

the Bulletin Board

VOLUME 14 - NUMBER 8

Published by the BNL Personnel Office

October 25, 1960

PUBLIC VISITORS' DAYS DRAW OVER 13,000

A total of 13,450 people visited the Laboratory on Saturday, October 22, and Sunday, October 23. This year, for the first time, two Visitors' Days open to the general public were scheduled in addition to College Student Visitors' Day (October 28) and High School Student Visitors' Day (October 29). 7,665 people attended the sessions on Saturday and 5,785 visited the Laboratory on Sunday, totaling the largest number ever to attend this annual event. Many of the visitors were young people. Tickets were sent to 128 junior high schools.

As in previous years, employees took advantage of the opportunity to show the Laboratory to family and friends. Employees requested 5,200 tickets.

Including traffic workers, program handlers, girls registering guests, and people manning the exhibits, over 600 BNL employees will have contributed their services during the four Visitors Days. This year the Scientific Answer Men were particularly gratified by the large number of interesting and penetrating questions put to them.

DUBOS LECTURES WELL RECEIVED

The Second Annual George B. Pegram Lectures delivered by Dr. Rene Dubos of the Rockefeller Institute on the general subject, "The Dreams of Reason" were well received by a near capacity audience in the Brookhaven Theatre. Dr. Dubos gave four lectures on various topics, the highlight being one entitled "Medical Utopias" on man's successful efforts to combat age-old diseases and the surprising social problems which have resulted from these efforts.

The audience was treated to hearing a scholar publicly examine some of his concerns about science and the world, and his reasoning toward hard-won conclusions about them. The review of many paradoxes which arise within science and the public mind about science proved to be most stimulating.

TURN BACK THE CLOCK

Don't forget to turn your clocks back one hour when you go to bed Saturday night, October 29, since we go back to Eastern Standard time in the wee hours of Sunday, October 30.

BROOKHAVEN GRAPHITE RESEARCH REACTOR TEN YEARS OF OPERATION



View of north and west faces of Reactor.

Day N. 3650, a magic number signifying completion of ten years of operation of the Brookhaven Graphite Research Reactor, passed quietly toward the end of last summer. The Reactor achieved criticality for the first time on August 22nd, 1950. Since that date the BGRR has been in continuous operation for almost 85% of the time. The total amount of energy produced by the Reactor during this period is more than enough to provide propulsion for a World War II Battleship of the "Iowa" class for over fifteen months con-

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BGRR—Cont'd

tinuously. However, such a measure of the productivity of a research instrument is meaningless. It is impossible to measure the contribution to basic research made during the past ten years of operation of this installation.

The first few months following initial criticality the Reactor was operated in low power level test runs. It was not until late December, 1950, that the Reactor first began consistent operation at megawatt power levels.

The Brookhaven Graphite Research Reactor is usually described in terms of Reactor characteristics which were outlined in an earlier BULLETIN BOARD article. The moderator for BGRR is 700 tons of graphite in the form of blocks stacked into a 25 foot cube. It is from this stacking method of construction that the name "pile" originated.

The coolant for the Reactor is air; drawn through the pile at the rate of over a million pounds per hour. The heat removed from the core is discharged up the familiar red and white smoke stack. This dominant landmark for BNL employees, and pilots in the landing pattern for the Grumman airfield, is 320 feet high and discharges approximately 425 feet above sea level.

The fuel is highly enriched uranium. In this fuel, the percent composition of Uranium²³⁵ is greatly increased over that found in Natural Uranium. The Reactor was originally fueled with Natural Uranium. In January, 1957, the conversion to enriched fuel was completed, providing for improved operation of the Reactor.

The final component of a basic reactor, control rods, are sixteen in number in BGRR. They are made of steel which has a high content of boron. Boron readily absorbs neutrons, providing a means of controlling the fission rate.

Compared to the present time, the use of the Reactor in the early days of its productive life was very limited. An early report states that fourteen of the available sixty two experimental facilities were in use. Today, fifty two of these same sixty two facilities are in use or committed.

All six faces of the reactor are available for experimental work, although the south face is used primarily for handling of fuel. In some experiments materials are inserted into the reactor core for varying periods of time to study the effects of the high intensity radiation. In others a stream of neutrons is brought out through the reactor shield and used in various beam experiments, such as neutron spectrometry.

In addition to the experimental parts, some of the available facilities include: a system of pneumatic tubes similar to those employed by some department stores, used to irradiate small samples during operation of the reactor; a target conveyer system which operates hydraulically to insert samples in an experimental facility; and two tunnels under the reactor from east to west.

