

the Bulletin Board

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Lecture on New Beam Research Reactor

Dr. H. Kouts, Head of the Experimental Reactor Physics Group of the Nuclear Engineering Department, presented the fifth Brookhaven Lecture on "Neutron Physics of and with the Brookhaven High Flux Beam Research Reactor." He reviewed the history of the Graphite Reactor and showed how research on this reactor led to the need for a higher neutron flux.

He described the features of the BHFBR and showed that it would give a fast flux of 2×10^{15} neutrons per sq. cm/sec in the core. Three beam holes will give access to a high epithermal flux. Five beam holes would give access to a flux of $7\frac{1}{2} \times 10^{14}$ neutrons per sq. cm/sec, about 35 times as high as the flux presently available in the Graphite Reactor.

He also described the Critical Assemblies which were made as part of the design program and showed how the location and orientation of the beam holes were determined to give a reduction in the gamma and fast neutron background of over 300 times that of other competing reactors.

The reactor will also have a hole designed for the production of cold neutrons.

The next Brookhaven lecture will be on April 12 at 8:00 p.m. in the lecture hall. The talk will be entitled "High Energy Accelerators," and the speaker will be Dr. Ernest Courant.

GALWAY MAYOR TO VISIT BNL

Mr. Finton Coogan, Deputy Mayor of Galway, Eire, and a member of the Irish Parliament, will visit the Laboratory on Tuesday, March 21. He will be shown the major installations on site.

President John Lee of the Stony Brook Branch of the State University of New York visited the Laboratory on Tuesday, March 14. He talked with members of the BNL staff about problems of mutual interest and possibilities of cooperation between the two institutions.

HOME PHONE BEING CHANGED?

Many telephone numbers in the vicinity have been changed recently or will be changed in the near future. Be sure to report all changes in home phone number to Personnel Records, 58 Brookhaven Avenue.

MARK I, II, III, GO TO COLLEGE



A member of the Nuclear Engineering Department, Jim Byrne, testing the mechanism of Mark I.

Research over the past ten years has indicated that radiation pasteurization may be extremely useful in retarding spoilage of fresh food. Through radiation pasteurization the growth of spoilage bacteria is inhibited, thus considerably lengthening "shelf life," the period during which the food keeps its

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MARK I, II, III - continued

full commercial value. For example, preliminary studies indicate that fresh fish can be kept for as long as thirty days after radiation pasteurization, compared to the present shelf life of ten days. Other particularly promising fields for radiation pasteurization are fresh fruits and vegetables.

Cobalt 60 research food irradiators designed at BNL will be in use at three American universities before the end of 1961 to further the food radiation research program. This program is sponsored by the USAEC's Office of Isotope Development.

The first unit to be completed, Mark I, is shown above. This unit, assembled entirely at BNL, will be installed at the Massachusetts Institute of Technology sometime next month. The second and third units, Mark II and Mark III, are being built by Process Equipment Corporation of Lodi, New Jersey, in accordance with BNL's design which incorporates several improvements over that of Mark I.

Mark II will be installed at the Agricultural Branch of the University of California at Davis, California, in early summer. The third unit will be installed at the University of Washington's College of Fisheries at Seattle in the fall of 1961. Additional units are contemplated in the future for other universities.

The units are of the pool type; i.e., water in the tank is used to shield personnel from the source when the unit is in operation. The pools are approximately 6 feet wide by 11 feet high, consisting of a stainless steel tank with piping connecting it to a demineralizer and a water skimmer. Each unit will use approximately 30,000 curies of cobalt 60.

Additional tank equipment includes a water level controller and a pair of underwater lights. A frame 18 feet in height is held rigidly in place by guides at the tank bottom and bolted members at the top of the tank. The drive mechanism for raising and lowering the water-tight containers of material to be irradiated is mounted on the frame. Two racks at the bottom of this frame hold the two source plaques in position. On one side of the frame at the top is mounted a control cabinet containing the instrumentation and controls for raising and lowering the containers. The radiation timing for each container can be manually or automatically controlled. Although designed primarily for research, the units will also be capable of radiating packages of various sizes used commercially, particularly in the fruit and fish industries.

