BROCHHAIEN BULLETIN Vol. 50 - No. 21 BROOKHAVEN NATIONAL LABORATORY



(above) Bldg. 424 in 1990. (below) The wreckage of Bldg. 424 after its complete collapse last January.



Collapse of Bldg. 424 Prompts Sitewide Evaluation of Old Structures

The collapse on January 7 of Bldg. 424, a World War II-vintage building used for storage, and the subsequent investigation of the building's failure has prompted BNL's Plant Engineering (PE) Division to bring in an outside structural engineering firm to evaluate the condition of all buildings of similar age, structure and/or condition on site.

"We will concentrate our attention on about 20 buildings [see box on page 2] that were built during World War II, are wood-truss structures, have unreinforced concrete walls, and/or have large roof spans," explains PE Division Manager Bruce Medaris Jr. "Our goal is never to have another building on site collapse, so we are reevaluating the soundness of similar structures, as well as heeding the conclusions of the committee that investigated the collapse."

After consulting with Bob Casey, Head of the Safety & Environmental Protection (SEP) Divi-

sion, Medaris had, on January 10, requested that a committee chaired by Project Engineer Steven Hoey, who is Leader of SEP's Safety Engineering Group, "analyze all of [the] facts and circumstance and any other information deemed pertinent, and...draw conclusions as to the cause or causes of the failure."

The committee did just that, in a report issued at the end of February (see story on page 2). In addition to Hoey, the committee included: Peter Boyle, Construction Services Supervisor, PE; structural engineer Jack Feldman, Project Coordination Group, PE; and Patricia Williams, Manager of PE's Safety, Training & Quality Group.

Also following up on the collapse, PE's Buildings Planning Team, headed by Project Engineer Paul Blacher, called for evaluation of similar structures by an engineering consultant. Such an engineering firm is expected to be selected by (continued on page 2)

BNL Scientist Issues Warning on Atmospheric Uncertainties

The Earth's climate may be more vulnerable to humankind's influences than we think, warn a Department of Applied Science (DAS) scientist and his German colleague. Then again, it might not. In either case, they argue, major policies on global climate change are being considered with incomplete information.

In a scientific commentary published in the May 24, 1996, issue of *Science*, BNL atmospheric chemist Stephen Schwartz and biogeochemist Meinrat Andreae of Germany's Max Planck Institute of Chemistry report that uncertainty runs high when scientists attempt to predict how tiny air-pollution particles, known as aerosols, influence the Earth's climate.

They also criticize a recent National Research Council (NRC) report for not recognizing the urgency of reducing this uncertainty, especially in the face of widespread resistance to limits on emissions of greenhouse gases based on limited evidence of their climatic influence.

Aerosols vs. Greenhouse Gases

Atmospheric aerosols, such as smoke, smog, dust and volcanic ash,

come from both natural and anthropogenic, or human-made, sources. Together, the particles form a haze, which restricts visibility and, when seen from an airplane, makes the planet "brighter" than it would otherwise be.

Schwartz has dubbed this phenomenon the "whitehouse effect," to contrast it with the "greenhouse effect," the influence of carbon dioxide and other atmospheric gases on the climate.

"The difference between these two effects is the difference between living in a greenhouse, which traps the sun's heat, and living in a white-painted house, which reflects it," said Schwartz. "In the whitehouse effect, aerosol particles reflect the sun's rays and keep them out of the atmosphere, causing a cooling effect. In the greenhouse effect, warming occurs because atmospheric gas molecules trap infrared rays that would otherwise escape to space."

Although the greenhouse effect is quantitatively well understood, the whitehouse effect is not. "The two effects are canceling each other out to some extent, but the aerosols' impact is highly uncertain," Schwartz said.



Stephen Schwartz

"We just don't know yet, and not knowing is a risky basis for making decisions or postponing them." Another major difference between

the whitehouse and greenhouse effects, Schwartz said, is the life span of

the pollutants that cause them. While aerosols hang around in the atmosphere for only about a week before being washed out by precipitation, greenhouse gases persist for decades or even centuries. So, each week's worth of aerosols is in essence counteracting an ever-mounting mass of carbon dioxide and other gases built up from years before.

