

# the Bulletin Board

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## BROOKHAVEN LECTURES

The sixth in the series of Brookhaven Lectures was given last Wednesday by Ernest Courant of the Physics Department, speaking on "High Energy Accelerators."

The first part of the lecture dealt with the development of particle accelerators, and with their use in nuclear physics, in the past thirty years. The first nuclear accelerator was the cascade rectifier of Cockcroft and Walton, which produced 800-kilovolt protons in 1931. The subsequent evolution of ever bigger accelerators was traced up to Brookhaven's 33-Bev Alternating-Gradient Synchrotron (AGS), which began operation last year.

In the second part of the lecture Brookhaven's two big accelerators, the Cosmotron and the AGS, were described in more detail, and the lecture ended with speculations concerning the possibility of future accelerators of still higher energies.

The seventh Brookhaven lecture will be given Wednesday, May 17, at 8 p.m. in the Lecture Hall, when George Vineyard of the Physics Department will speak on "Dislocations in Crystal Lattices."

## BNL SAFETY RECORD

46 Days since last disabling injury.  
(March 2nd - April 16th)

## FRINGE PATTERN

### SOCIAL SECURITY QUESTION BOX

**QUESTION:** I am a widow and receive social security benefits for myself and two minor children. I have a part-time job but do not earn more than \$100 a month. My employer would like me to work more hours in 1961, which would mean that I would earn more money. How would that affect my family's benefits?

**ANSWER:** If you earn \$1200 or less you get all your benefits. However, your benefits for the year may be reduced by \$1 for each \$2 that you earn between \$1200 and \$1500. Also, for every \$1 that your earnings go above \$1500, your benefits may be reduced by \$1. Regardless of your total earnings for the year, you will not lose benefits for months in which you neither earn wages of more than \$100 nor work in self-employment. However, regardless of how much you earn, benefits for your minor children are not affected.

## RADIOACTIVE WASTE PROCESSING

Radioactive or contaminated waste generated at Brookhaven is in three forms - gaseous, solid, and liquid. The handling and disposal of solid waste has been described previously in THE BULLETIN BOARD. Gaseous waste is handled by filtering out the particulate material, monitoring this material and the filtered air for radioactivity, and then discharging the filtered air via vents on roofs of buildings or through the tall red and white striped stack at the Reactor.

Liquid waste is generated principally at the Graphite Research Reactor and at the Hot Laboratory. From each of these locations the waste is piped in stainless steel systems to the Waste Treatment Area located in the northwest corner of the Hot Laboratory Building. Lesser amounts of contaminated liquid waste are also generated in some of the labs of the Chemistry, Biology, and Medical Departments and are brought by tank truck to the Waste Treatment Area where they are pumped into the appropriate tank and mixed with the other piped wastes. Waste coming from the Reactor comes principally from the fuel storage canal under the Reactor, although there are drains in the laboratories which also are connected to the "hot" pipe system running over to the Hot Lab.



Waste Concentration Plant on right, above-ground tanks for temporary storage of "D" waste on left, looking north from top of Reactor Building. Fifth Avenue is in center of picture. Permanent storage tanks for "B" waste are out of sight below ground behind the "D" tanks.

Actually not one, but four, separate pipe systems are used and the waste is segregated at its point of origin according to the type: "A" waste is waste containing accountable material; "B" waste is so hot that the pipes and tanks which contain it have to be shielded; (the "A" waste system is similarly shielded); "D" waste is too contaminated to discharge to the sanitary sewer but not so hot that it requires shielding; and "F" waste is waste which is supposed to be strictly clean and uncontaminated but which, because of its origin, nevertheless requires monitoring to insure that it indeed is clean and can be discarded.

(Please turn to page 2)

**RADIOACTIVE WASTE—Cont'd.**

"C" waste is waste which cannot be put into the stainless steel piping system either because it contains chemicals which are corrosive to stainless steel or because it contains objectionable volatile solvents; in actual practice this type of waste is almost non-existent and is handled by dumping it directly into the "D" hold-up tanks where it becomes so dilute as to be harmless.

In the Waste Treatment Area each type of waste runs into a temporary hold-up tank which is sampled periodically to determine whether it has to be neutralized and to check the level of radioactivity in it. From here, the "B" waste is pumped directly to permanent underground storage tanks at the Waste Tank Farm on Fifth Avenue just east of the AGS Target Building. The "A" waste until a few months ago was also disposed of in a similar way, although recently the AEC has given permission to dispose of this by combining it with "D" waste.