A water level probe is part of the safety system. Should the water level decrease by about 6 inches the probe actuates an audible and visual alarm, at the same time opening a solenoid valve on the water supply line which permits water to flow into the tank. In addition an area monitor is provided with one detector above the pool surface and another at the demineralizer unit. These units will detect any increase in radiation level and actuate the alarm in the event one of the sources ruptures.

The two source plaques, 19 in. by 23½ in. in dimension, are placed opposite and parallel to one another in racks at the bottom of the pool. This permits the exposing of three containers at one time, one between the two source plaques, and the remaining two on the outer side of each plaque.

As part of BNL's role in this project, Laboratory staff members will inspect Mark II and III upon their completion, supervise the installation of all three units at the universities, and install the cobalt in the units.

BNL SAFETY RECORD

18 Days since last Disabling Injury
(March 2nd - March 19th)

SOFTBALL MEETING

THURSDAY - NOON - RECREATION OFFICE
MARCH 23, 1961

Don't forget to attend this first organ-

izational meeting for the coming season. Everyone is urged to attend—Last year's captains and representatives from any groups or departments thinking of a team in the league this year.

Entry blanks and information on the leagues are available at the Recreation Office.

BROOKHAVEN CENTER

On Sunday, March 26, 1961, following the Open House from 4:00 p.m. to 8:00 p.m., the Brookhaven Center will serve dinner to participants of the Medical Conclave which commences on that day. Because of the number of Medical Conclave participants, the Center will be unable to accommodate others for dinner on that evening.

UPTON RIFLE AND PISTOL CLUB

Large bore rifle shooting begins the season at the Medford Range on Sunday, April 9. Course of fire will be 20 rounds, prone at 100 yards. Only iron sights permitted. Call P. Colombo, Ext. 624, or A. Lukas, Ext. 769, for details. On Tuesday, March 21, the pistol shooters of the East End League will receive their awards at a buffet dinner at the Sunrise Restaurant in Center Moriches. Of the eight competing teams, Upton placed third behind Brookhaven and Southampton.

DISCOUNT TICKETS

Discount tickets to the following shows and events are currently available at the Personnel Office, 58 Brookhaven Avenue:

ELSA LANCHESTER - "HERSELF"
(41st Street Theatre, N.Y.C.)

CLYDE BEATTY - COLE BROS. CIRCUS
(L.I. Arena, Commack)

RINGLING BROS. BARNUM & BAILEY CIRCUS
(Madison Square Garden, N.Y.C.)

THE KING AND I (in Grandeur 70)
(Rivoli Theatre, N.Y.C.)

Fringe Patter

SOCIAL SECURITY

QUESTION: How do I find out whether all my wages are being reported for social security purposes?

ANSWER: You can get this information from the national record-keeping headquarters of the Social Security Administration. Your local social security office has a handy pre-addressed postcard form designed especially for this purpose. Fill out this card and mail it. In reply, the Social Security Administration will send you a statement of the earnings they have accredited to your account. You can then compare this information with whatever earnings records you have; for example, wage slips and W-2 forms. If the information from the Social Security Administration does not agree with your own earnings record, visit your local social security office for help in getting your earnings record corrected.

OPERATION GET-TOGETHER

The date has been picked. It was decided to plan our annual picnic for the last Saturday in July – July 29th. Organizational committees have been at work since January reviewing last year's affair and making recommendations for improvements.

As usual, help will be needed on a large scale. While several of the committees and their chairmen have already been selected, there is a need for additional assistance. Last year 14 groups or departments took part in the planning, preparations, and work on the picnic. Is your department represented on this year's committee? If not, send a few representatives to the next meeting, Wednesday, March 29, at 12:00 noon in the Recreation Office.

SOFTBALL MEETING

THURSDAY – NOON – RECREATION OFFICE
MARCH 23, 1961

BASKETBALL CHAMPIONS

The final whistle blew last Tuesday on our "Slo-Break" Basketball League as six teams played their last game in the 15 week competition.