If whitehouse aerosols are reflecting enough light to offset nearly all the effects of the greenhouse gases, and if the remaining greenhouse effect is causing the global warming now being seen, say the researchers, then the climate is much more susceptible to artificially caused change, or "forcing," than is now commonly thought.

On the other hand, if the whitehouse effect is offsetting only a small portion of the greenhouse effect, and the remaining greenhouse forcing is responsible for the global warming seen to date, then perhaps the climate is somewhat able to roll with the punches of humankind's activities.

More Science Needed To Understand Phenomenon

Schwartz and Andreae acknowledge that the NRC's recent report, *A Plan for a Research Program on Aerosol Radiative Forcing and Climate Change*, is on the right track. But, they state, the new research effort recommended by the report falls far short of what is needed to understand this complex phenomenon.

To gauge aerosols' influences on the Earth's climate, computer models used to predict climate change need to account for the behavior of the tiny particles. But, the researchers say, the underlying knowledge base that computer modelers must draw upon in order to factor aerosols into their models is lacking in many respects. More information is needed about the chemical and physical properties and processes of aerosols, including their ability to modify clouds. Schwartz has been examining the whitehouse effect for nearly a decade. In 1992, he and six colleagues published a paper in Science, "Climate Forcing by Atmospheric Aerosols," that provided some of the first global-scale estimates of the phenomenon. He is also author of numerous other scientific papers on this phenomenon and, in 1994, testified on the whitehouse effect before a hearing of the Senate Committee on Energy and Natural — Kara Villamil Resources.

Community Group Updated on Lab's Activities

The Community Work Group, organized by community members to serve as a conduit between BNL and the community, met on May 14 to hear a presentation by BNL staffers. During the meeting held on site, Bill Gunther, Manager of the Office of Environmental Restoration (OER), gave a brief update on the Lab's remediation activities. Then he introduced James Brower, Project Manager for Operable Unit I, which is located in the southern portion of the Lab property and includes BNL's landfills and waste-management area. Brower discussed the chemical and glass holes used in earlier times for disposal of chemical containers, glassware and animal carcasses. Field work last summer in the area, which is south of the recreational fields. identified 50 pits that may contain acids and bases, solvents, metals and an assortment of laboratory chemicals. Two of the pits are known to contain low-level radioactivity.



tual pits to do pilot studies of two technologies. This week, work began

Remediation alternatives are be-



ing considered by OER and the U.S. Department of Energy, in cooperation with the U.S. Environmental Protection Agency and the New York State Department of Environmental Conservation. An evaluation report on alternatives will be available for public comment this summer.

To help choose remediation technologies, however, BNL will use acwith a polymer and cement grout technique. In June, in-situ vitrification will be applied.

Both techniques encapsulate the waste in place. The polymer and cement grout is used to form an underground barrier around the waste. Insitu vitrification is a technique in which electrical current is applied to the soil, heating it enough to destroy organic chemicals and turn the contents into glass, encapsulating buried waste.

A second on-site meeting, scheduled for last night, was to focus on BNL's reactors. As the Bulletin went to presson Thursday, the agenda called for presentations by BNL staff on the experimental programs carried out at both the High Flux Beam Reactor and the Brookhaven Medical Research Reactor, a description of both reactors and how they work, and discussions of environmental monitoring, safety analyses, emergency planning and future plans. — Mona S. Rowe

Respect for Higinbotham

William Higinbotham, who died in November 1994, after a 47-year association with BNL, has been honored posthumously by the Institute of Nuclear Materials Management (INMM). A fellow of INMM, Higinbotham had been active in the organization since its inception in 1959 and had served as technical editor of its journal, Nuclear Materials Management, since 1975. In its Resolution of Respect, adopted at the annual meeting of July 9, 1995, the INMM acknowledged that Higinbotham's "many contributions to the success of the Institute were a significant factor in its early establishment and continuing growth into a successful technical forum." Accepting the resolution on behalf of his father and his family is William B. Higinbotham (center), Computing & Communications Division, shown here with BNL Deputy Director Martin Blume (right) and Joseph Indusi, Head of the Safeguards, Safety & Nonproliferation Division in BNL's Department of Advanced Technology, the offshoot of the Technical Support Organization that Higinbotham and others established in 1968 to support the Safeguards Office of the Atomic Energy Commission. In addition to his contributions to nuclear safeguards, Higinbotham has been called the grandfather of the modern video game, for the "tennis-for-two" exhibit he devised for the Instrumentation Division for BNL's visitors' day in 1958.