The Reactor is used as a research tool by every scientific department at BNL. Experimental work at the Reactor is carried out by outside users as well as Brookhaven scientists. Several experiments in neutron spectrometry are in progress, as well as experiments in reactor development and nuclear engineering fields. In addition, an extensive program of service irradiations is in continuous operation.

As its name implies, the purpose of the Brookhaven Graphite Research Reactor is that of research. In this respect there has been no change since initial plans for the Reactor were begun. In its first decade the BGRR has been a major contributor in the field of nuclear research in the United States, and it will undoubtedly continue to be an extremely useful tool for scientists in the future.

CAMERA SHOOTING SESSION

All photography fans, from novice to expert, are invited to attend this Wednesday's meeting of the BNL Camera Club, at 8 p.m. in the Recreation Building. The main part of the program will consist of a "work shop" shooting session with a model. Experienced members of the club will instruct in the posing of the model and in the placement of photofloods.

So load your camera with color or black and white and see what you can learn in photoflood photography. (Users of color film are reminded that filters might be needed to get proper color balance with photofloods).

BERA CONCERT TICKETS

Series tickets for the 1960-61 concert series are now on sale and may be obtained from the following people:

E. Courant, AGS; Seymour Shapiro, Bio.; Dave Alburger, Physics; Pat Towey, Physics; George Vineyard, Physics; Lois Norman, T-480; Dolores del Castillo, T-197; Blanche Laskee, Reactor; Lee Gemmell, Health Physics; Judy Newdell, Medical; Harold Schwarz, Chemistry; Clemens Auerbach, Hot Lab; and Rudy Sher, T-130.

Price for adults is \$7.50, children (including high school students) \$2.50.

JULLIARD QUARTET	November 9
REY DE LA TORRE	December 8
GRETE SULTAN	January 18
TICHMAN TRIO	February 21
PAUL DOKTOR	
AND YALTAH MENUHIN	March 29

WEEKLY SAFETY HINT

CARL DISTENFELD, Safety Representative for the Physics Department, suggests the following safety hint:

"Empty gas cylinders, because of high center of gravity, narrow base and heavy weight, are still a hazard. In falling, the unchained cylinder can cause serious injury to nearby personnel. It is recommended that all cylinders, empty or full, be chained in an upright position".

MICROMET

The Micromet order has arrived. It can be picked up at the Personnel Office, 58 Brookhaven.

WATCH FOR!

ARTHUR MURRAY DANCE INSTRUCTION
WINTER GYMNASIUM SCHEDULE
ADULT SWIMMING INSTRUCTION

ATTENTION FISHERMEN

The tide is running out, and this weekend will be your last to top the entries already leading each specie. So let's give it one more try before the contest closes on October 31st.

This week many entries were turned in for Striped Bass, Blackfish, and Flounder. Frank Kluska caught a nice 27 lb., 8 oz. Codfish which now holds first place in this specie.

The top three candidates for Fisherman of the Year are J. Klein with 9 points, N. Sowiak with 8 points, and K. Jellett with 6 points.

The top entries to date are:

Striped Bass - 27 lb., 12 oz.	N. Sowiak
Blackfish - 7 lb., 8 oz.	S. Wichman
Bluefish - 7 lb., 8 oz.	N. Sowiak
Cod - 27 lb., 8 oz.	F. Kluska
Flounder - 2 lb., 10 oz.	W. Flynn
Porgies - 3 lb., 8 oz.	A. Schroeder
Fluke - 4 lb., 10 oz.	W. Hansen
Kingfish - 12½ oz.	W. Castleman
Mackerel - 1 lb., 9 oz.	A. Beckwith
Tuna - 25 lb., 0 oz.	H. Farrell
Weakfish - 2 lb., 14 oz.	J. Klein
Brown Trout - 12 oz.	K. Jellett
Large Mouth Bass - 2 lb., 2 oz.	J. Klein

UPTON RIFLE AND PISTOL CLUB

The following pistol shooters qualified in D.C.M. matches: P. Colsmann, 298; M. Johnson, 296; C. Goodzeit, 295; P. Hichborn, 291; J. Rutherford, 289; P. Buhl, 289. Perfect score - 300.

During the months of November and December, the U.R.P.C. pistol shooters will have a chance to compete in official N.R.A. matches with other clubs in the area. Awards will be given to the first and second place teams and all shooters will receive N.R.A. classification cards. Details and schedules will be sent to all pistol shooters, and will be announced in the BULLETIN BOARD.

When the ruins of Pompeii were uncovered, dice were found. It is a sad commentary on the unvarying conditions of human life that some of those dice were loaded.