Left to right. Back Row: Mike Zguris, Ted Constant, Red Carsten, George Sabine, Dean Easler. Front Row: Jules Varela and Harold Marshall.

The "Big Five" rounded out their season's efforts by besting Biology 33-15. It was the 15th victory in a row for the new champs who completed an undefeated season. The team was captained by Larry Atherton from A.D. who is absent from the picture. Larry is now serving a six months tour of duty with the Armed Forces and plans to return to the Laboratory in the Fall.

Final Standings

	Won	Lost
1. Big Five	15	0
2. Odd Balls	10	5
3. Old Timers	7	8
4. Pick-Ups	6	9
5. Biology	4	11
6. Health Physics	3	12

DOKTOR-MENUHIN CONCERT – MARCH 29

For the final concert of the 1960-61 series, the BERA concert group presents a joint recital by Paul Doktor, violinist, and Yaltah Menuhin, pianist. The concert will take place Wednesday evening, March 29, at 8:30 in the Research Staff Lounge.

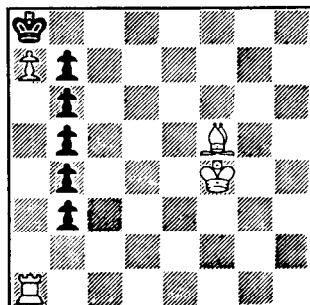
Paul Doktor has been described as "a perfect musician, with heart, feeling, taste, deep musical understanding, and perfect control of his instrument – a great artist." He is the son of the late Karl Doktor of the famous Busch Quartet and is recognized as one of the leading violinists in the world. His previous appearances at Brookhaven have been among our most successful concerts.

Yaltah Menuhin is the younger sister of Yehudi Menuhin, world-famous violinist, and Hephzibah Menuhin, who is also an illustrious pianist. She has been outstandingly successful in recent years as a soloist and in ensemble. The collaboration of these two fine artists promises a rare treat for chamber music lovers. Their program will include works by Eccles, Kodaly, Mendelssohn, Hindemith, and Brahms.

Single admissions will be available at the door: \$3.00 (adults), \$.75 (children and students).

CHESS PROBLEM

The following problem is not the usual chess problem, but is a look into an end game study. Witness this ingenious device for forcing the opponent down. Answer elsewhere in this week's BULLETIN BOARD.

**BERA BOWLING****WE'RE ROLLING**

The committee for the Bowling Awards Dance has been formed and they are planning a gala affair for the night of April 29, 1961. More news later, check with League Secretaries and watch the BULLETIN BOARD for more data.

GREEN LEAGUE

The Old Timers II beat the Mole-Stars 4-0 maintaining the league lead with four points. The Old Timers III won over the Black Birds 3-1. Green with a 184-475, and Zelenka with a 189-496 for the Black Birds and Reams 196, 193-554 and Hardman 212-508 for the Old Timers. The Electrons split with the Old Timers I. Adams 194, 205-559, Reilly 187, 196, Levy 210-543 and Tomesch 179-529 were high. The Fire Dept. lowered the boom on the Reefers winning 3-1. Kinney 197, 211-554 for the Fire Dept. was outstanding.

PURPLE LEAGUE

The Designers took 4 points with ease from cellar mates Hopefuls. As usual, it was Rocky Roecklein 198-543, Ed Sperry 215-539, Tex Texiera 199-495. The cellar mates trying were D. Gracia 125 (81 av.), J. Booker 145, C. Zavesky 147.

The Phoubars finally got the pins splashing around to take 3 points from Fiscal. Leading the way for the Phoubars were D. Vogt 186-505, R. Brown 172-508, E. Caiazza 147. Fiscal had H. Bohn 177-485, R. Coughlin 144, R. Brouwer 153. The Scotches took 4 points from the little tired Bowl Aids. Scotches on the rocks were Bud Sawyer 172, J. McIver 166, D. Schulz 148.

The Woodbutchers bowling twin games were W. Milian, a pair of 199's-553, J. Seitz, a pair of 155's-469, W. Ruppert 202, still down there looking for the other one. The Dirty Birds trying to do the same were G. Kuzmack 197, V. Buchanan 150, Tom Coyle 153.