Building 424 — Why the Walls Came Tumbling Down

Bldg. 424 was constructed in 1943, as a training auditorium for the U.S. Army at Camp Upton during World War II. Built at a cost of \$89,000, the old theater was built from standard plans designed by the U.S. Army Corps of Engineers, and it stood off of what is now Brookhaven Avenue, between Columbia Street and the Science Education Center, Bldg. 438.

On the Army's original real property record for the building, the estimated life of the building was recorded as 20 years. This expected life span, however, was crossed out and changed to 50 years — 1993 — though there was no supporting documentation filed justifying this extension. The document was redated July 1, 1946, the year before the U.S. Army handed over the site to the Manhattan District, so Camp Upton could be transformed into BNL.

Bldg. 424 was used as a theater and auditorium until September 1968,

Structural Evaluation (cont'd.)

July 1, have signed a contract by August 1 and present a preliminary report by October 1.

"Any major findings needing prompt attention will be reported without delay and will be taken care of immediately," Medaris states, "while those items that can be taken care of during routine maintenance or as part of a special-maintenance project will be prioritized and repaired as soon as funds become available."

Condition Assessment Survey

Routine inspection of the condition of the Lab's buildings is carried out under PE's Maintenance Management program. According to Christopher Johnson, Deputy Manager of Operations & Maintenance, the equivalent of one and a half full-time people are assigned to inspect the facilities, which they do through an inspection process called a condition assessment survey, which is sanctioned by the U.S. Department of Energy (DOE). "They look at structures from below the ground up, searching for problems that compromise a building's integrity," says Johnson. What they find is addressed in one of two ways: either through routine maintenance or through what is called special maintenance, which are infrastructure-support projects that are too big to be carried out routinely. In addition, routine-maintenance requests come in through calls to Ext. 2468, the Maintenance Management hotline. "The network of maintenance coordinators in each building and group on site is invaluable in doing its job of reporting problems when they



One of the two stub columns on Bldg. 424's western wall that had deteriorated by dry rot due to water infiltration.

when Bldg. 488, Berkner Hall, was opened. So, Bldg. 424 was transformed into a storage building in the early 70s, and, in the early 80s, the building's heat was shut off to conserve energy and save money.

BNL's Institutional Plan calls for

BNL Buildings To Be Inspected

| Bldg. | Sq. Ft. | Туре | Year |
|---------|---------|--------------|------|
| 86 | 10,900 | wood frame | 1940 |
| 87 | 9,800 | wood frame | 1940 |
| 88 | 9,400 | wood frame | 1940 |
| 89 | 9,300 | wood frame | 1940 |
| 90 | 9,500 | wood frame | 1941 |
| 91 | 9,400 | wood frame | 1941 |
| 134 | 29,000 | wood frame | 1941 |
| 194/426 | 19,500 | wood frame | 1942 |
| 197 | 47,400 | wood frame | 1941 |
| 206 | 11,700 | wood frame | 1942 |
| 207 | 8,000 | wood frame | 1943 |
| 208 | 9,300 | wood frame | 1943 |
| 209 | 14,100 | wood frame | 1942 |
| 210 | 4,000 | wood frame | 1945 |
| 244 | 10,500 | wood frame | 1946 |
| 326/423 | 23,000 | wood/masonry | 1943 |
| 422 | 16,300 | wood frame | 1943 |
| | | 1/ | 1010 |



Cemented to a wall pillar is one of the metal brackets that attached a roof truss to the wall via a stub column, but that concealed the condition of the end of the stub column. — Photos by Peter Horton

the replacement of older, "temporary" buildings such as Bldg. 424 because of their high maintenance and energy costs, and the great expense involved in retrofitting them to comply with today's environment, safety and health standards. So, citing the building's deteriorated condition and the costliness of necessary repairs, BNL's Plant Engineering (PE) Division concluded that Bldg. 424 was not cost effective to maintain, move or dismantle for reuse.