The "F" waste, which is the largest volume waste except for the sanitary waste, is monitored and if found to be clean is dumped in with the sanitary waste. If activity is found in the "F" waste it is sent to the "D" waste system. An automatic monitor in the main "F" line at the Hot Lab just ahead of the "F" hold-up tank automatically diverts to "D" any hot waste coming in from this area, thus preventing the contamination of the relatively large volume of "F" hold-up by a single small amount of activity.

The "D" waste is pumped to the Waste Concentration Plant located at the Waste Tank Farm. Here it is put through a special type of distillation process using what is known as a compression still. The energy needed for the distillation in this apparatus is supplied directly in the form of an electric motor which runs a compressor which compresses the clean vapor coming off the boiling waste. This act of compression heats the vapor (for the same reason that a tire pump gets hot in action), transforming into heat the electrical energy supplied to the motor. The superheated vapor now passes around the outside of the still pot where it gives up its extra heat to boil the waste inside and form more vapor. In giving up its heat the vapor becomes condensed into clean pure water which, after monitoring to insure that it is indeed clean, is then dumped into the sanitary sewer. So how do we get the still pot boiling in the first place? That's an easy one - with an auxiliary steam coil in the pot. So why don't we use steam all the way through and save wear and tear on the motor? Simple again - this way is more efficient and hence less costly. You might say that at Brookhaven even our waste is treated without waste.

**BOWLING AWARDS DANCE  
AND TROPHY PRESENTATION**

By now, tickets are distributed and all the talk is about decorating the Gymnasium and team tables. Decorating will start Monday, April 24, shortly after 5:00 p.m. and will finish by Wednesday (we hope!). Bring your ideas and muscle power - we need both.

Oh yes, the dance! It's Saturday, April 29. Walt Milian and his band will play from 9:30 to 2:00. All beer, soda, pretzels, chips, will be free. **BONUS!** Free **SURPRISE** bottle for each team.

Door prizes, decorating prize, and best of all - a good evening of fun. Enjoy it more - help to decorate.

**PRE-SEASON GAME**

The Untouchables (alias the Metalmen) defeated the Ground Maintenance team last week in a pre-season pitchers' duel. John Dioguardo of the Untouchables had a grand debut on the mound, which included 3 strikeouts. Although very brisk winds hampered both teams, there were many brilliant plays made by both teams on the field.

J. Dioguardo's victory was helped considerably by the superb hitting of the Untouchables which included 5 home runs - 3 by M. Guacci, and 1 each by D. Comstock and G. Dioguardo.

We (the Untouchables) would like to thank Grounds Maintenance for the fine competition, and wish them the best of luck in the coming season.

J. DIOGUARDO

**SECRETARIAL SEMINARS NEXT WEEK**

The annual program of Secretarial Seminars will be held next week. Approximately 50 employees are expected to attend. The purpose of the Seminars is to further acquaint participants with the organization of the Laboratory, and with its policies and procedures.

The sessions will be held on April 24th, 26th, and 28th from 1:30 to 4:30 p.m.

**BERA SUMMER AND FALL FILM PROGRAM**

The summer program of the film group will consist of the usual weekly film. In the fall the program will be expanded from one film each month to one film every two weeks. The Film Group welcomes suggestions from the audience for films to be shown in the summer and fall programs. Please send your suggestions to Francis X. Rizzo at Bldg. T-197. It is important but not necessary that you include as much information about the film as possible, (correct name, director, producer, stars, approximate date of release).

The next film to be shown in the present series will be "My Uncle" on May 8, 1961.

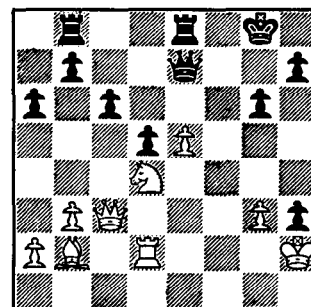
**DISCOUNT TICKETS**

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

THE BEST MAN  
(Morosco Theatre, N.Y.C.)  
THE KING AND I (in Grandeur 70)  
(Rivoli Theatre, N.Y.C.)  
TENDERLOIN  
(46th Street Theatre, N.Y.C.)  
SHOW GIRL - with Carol Channing  
(Eugene O'Neill Theatre, N.Y.C.)

**CHESS PROBLEM**

In this week's problem, it is white's move. White has more pieces, but black has compensation in pawns. Answer elsewhere in this week's BULLETIN BOARD.



White to move

**GYMNASIUM SCHEDULE**

The Gymnasium will be closed for evening activities beginning Monday, April 24th, in preparation for the Bowling Dance. It will remain closed until its summer schedule begins sometime in June. Watch THE BULLETIN BOARD for further details.