— Lord Kilmuir

DISCOUNT TICKETS

Discount tickets for "A Thurber Carnival" with Paul Ford and Peggy Cass, and Phillip Barry's "Here Comes the Clowns", both now playing in New York City, are available at the Personnel Office, 58 Brookhaven Avenue.

Also available are discount tickets to New York Rangers and New York Knickerbockers games at Madison Square Garden.

SECOND ANNUAL BROOKHAVEN ART EXHIBIT



CONSTANTINO NIVOLA

The work of three well-known artists of the East Hampton - New York art group will be on view for the Second Annual Brookhaven Art Exhibit, sponsored by BERA, opening Wednesday evening, November 2nd at 8:00 p.m. in the Research Staff Building, and continuing through November 9th.

The three artists participating in this year's Art Exhibit represent a wide variety of expression in the media of painting and sculpture:

JULIAN LEVI is a born New Yorker who works in oil, gouache, casein and lithography. He studied at the Pennsylvania Academy of Fine Arts and in Europe, and teaches at the Art Student League of New York and the New School for Social Research. In the 1940's he won many prizes with his somewhat representational paintings, which have been described as having a mellow and fine paint quality. More recently his work has tended toward a non-objective style.

On the other hand, PERLE FINE has always worked in a very advanced school of painting. She was born in Boston, studied with the Art Students League, Hans Hofman and Hayter's Atelier, and has taught privately. Her completely non-objective style has produced collages and paintings, many of them in black and white, in which she achieves a great feeling of space.

Our sculptor, CONSTANTINO NIVOLA, was born in Sardinia, Italy, and worked at his father's trade as a mason before he began his formal training as an artist at the Art Institute in Milan. In New York he shared a studio with Le Corbusier, who was an important influence on his further development; and his bas-reliefs in sand sculpture (a casting technique he invented) suggest architectural applications. The very successful mural commissioned for the Olivetti store in New York was executed in this technique. Other sculptures in New York, a bas-relief for Mutual of Hartford and a memorial fountain in Washington, D.C. are examples of his work.

We hope that many will want to enjoy both the excitement of the opening and the opportunity to visit the Exhibit again in a leisurely way. For this reason the Exhibit will be on view during the day through November 9th, and also on Friday evening, November 4th (but will not be open on Saturday and Sunday, November 5th and 6th). Friends of Brookhaven employees are welcome to attend.

BASKETBALL GOES "SLO-BREAK"



Following the pattern set by our softball leagues in '59, which adopted slo-ball, the basketball captains have voted to alter their playing regulations and give slo-break basketball a try.

In an effort to make the game into an activity which a greater number of our employees might be able to participate, regardless of their ability or age, the league will tone down the hectic pace generally associated with the game. The slo-break rule has been successfully put into effect for a 5-year period in industrial plants in Ohio.

The basic rule change is this: after gaining possession of the ball in the back court, the team **must** take at least 6 seconds before it is permitted to bring the ball across the mid-court line - during this period the defensive team is **not** permitted to interfere. Essentially, this eliminates the fast break, the long pass downcourt, basket hanging and gives the defenders time to drop back into position. It definitely lowers the rugged physical requirements demanded by regular basketball.

The league hopes the change will bring some of our past performers out of retirement as well as interesting other departments into the game.

The season is slated to begin in mid-November, entries into the league are being accepted now. Please send or bring your entry to the Recreation Office. Don't hesitate to call George Sabine for additional information. Metallurgy, Chemistry, Biology, Health Physics, Phoubars, Thumpers and the Old Timers are now trying to round out their rosters. How about you - Cosmotron, AGS, Med, G.M., etc? If you would like to join one of the teams, call and you will be placed on a roster.

There will be a meeting on Thursday, November 3rd, at noon, in the Recreation Office of all team captains and interested parties.

BERA
BOWLING

PURPLE LEAGUE

Fiscal by taking 4 points from the Hopefuls moved into a 2nd place tie with the Designers. Bohn 177-181 and Brouwer 163 paved the way.

The Woodbutchers finally came through by taking 4 points from the Bowl Aids. Woodbutcher W. Milian led his team mates with a 186-490, Schulz of Bowl Aids had a 177.

The Phoubars with Maile's 217-534, Brown's 178-480, Vogt's 185-480, lost a close match to the Designers 3-1. Designers Texiera 185-534, Chirco 175-484, and Capt. Sperry 182-502 got together to turn the trick.

The Scotches, still holding 1st place, took 3 points from the tired Dirty Birds. W. Johnson 170, J. Nocar 219-490. G. Kuzmack, 161, was the only bird flying.