PE asked the U.S. Department of Energy for authorization to demolish the old theater, and its request was granted in March 1992. According to the report on the collapse of Bldg. 424, "[D]emolition would likely have proceeded if the AGS equipment and magnets were not stored there. Failure to locate alternative storage locations prolonged the life of the building, [making] it available for future use."

To evaluate the building's structural soundness for possible future use, a structural analysis was completed in April 1993 by a structural engineering firm. In a report issued that June, the firm noted, "The deterioration of Building 424 has taken place over a period of years. The chief cause of the declining building condition is rainwater penetration through the roofs and walls of the building.' The report concluded, "Currently, there is no immediate threat of structural failure. However, if the principal structural elements continue to be exposed to water as [at present] occurs, then a structural deficiency will certainly develop." Of the seven recommendations made by the engineering firm to remedv the rainwater-penetration problem, only two were implemented: The roof was replaced, and gutters, downspouts and splash blocks installed. The other five — including "a closer look at the ceiling joists to verify their condition and individual integrity" and three points dealing with sealing the masonry walls to prevent further water infiltration - were deferred, as they would be addressed during a renovation of the building.

Before it could be renovated, however, Bldg. 424 collapsed on January 7 during the Blizzard of '96.

After the collapse, it was determined that two wooden stub columns on the western wall, which were among the 16 that attached the roof trusses to the wall columns, had deteriorated because of dry rot due to water infiltration. When the building was intact, however, the 16 stub columns had been virtually uninspectable because their ends each were concealed in a bolted steel bracket cemented to a wall column and hidden by the parapet wall.

As a second structural engineering firm hired to assist in the investigation independently determined, "Bldg. 424 failed as a result of the wind loads on the structure; the snow and the dead weight of the building had little to do with the collapse." At the time of the collapse, approximately 9 inches of snow had fallen, but, more important, the winds were gusting up to 42 miles per hour from the northeast and pushing the building's weight into its weakened western wall.

The firm's report continued, "It is also believed that the collapse was initiated in the concrete-block wall construction due to the lack of tension capacity in the walls, lack of support at the top of the walls, and large displacement of the top of the walls under the wind loading, creating an unstable condition."

The engineering consultants concluded, "It is also our professional opinion that the collapse of Building 424 was inevitable and is the result of a marginal structure aggravated by years of deterioration which concluded with a failure under loading conditions considerably less than that which the structure was intended to sustain. The structure had outlived its useful life, and it is fortunate that the incident occurred when the building was unoccupied." Independent of the engineering consultants, "The BNL building-collapse investigation committee came to the same conclusion," said its chairman Steven Hoey, Safety & Environmental Protection Division. "The original design was less than adequate by today's standards, and there had been failures to assess structural modifications to the building that may have weakened it, to conduct adequate inspections and routine maintenance, and to address all the recommendations of the 1993 structural analysis. Regardless, the committee concluded that the root cause of the building's collapse was its deteriorated condition due to the lack of long-term maintenance." — Marsha Belford

| 452 | 20,000 | woou/masoni y | 1945 |
|-----|--------|---------------|------|
| 478 | 13,500 | wood/masonry | 1946 |
| 480 | 12,000 | wood/masonry | 1946 |
| | | | |

are small, instead of waiting for them to be discovered by us when they have become big and cause other problems," Johnson explains.

Calls for routine maintenance are also generated by PE's maintenance and services staff itself, when they go into a building to fix something and find additional problems.