**LARSEN AND KUKACKA SPLIT SWEEPS****BLUE LEAGUE**

Last Wednesday the Blue League ended its season with a sweepstakes and a buffet supper.

Dick Larsen and Larry Kukacka each rolled a 759 gross score for the 4 games. First and second place awards were, therefore, split between the two. Larry's smile was something to behold...

Close behind the winners was Joe Ferrante with a 757 which took third place. The sweeps was close all the way with 30 bowlers taking part; 20 rolled a 700 or better so that up to the last few frames it was anyone's sweeps.

High single game including handicap went to Ed Shelton with a 231.

Special Blue Ball with the appreciation of the League to Danny Stelmaschuck for a League Secretary job well done.

**CHAMPIONSHIP TOURNEY**  
**BOWLING LEAGUE WINNERS COMPETITION**

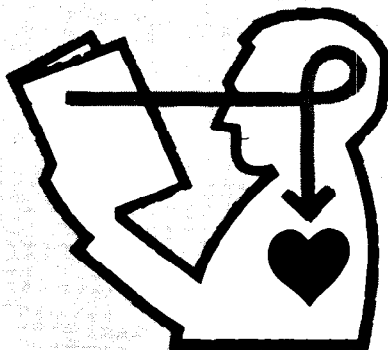
Wednesday, April 19 - 6:30 p.m.  
 Port Jefferson Bowl  
 Spectators Welcome!

**UPTON RIFLE AND PISTOL CLUB**  
**Tournament Date Change**

The starting date of the large bore tournament has been changed from Sunday, April 23, to Wednesday evening, May 3. Site of the shoot will be the BNL North Property Rifle Range.

The tournament will be shot at 100 yards. Following the competition, there will be a practice session at 200 yards and 300 yards. Call Pete Colombo, Ext. 624, or Al Lukas, Ext. 769, for details.

for a richer, fuller life



**READ**

NATIONAL LIBRARY WEEK APR. 16-22

# SECOND OPEN BOWLING TOURNAMENT SCHEDULED

**HANDICAPPED FOR NON-BOWLERS AND BOWLERS**

A one-day Mixed Doubles Tournament sponsored by the BERA Bowling Board has been scheduled at the Port Jefferson Bowl for Saturday, June 3rd. This is in response to the flood of requests that followed our first such tournament last March. In that tournament 82 bowlers participated, and awarded 14 trophies plus bowling balls and other merchandise. Minimum entry - 30 teams. We are limited to 64 teams in this event, and judging from the March turnout, we could easily fill this well before the entry deadline of May 26th, so get your entry in early. Remember, this is an "Open" Tournament; you don't have to be a league bowler to enter.

Here are the rules:

A team shall consist of two bowlers, one male and one female. At least one member of each team must be a BNL employee (per BERA definition).

The tournament shall consist of three games per bowler bowled across six lanes. Lane assignments will be made in order of receipt of entries.

Handicap (per bowler per game) shall be 70% of the difference between the bowler's average and 180 with averages used as follows:

- Bowlers in BNL leagues this season; use BNL average as of 4/6/61.
- Bowlers not in BNL league this season who bowled in other leagues or who bowled in BNL league last year; use highest sanctioned average this season as of 4/6/61 if available; if not, use highest sanctioned average at end of 1959-60 season.
- All others: use score of first game for first game average, use total score of first two games divided by two for second game average, use total score of all three games divided by three for third game average.
- Maximum handicap allowed per game is 55 pins for ladies, 45 pins for men.

Prizes will be based upon scores plus handicaps. Team prizes will be awarded for series, individual prizes for game. The following prizes are **guaranteed** for the minimum number of tournament entries (30) - **additional prizes** will be awarded based upon the number of team entries in excess of 30. (e.g.; 4th and 5th place teams, 2nd place ladies' and men's individual games).

1st Place Team - 2 trophies plus 2 custom fitted bowling balls.\*

2nd Place Team - 2 trophies plus 2 pair of bowling shoes.\*

3rd Place Team - 2 trophies plus 2 bowling ball bags.\*

High Ladies' Individual Game - 1 trophy.

High Men's Individual Game - 1 trophy.

\*or equivalent in pro shop merchandise or free games.

Submit to  
Recreation Office

**ENTRY APPLICATION**

Must be accompanied by  
\$5.00 non-refundable fee

1. Lady Bowler (name)..... BNL Employee (yes) (no)  
Average is.....\* in..... League at..... Lanes.

2. Man Bowler (name)..... BNL Employee (yes) (no)  
Average is.....\* in..... League at..... Lanes.

\* See Rule - if not in category (a) or (b) state "None."