RED LEAGUE

Well, it finally happened - the Bismuth Kings got out of the cellar by taking all 4 points from the Gnats. The B.K.'s didn't have it easy for the Gnats fought hard to lose 4 points. B. Fox bowled in his T-shirt and even took off his fur piece but it didn't help much except to scare some bowlers on the next alleys. VanNorman with his 462 looked like he was in a Turkish bath for fear he might lose his high series. This fear was brought on by B. Watson who rolled a hard-hitting 582 for the B.K.'s.

The Bugs certainly tried to tie up first place in the League by taking another 4 points from Biology. (Maybe it's the new shirts that give them this winning spirit.) The high-spirited Bugs were Iarocci-487, Laurine-492, and Shipley with 493. As for Biology, they all bowled in their class but McGovern should have let his bowling partner of the Mixed-Doubles bowl in his place - they would have taken some points then.

The Skins knocked the Downunders down 3 points in the League standing by taking 3 points out of 4. The Skins who shot holes in the Downunders' score were "Wild-Bill" Weinmann-459, "Hop-along" Bugala-508 and "straight-shooting" Lento with a 554 series. The backbone of the Downunders was H. Bieselin with a 463 series.

BLUE LEAGUE

Techs took 4 points from the Meteors. For the winners, Bauernfiend had a 183 game, Hildenbrand a 190-520 series and Larsen a 205, 194-576 series. Stelmaschuk was high man for the losers with a 171 game.

The Splitters lost 4 to the last place team and thereby lifted the Bubble Boys right out of the cellar. The Splitters' Gallagher, rolled a 180 game and Sick 187 and a 194. For the Bubblers, Ferrante had a 205, 176-549 series and Scheliga a 223, 187-558 series.

Third place Nuclides took three from the Pacers in a noisy contest due to Bob Isler refusing to submit to a saliva test after rolling a 191, 182-543 series. For the Pacers, Rutan bowled a 190, Dexter a 180 and Jackson a 185, 180-537 series. The Nuclides lost the game when the anchor failed to hold

CLASSIFIED ADS

FOR SALE

CROSLY STATION WAGON - Body, chassis and wheels. Ideal for conversion to boat trailer, \$35. W. Berg., Ext. 2467.

1958 VOLVO - 2 dr. sedan, 4 speed - synchro-mesh transmission. Excell. cond. \$950. Call SE 2-8950.

1957 RAMBLER - Super six overdrive, reclining seats, backup lights, heater, exceptionally clean, 36,000 miles, new valves and brakes in Feb. C. Hedberg, Ext. 793.

1956 MERCURY - 2 dr. Custom, Black, Auto. trans. - r&h. Good mech. cond., paint, interior. Low mileage, 2 owners. \$675. AT 9-1430 after 6 p.m.

1956 DODGE - Custom Royal, 3 tone, power windows, seats, brakes & steering. R&h., white walls, extra tires. \$900 firm. JU 8-3521 after 6:00 p.m.

1956 CHEVROLET V-8 R&h. 4-dr. sedan, black and white, auto. trans. Power steering. Virginia, Ext. 565, after 6 p.m. GR 5-5336.

1951 CHEVROLET - Deluxe, Powerglide, 2 dr., very good cond. Also portable 14 in. TV. Sybenga, Ext. 450 or 726.

HOUSE - Swezeytown Rd., Middle Island. 3 bedrooms, 1 bath, full cellar, attached garage, furnished or unfurnished \$15,000, on ¾ acre of property. Call SE 2-3910.

HOUSE - Yaphank on well-landscaped wooded corner lot, 125x200, two bedrooms plus extra finished room in cellar, large living room, modern kitchen, dishwasher, ceramic tile bath, full basement. Ten minutes from Lab. \$10,800. Call SH 4-5096.

HOMEMADE BOAT - 10 ft. Very strong. Also 2½ hp motor. Both for \$50. Ed Mignani, WA 9-4434 anytime.

STAR BOAT - Don't just admire them, own one! #3356, built 1953 by top notch builder. 2 suits of almost new dacron sails, 2 wheel trailer, boat cover, etc. completely equipped. \$1500. Peter Paige, Ext. 2100.