"In general, our infrastructure is quite sound," concludes Medaris. "We have a facilities-inspection program that looks at buildings from every standpoint and is one of the most sophisticated in the DOE system. Before the collapse of 424, we were revising our structural inspection plan. The building's collapse has changed our priorities regarding which buildings are inspected first, how often and in what detail." — Marsha Belford

Coming Up

BWIS Seminar

Suzanne Quillen Lomax, an organic chemist with the National Gallery of Art, will discuss "Art Conservation: A Chemist's Perspective," at the next Brookhaven Women in Science (BWIS) Seminar, on Wednesday, June 5, at 11 a.m., in the Hamilton Seminar Room of the Chemistry Department, Bldg. 555.

Refreshments will precede the lecture, and those who would like to join the speaker for lunch following her talk should contact Louise Hanson, Ext. 7709 or 5849, or e-mail hanson2@bnl.gov.

Van Slyke Lecture

Nobel laureate E. Donnall Thomas will speak on "Past Breakthroughs and New Frontiers: Hematopoietic Cell Transplantation," in a Donald Van Slyke Distinguished Lecture, to be held on Wednesday, June 5, at 4:30 p.m. in Berkner Hall.

Thomas is a member of the Fred Hutchinson Cancer Research Center in Seattle, and Professor Emeritus of Medicine at the University of Washington School of Medicine.

Computing Corner

The following are offerings of the Computing & Communications Division (CCD):

Windows 95 Demo

A one-hour demonstration of Windows 95 will be presented by CCD's PC Resource Center, on Thursday, May 30, at 10 a.m., in the second-floor seminar room, Bldg. 515. For more information or to reserve a seat, call Pat O'Connor, Ext. 7341.

Computer Training

To provide novices with an understanding of the fundamental workings of a personal computer and a hands-on opportunity to learn the basics of commonly used software programs, a new course-Introduction to Personal Computers (Intro to PCs) - has been added to CCD's training roster. It and other courses are scheduled for June, from 8:45 a.m. to 4 p.m. in the PC Training Room, Bldg. 515, as follows:

| · · · · · · · · · · · · · · · · · · · | -, | |
|---------------------------------------|------------------|-------|
| date | course | fee |
| June 4 & 6* | int. ACCESS | \$300 |
| June 11 | Intro. to PCs | \$150 |
| June 12 | beg. Windows | \$150 |
| June 13 | beg. WordPerfect | |
| | for Windows | \$150 |
| June 17 & 20* | int. ACCESS | \$300 |
| June 18 & 19* | beg. ACCESS | \$300 |
| June 21 | int. WordPerfect | |
| | for Windows | \$150 |

Racquetball Champs

Holding the trophies that they received for their accomplishments during the most recent season of the BERA Racquetball Club are: (front, from left) Gloria DeBoer, Annette Meier, Izzy Garcia; (back, from left) Bob Sabatini, Rich Chernis and Dennis Dansiglio. Not shown are: Joe D'Ambra, Lisa Blevins and Carl Czajkowki. Members of the Racquetball League play throughout the fall and winter at Unique **Racquetball in Farmingville.** Anyone interested in joining the league may call Bob Marascia, Ext. 7779.

Badminton Winners

Photos by Roger Stoutenburgh

For the recently concluded badminton season, Yi Zhao (right) was undefeated and placed first on the singles ladder for the second straight year. Placing second and third were Jay Adams and Joe Carbonaro, respectively. Jack Detweiler (left) won the seasonlong, round-robin doubles tournament, while Zhao and Y.Y. Chu placed second and third, respectively. In all, 24 players received participation awards for competing in at least ten weeks of the 25week season. For more information on the Badminton Club, check out the club's new World Wide Web site: http://www.bminton. bnl.gov/~bminton/.



Brookhaven Bulletin Caught in the World Wide Web

As requested by many respondents to the recent Brookhaven Bulletin survey, the Bulletin can now be found on the World Wide Web. When possible, the Bulletin staff hopes that employees and retirees will read the Bulletin on the Web, enabling us to reduce the number of printed copies - and save money and trees!

A new Bulletin will be available on the Web each Friday morning by 10 a.m. To access it, go to the new home page of the Public Affairs Office (PAO): http://www.pubaf.bnl.gov/~pubaf/ — then click on "The Brookhaven Bulletin." Please note: The PAO's home page address has changed, so if you're using a bookmark to locate it, you'll have to update the bookmark. Previous editions of the Bulletin, back to May 10, 1996, will also be available.