GREEN LEAGUE

The Old Timers III took on the Fire Dept. Ream's 198-529 series and Walker's 505 series for the Old Timers III resulted in a 3-1 victory.

The Reefers lost 3-1 to the under-estimated Black Birds team. F. Green had a 515 series and Zelenka had a 200 game.

The Old Timers II and the Electrons split 2-2, as did the Mole-Stars and Old Timers I. D. Adams had a 199-192-532 series for the Old Timers I.

BLUE LEAGUE

The first place Meteors managed to squeeze three points away from the Splitters. Stelmashuk led the winners with a 200-513 series and Walter Lambeck had 179. For the losers Gil Spira had a 199, J. Gallagher 194-526, N. Carter 179, and B. Sick 177.

The Techs did some fine bowling to take three points from the Bubble Boys. R. Larsen had a 213, 204-569 series, Hildenbrand a 182-521, Wessel a 191 and E. Meier 185. The losers had Scheliga with a 165.

The Powermites took three points from the Nuclides. J. Brockbank led the winners with a 173-520 series, while for the losers Kukacka had a 200-504 series.

The Snafus took three points from the Pacers. Uddman bowled a 200-548 series and O'Leary for the losers had a 179.

RED LEAGUE

Well, the Downunders finally got out from under by taking all 4 points from the Skins. Their present lineup seems to be a working one. The heavy bowler from the Downunders was Lotka who rolled his weight - a 229 hi-game with a 508 series. There was more help, too - Iarocci rolled a 520. As for the Skins, well, what can I tell you except that they lost their shirts with the exception of Potter's 476 and Lento's 481.

It looks like Biology just didn't have enough nets to capture those Bugs. The Bugs took three points from the unwilling Biology team. The high-flying Bugs were Shipley with 206 to give him a 532 for high series in this league so far; also Iarocci with 441, and bringing up

the rear, as usual, J. Cross with a 424. The only two men still swinging the nets on the Biology team were Schairer with a 426 and Belohlavek with a 422.

The Gnats were flying high enough to drop so much Bismuth on the Kings that the Gnats were able to take all 4 points. The only Bismuth King that got away was Atherton with a 445. The fast-flying Gnats were Fox with a 496 and Backsmith with a 478.

LADY KEGLERS COLUMN

Twinkle Toes and the Odds and Ends are tied for first place as a result of the Odds and Ends taking 4 points from the APC's, and the Twinkle Toes taking four points from the Alley Kats. The ballerina type bowling of the Twinkle Toes was proven quite apt with Jean Hughes converting the 5-10 split, and Judy Otto converting the 5-7 split, bringing home a 175-478. Medigals took three points from the Boo Boo's, while the Allthumbs took 3 from the Nightingales in spite of Marty Heine's 180 game. Other high games for the night were: Grace Siemen 173, Jackie Haller 165, Barbara Garnier 164, and Lois Bartos 161.

CLASSIFIED ADS

FOR SALE

1953 WILLYS STATION WAGON - radio, heater. Good running condition. Ed Rogers, Ext. 600.

HOUSE - Well landscaped wooded corner lot, 125x200 ft. 2 bedrooms on main floor, one in basement. Full cellar, modern kitchen, dishwasher, large closets. 10 min. from Lab. \$10,800. In Yaphank. YAphank 4-6589.

FOR RENT

2 SEPARATE BEDROOMS - TV, kitchen privileges, 2 car garage included. Separate rms., \$20/wk. including garage. Whole apt. \$125 per month. Call Ext. 2453 after 3:30 or ATLantic 9-1568 evenings.

APARTMENT - 3 rm. furnished apt. in Middle Island. Includes utilities and garage. YAphank 4-6426.

WANTED

4 PIECE BAND - for Dec. 17 Lab. Christmas party. Call Alaimo, Ext. 566.

USED BABY CARRIAGE - good cond. Ext. 2211 or SAYville 4-5740.

HOME - for 3 female shepherd collies. Ext. 639 or RONkonkoma 9-2271.

VOLKSWAGEN MICROBUS - slightly used. J. Vise, Ext. 467.

HOME FREEZER - 12 cu. ft. in good cond. R. Graeb, Ext. 486.

OUTBOARD MOTOR - 5 to 7 hp. Ext. 2430 or GROver 5-0732.

CAR POOLS

Want to join car pool. Brown's Lane, Bellport, to Lab. Rudden, Ext. 2141.

Want to organize car pool from Hempstead area. Nick Upenicks, Ext. 791.