate PowerPoint
Thu., Aug. 8	basic Windows 95
Tue., Aug. 13	beginner WordPerfect for Windows

Each of these one-day classes costs \$150.

JAVA & IDL Programming

A free-of-charge, four-day JAVA programming class has been scheduled for Monday and Tuesday, July 29 & 30, and Monday and Wednesday, August 5 & 7. The class will meet in the CCD seminar room, Bldg. 515.

Classes in IDL programming are being planned for August, with time, place and fee to be announced.

LabVIEW Training

Beginning and advanced LabVIEW training will be offered September 16-20. The fee for this five-day class is \$1,500.

Visual Basic

A two-day, introductory course in Visual Basic and how it applies to Microsoft Office products EXCEL and ACCESS will be scheduled for September and October. The cost will be \$300 per person.

Reports Available

The following reports are available from the designated contact to Lab staff and affiliates of DOE, AUI and NRC. Others may purchase them from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, VA 22161.

BNL-52486

Contact: G. Webster, Ext. 3227
Corrosion analysis of decommissioned carbon-steel waste-water tanks at Brookhaven National Laboratory. P. Soo, T.C. Roberts

BNL-NUREG-52488, NUREG/CR-6415

Contact: J. DePass, Ext. 5312
Draft report: Applications of reliability-degradation analysis. W.E. Vesely, P.K. Samanta

BNL-52490

Contact: M. De Angelis, Ext. 3381
Brookhaven National Laboratory Site Environmental Report for Calendar Year 1994. J.R. Naidu, B.A. Royce

BNL-NUREG-52491, NUREG/CR-6422

Contact: J. Frejka, Ext. 2349
Power-excitation analysis for high burn-up cores. D.J. Diamond, L. Neymotin, P. Kohut

Inside Info

Al Farland, Welding Supervisor in the Central Shops Division, and **Steve Kane**, Systems Safety Engineer with the Relativistic Heavy Ion Collider

(RHIC) Project, were awarded first place in the Commercial Category for their poster presentation at the 77th International Welding and Fabricating Exposition and Annual Convention held in Chicago, April 21-25.

Entitled "An Improved Electrode for Cryogenic Applications," the poster described the superior mechanical properties of a custom-engineered alloy for welding the superconducting magnets at RHIC. It was jointly authored with Tom Seiwert and Chris McCowan of the National Institute of Standards and Technology, Boulder, Colorado.

In May, Kane was elected the 1996-97 Vice President for Professional Development of the American Society of Safety Engineers, a national organization with about 32,000 members.

The Brookhaven Bulletin has won a third-place Award of Merit in the 1995-96 Publications & Art Competition of the New York Chapter of the Society for Technical Communications.

BROOKHAVEN BULLETIN

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Amateur Radio

The BERA Amateur Radio Club will next meet at noon on Thursday, July 25, in the third-floor conference room, Bldg. 1005. All BERA members and licensed amateur-radio operators are invited to attend. For more information, call Chris Neuberger, Ext. 4160, or Nick Franco, Ext. 5467.

BNL Bus Venture to Great Adventure

Summer students, visitors and their families are especially invited to join a bus trip on Saturday, August 3, to Six Flags Great Adventure Amusement Park in New Jersey, which features The Great American Scream Machine, Batman, The Viper, and the indoor

rollercoaster Skull Mountain.

The luxury coach with on-board bathroom will leave from the Brookhaven Center at 7 a.m. sharp. Breakfast will be served en route. After six hours of fun at Great Adventure, the bus will return before 7 p.m. The cost is \$30 per person, which includes transportation, breakfast and admission.

To purchase your tickets, cash only, first-come, first-served, see Renée Flack or Donetta Grimes, Science Education Center, Bldg. 438. For more information, call Ext. 3316.

Tread Safely

The Safety Shoe Office located in Bldg. T-88 will be closed on Thursday, July 25, and Monday and Tuesday, July 29 & 30. The office will reopen on Thursday, August 1.