The Bulletin appears on the Web in Portable Document Format (PDF), so it looks basically the same as it does in print. PDF files can be read using Adobe's free Acrobat Reader, which is available for many types of computers and can be downloaded onto a computer by clicking on the link on the Bulletin's home page, then following instructions.

When you access the Bulletin on the Web, you'll notice that there are no classified ads. The Bulletin runs ads solely for the benefit of BNL employees and retirees, who, if ads were put on the Web, would be at a disadvantage as potential buyers of the merchandise being offered.

If you have any comments, questions or suggestions about the Bulletin on the Web, or you no longer want a paper copy, contact Anita Cohen, Ext. 5054, or e-mail: acohen@bnl.gov.





tems will be in effect weekdays from May 28 through September 27; 11:30 a.m. to 2 p.m., and 4:30 to 7 p.m. Under the advance reservation system A, players may reserve three of the courts for weekday play the day before play. The on-court scheduling system B offers the three remaining courts to players who sign the blackboard at courtside at the time of play,

Two tennis-court reservation sys-

Tennis Anyone?

first come, first-served. The complete rules for both systems are posted courtside and in the BERA Sales Office, Berkner Hall.

Gym Closed Weekends

Effective immediately, the gymnasium will be closed on weekends until September. The gym will continue to be open for normal hours during the work week.

Fidelity Counseling

A Fidelity Investments representative will be at the Lab on Thursday, June 6, to hold individual sessions with employees interested in learning more about their retirement-savings and investment options. To schedule one of the 30-minute appointments, call Kevin Wythe, (800) 642-5679, Ext. 5205.

Pick a H.S. Student

From Friday, May 31, to Friday June 7, those interested in sponsoring a high school student in the Community Summer Science Program may review students' applications at the Office of Educational Programs, in the Science Education Center, Bldg. 438.

In this six-week program, talented juniors or seniors from local high schools have the opportunity to study and serve as an intern at BNL under the direction of a Laboratory staff sponsor, at no cost to the sponsoring department. This year's program begins Monday, July 8, and ends Thursday, August 15.

For more information, call Nina

June 26

beg. PowerPoint \$150

* two-day class

To register, see your department or division training coordinator, or call Pam Mansfield, Ext. 7286.



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The Brookhaven Bulletin is printed on paer containing at least 50 percent recycled 43 materials, with 10 percent post-consumer waste. It can be recycled.



The image from the movie Kramer vs. Kramer of Dustin Hoffman's running with his

son to the emergency room after the child fell in a playground accident is evocative to many parents — because they hope they can protect their children from all harm or at least prevent or minimize common accidents. While the former is not humanly possible, the latter - preventing childhood mishaps and responding properly to minimize their impact — is something that every parent can attempt.

"Pediatric Emergencies: Injury Prevention and Practical Life-Saving Tips" will be discussed during the next Healthline lecture, on Wednesday, May 29, from noon to 1 p.m. in Room B, Berkner Hall. Sponsored by the Health Promotion Program (HPP) of the Occupational Medicine Clinic, the talk will be presented by physician

Craig Smestad. All are welcome, and the lecture will be available afterwards on audiocassette in the Research Library, Bldg. 477.

Board certified in internal and emergency medicine, Craig Smestad, M.D., is the Director of Emergency Services at Good Samaritan Medical Center, as well as that hospital's Director of Employee Health and Director of the Physician Assistant Program. A member of the American Colleges of Physicians and of Emergency Physicians, Smestad has served as Chairman of the Medical Advisory Committee of Suffolk County, and he is a member of Good Samaritan's Medical Board and the Suffolk Regional **Emergency Medical Services Council.**

To register for this lecture, return the completed bottom portion of the Healthline flyer sent to all employees to Health Promotion Specialist Mary Wood, Bldg. 490. For more information about HPP, call Ext. 5923.

Leonhardt, Ext. 5963.