8½ FT. DINGHY - Fiberglassed, painted, ready for use. Virginia, Ext. 565. After 6, GR 5-5336.

14 FT ROWBOAT - DON'T WAIT. This bargain won't last long at this price. Excell. cond. oars, mushroom anchor, rowlocks, \$65. Elgin, 7.5 hp, 1958 but little used, full swivel reverse, separate pressure gas tank, cond. like new, \$100. Both together, \$150. Call SA 4-3269.

24 FT. JERSEY SEA SKIFF - Fast and able. Small cabin with head, large open cockpit. Ideal for fishing or family transportation. Built 1952, 105 hp Chris-Craft installed 1959. Lightly used by one owner; selling to return to sail. \$2650. Located at Tooker's Boat Yard in Brookhaven. Thorndike, AT 6-8369.

1957 "TEE NEE" BOAT TRAILER - for 14-15' runabout. Has winch, asking \$45. Call Ross Meyer, Ext. 481 or SA 4-5757 after 6 p.m.

STOVE - Two burner Marine Alcohol stove. \$10. Call R. Ince, Ext. 2295.

LIVING ROOM SET - Three piece. Sofa and 1 chair are gray. Other chair is green, with slipcovers, \$35. Call AT 1-7595.

ELECTRIC SHAVER - Norelco Sportsman Model can be used with flashlight batteries or auto cigarette lighter. Call Ext. 354.

PIANO - baby grand. Excell. cond. Burnished mahogany finish. \$400. SH 4-3356.

GERMAN SHEPHERD PUPPIES - With papers, Call SE 2-6613 anytime.

CAMERA - 4x5 speed graphic with 127 mm. Ektar lens, rangefinder, film pack adapters, filters, etc. and Graflarger. All for \$80. Ken, Ext. 2229.

CAR POOLS

Would like to join or form car pool from vicinity of N. Ocean Avenue, Patchogue (south of Sunrise Highway). C. Cohen, Ext. 2371.

Driver wanted to form carpool from Hempstead or vicinity to Lab. F. Nichik, Ext. 2149.

Want to join or form carpool from Holtsville-Farmingville area. Claire, Ext. 2180.

New member sought for established car pool originating in Bellport Vill. Ext. 665.

FOR RENT

HOUSE - E. Patch. - Bellport, attractive, unfurnished 3 bedroom ranch, large living room with fireplace, large panelled recreation room, garage, ¾ acre corner plot. \$135/mo. Available June or July 1st. Contact: Debons, 301-Ext. 26, or AT 6-8998.

HOUSE - furnished, Sayville, good location, near bay. 8 rooms, 4 bedrooms, 2 baths washer and dryer, 2-car garage, available April 15, 1961 to June, 1962. Call Ext. 2211, or SA 4-5740.

FOUND

KEY - with tag reading " #1 A.P. 404 Dogwood." Call Personnel Services, Ext. 2107.

WANTED

SKIFF - 14 - 16 ft. skiff with either Johnson or Evinrude 10 hp motor. Both must be in good condition. Call Ext. 2507, ask for Dudley, and give your best price and description.

TECHNICAL BOOKS - For the students of South America. Why keep those textbooks you don't need. Send them to "Books for South America" Bldg. 137. Your help may educate a good neighbor.

OUTBOARD-Inexpensive, used, about 3.5 hp. Am willing to do some work on it, but price ceiling is limited. Call Christman, Ext. 731.

BABY SITTING WORK - woman, with own car, flexible hours. Call AT 1-8740.

EVENING JOB - Typewriter keys fly - evenings. Need typing done? Phone PO 8-2455.

RADIO RECEIVER - used, short wave, in working condition. Bob Walton, Ext. 2181.

ANSWER TO CHESS PROBLEM

WHITE	BLACK
1. B - N 1	P - N 7
2. R - R 2	P - N 6
3. R - R 3	P - N 5
4. R - R 4	P - N 4
5. R - R 5	P - N 3
6. B - K 4 mate.	