IBEW Meeting

Local 2230, IBEW, will hold its regular monthly meeting on Monday, July 22, at 6 p.m., in the Knights of Columbus Hall, Railroad Avenue, Patchogue. The agenda includes regular business, committee reports and the president's report. There will be a meeting for shift workers at 3 p.m. at the union office.

Garden & Art Bus Trip

On Saturday, August 3, take the next Art Society-sponsored bus trip to see beautiful Wave Hill Gardens, 28 flowery acres on the banks of the Hudson. Then visit the Caramoor Center for Music and Art, a Mediterranean-style private mansion near Katonah, New York, which houses

the Rosen collection of paintings, sculpture and furniture, and incorporates entire rooms taken from European chateaux and reassembled on the site.

The bus will leave BNL's tennis-court parking lot at 7:45 a.m. After a coffee stop, enjoy the gardens from 9:45 a.m. and lunch in the cafeteria or picnic in the park. Leaving at 1 p.m., the bus will get to Caramoor at about 3 p.m., giving time to wander in the garden until the guided tour of the mansion-museum at 4 p.m. By 5:30 p.m., the bus will head back to BNL, returning by about 9:30 p.m. with one snack-style stop.

The cost of \$30 per person (\$28 for seniors) covers bus, Wave Hill and Caramoor. Call Liz Seubert, Ext. 2346 or 286-8563, evenings, for information and reservations.

Classified Advertisements

Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position. Consideration is given to candidates 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, handicap or veteran status.

Each week, the Human Resources Division lists new placement notices. The purpose of these listings is, first, to give employees an opportunity to request consideration for themselves through Human Resources, and second, for general recruiting under 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, or call the JOBLINE, Ext. 7744 (344-7744), for a complete listing of all openings.

Current job openings can also be accessed via the BNL Home Page on the World Wide Web. Outside users should open "http://www.bnl.gov/bnl.html", then select "Scientific Personnel Office" for scientific staff openings or "Employment Opportunities" or "BNL Human Resources Division" for all other vacancies.

SCIENTIFIC RECRUITMENT - Doctorate usually required. Candidates may apply directly to the department representative named.

SCIENTIST - Trained in physical or biological sciences, with several years' research experience and a strong publication record in macromolecular crystallography to join the Protein Data Bank (PDB). A strong background in structural biology is required. The successful candidate will join the archive management group and oversee all activities related to the validation of newly deposited coordinate entries. Responsibilities will include evaluation and adoption of new protocols for assessing and reporting error levels in PDB entries. Contact: J.L. Sussman, Biology Department.

POSTDOCTORAL RESEARCH ASSOCIATE - Trained in solid-state physics, solid-state chemistry or materials science, with a strong background in crystallography. Experience with structure analysis by the Rietveld profile method, phase-equilibria studies at high and low temperatures, and high-pressure diamond-anvile cell techniques is preferred. The research program is centered around the application of high-resolution synchrotron x-ray and neutron powder-diffraction techniques to structure determination phase transitions and properties of a wide range of inorganic materials, and also includes the development of instrumentation and techniques for structural studies at high pressures and low temperatures. The research facilities include state-of-the-art powder diffractometers at beam line X7A at the NSLS and beam port H1A at the HFBR. Contact: D.E. Cox, Physics Department.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

DD 0568. PROGRAMMER/ANALYST POSITION - (term appointment) Requires a BS in computer science or significant experience working in a program development environment. Knowledge of UNIX development environment, including file organization, make utility, archive libraries and source-code management systems (RCS required). Scripting languages skills such as C, Shell and/or Perl are also required, as are strong organization and writing skills. Knowledge of HTML desired. Will support code organization, development, release, testing and documentation in the RHIC/AGS Controls Group. RHIC Project.

DD 9062. CHEMISTRY ASSOCIATE POSITION - (term appointment) Requires a BS or equivalent in biology, physiology, chemistry or equivalent. Position will involve using a wide variety of basic neuroscience techniques, as well as positron emission tomography to investigate changes in neurochemical processes. Experience with techniques including *in vivo* microdialysis in freely moving rats, receptor binding and enzymatic assays, autoradiography, histochemistry, stereotaxic surgery and venous cannulation desirable. Experience working with laboratory animals essential. Chemistry Department.