Seasonal Stroll

Thursday, June 6, is the date of BNL's first Spring Walk — a 2-mile fitness excursion on site for all employees, rain or shine. Organized by the 1996 Healthfest Planning Committee and sponsored by the Director's Office, the walk begins at noon in front of the Science Education Center, Bldg. 438, from where you walk at your own pace in plenty of good company along the designated route. Get there early - at 11:45 a.m. — and join the BNL Aerobics Club in a pre-walk stretch.

The first 200 registered participants will receive an incentive award, so register now by returning either the completed coupon in last week's Bulletin or the bottom portion of the yellow Spring Walk flyer recently sent to all employees to Mary Wood, Bldg. 490, by Monday, June 3.

Note to Diners

The Lab will be closed on Memorial Day, Monday, May 27, but the cafeteria will be open over the holiday weekend, May 25-27, for the regular weekend hours — 9 a.m. to 2 p.m. The Brookhaven Center Club will be closed on Sunday, May 26, but will reopen on Monday from 5 to 9 p.m.

Arrivals & Departures

Arrivals

| None | |
|--|------------------------------------|
| Departu | res |
| This list includes all employ nated from the Lab, including | ees who have termi- g retirees: |
| Peter P. Sobik | Plant Eng. |
| Kimo M. Welch | RHIČ |

Amateur Radio

To discuss preparations for the June field day, the BERA Amateur Radio Club will next meet at noon on Thursday, May 30, 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.

Bowling

Red and Green League

Doug Fisher bowled 226/224/200/650 scratch series, R. Wiseman 263/200/618 scratch series, K. Koebel 246/242/665 scratch, S. DiMaiuto 231/109/622 scratch, J. Griffin 256/622 scratch, R. Mulderig 257, J. Goode 231, J. LaBounty 230, K. Asselta 221, H. Arnesen 220/612 scratch, S. Frei 217, K. Riker 208, S. Prwivo 203.

The Four Guys are the winners of the second half.

Purple and White

Don King bowled a 243, M. Guacci 203, D. Riley 188, Donna King 179.

The Odd Balls are the Purple & White League's winners.

Bowling Party

The BERA Bowling League's annual awards party will be held at Rock Hill Country Club on Friday, June 7, from 6 to 10 p.m. Featuring dinner and an open bar, the party costs \$10 for league members and \$15 for guests. For tickets, contact Debbie Botts, Ext. 3888, by Friday, May 31.

Note to Employees:

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

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 openrecruitment. 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.

POSTDOCTORAL RESEARCH ASSOCIATE - Trained in physics, chemistry or materials science, with experience in neutron, x-ray or light scattering; neutron scattering experience is preferred. The successful candidate will participate in basic research involving the properties of materials, utilizing neutron beams generated by the High Flux Beam Reactor. He/She should be capable of carrying out his/her own research program. Contact: John Axe, Physics Department.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees.

DD 4524. SECRETARIAL POSITION - Requires AAS in secretarial science or equivalent, extensive experience exhibiting a high level of competence in organization and communication skills, and a knowledge of Laboratory policies and procedures. Will provide varied secretarial support to the NSLS R&D Group and the Mechanical Engineering Group. Duties will in-

clude extensive travel preparation and publication processing, as well as preparation of engineering specifications. IPAP, WordPerfect and MS Word experience required. National Synchrotron Light Source Department.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

NS 2510. SR. GRAPHIC ARTS ANALYST - Requires a BSCS or equivalent and several years' experience in a professional publishing environment. Significant troubleshooting experience in Macintosh systems and applications such as Adobe Pagemaker, Illustrator, Photoshop and AppleTalk network is required. Experience in PostScript, C language, PDF processing, CGI programming, LaTeX and WWW html necessary. Under minimum direction plans, coordinates and performs specialized technical assignments. Information Services Division.

DD 4807. ENGINEERING POSITION - Requires a BS in chemical engineering or equivalent, advanced degree preferred, and significant experience to assist the Biosystems and Process Sciences Division with chemical engineering problems, process design, and the construction of pilot plants. Familiarity with optimization and computerization of unit processes also required, as is the ability to generate technical and economic feasibility estimates. Department of Appiled Science.