Received Recreation Office.....  
(signed Team Captain)

Team Entry Fee, including the cost of bowling, is \$5.00. Entry blank and fee must be presented at the Recreation Office not later than 3:00 p.m. Friday, May 26th. In no event will entries be accepted after 64 have been received. Fee is non-refundable except if tournament is cancelled.

The tournament will be held at 3 p.m. on Saturday, June 3, 1961, at the Port Jefferson Bowl. Teams not present and ready to bowl at this time may forfeit the team fee.

The rules of the American Bowling Congress are adopted for this tournament except as otherwise stated herein.

The decisions of the tournament committee (J. Hughes, L. Baker, J. Weiss, and S. Earle) shall be final.

## CLASSIFIED ADS

## FOR SALE

1957 FORD FAIRLANE - hardtop, 8 cyl. auto. trans., power steering, r&h, good cond. Ext. 504.

1956 FORD FAIRLANE - auto. trans., 4 dr., r&h, clean & runs well. Wolf, Ext. 384.

1951 FORD SEDAN - 1953 Ford engine. In running cond., best offer accepted. GR 5-4563, before noon or after 6 p.m.

1956 BUICK SUPER - 2 dr., hardtop, coral and white, r&h, power brakes & steering, 44,000 miles, good cond. David Biggins, Ext. 2212.

CROSLEY STATION WAGON - Body, chassis and wheels. Ideal for conversion to boat trailer. \$25. Will sell front or rear end separately. Ext. 2467.

1958 TRIUMPH TR3 - Paint is like new, color apple green, 32,000 miles, r&h, good tires, trailer hitch, two sets of carpets, new tonneau cover, just had carbon job. 27 mpg. Will throw in Brookhaven Sports Car Emblem. Asking \$1,295. Ross Meyer, Ext. 481 or LT 9-5757 after 6 p.m.

1957 MERCURY CONVERTIBLE - White with black top, fully powered. In very good mech. cond. with many extras such as snow tires, dual headlights, and padded dashboard. Ext. 2430, after 6 p.m. GR 5-0732.

1958 NASH METROPOLITAN - Hardtop, gets over 34 mpg. Good cond. \$750. GR 5-7539 after 6.

LAMBRETTA - New, never used, unlicensed two seater, best offer. AT 9-0632.

RACING HELMET - Never used, Snell and S.C.C.A. Approved, will sell below wholesale cost. Size 7 $\frac{1}{2}$ . AT 4-0071 after 6 p.m.

HOUSE - YAPHANK, on large wooded lot, two bedrooms, modern kitchen with dishwasher, full cellar. \$10,800. Morris, Ext. 739 or SH 4-5096.

HOUSE - Brookhaven, 120x120, corner lot, 2 bedrooms, living room with fireplace, kitchen, dining area, den and extras. \$13,000. BE 7-0757M.

OWENS CABIN CRUISER - 23 ft. 1956, 96 hp. Valve job, rebuilt generator & starter, sleeps 3, head, galley, \$200 of access. including elec. wipers, bilge pump, spotlight, compass; life preservers, etc. Excell. cond. \$1900. J. Mapes, Ext. 427.

24 FT. JERSEY SKIFF - Small raised deck, cabin forward with two bunks, open self bailing, cockpit aft, 75 hp Gray Marine engine. \$850. Lucas, Ext. 2314.

15 $\frac{1}{2}$  FT. RUNABOUT - Center deck, 5' beam, 1958 Royal Scott, 40 hp with electric

starter, running lights, motor completely overhauled at end of last season. Ready for launching. Best offer over \$500. A. Oltmann, Ext. 403 or HR 2-0107.

25 FT. SKIFF - 7'4" beam, Chrysler Crown. 115 hp, complete overhaul this winter, cabin sleeps 2. Ext. 423. \$1500 firm.

15 HP EVINRUDE MOTOR - Long Shaft, used 3 seasons, excell. cond. \$110. Ext. 577.

18 FT. OUTBOARD CABIN CRUISER - 35 hp Evinrude motor and trailer. \$1100. Ext. 681 or AT 6-9669.

18 FT. FIBERGLAS SAILBOAT - Dacron sails, anchor, pump, running lights, compass. Fredi, Ext. 2129.

15 $\frac{1}{2}$  FT. RUNABOUT - Lyman Lapstrake with Evinrude outboard. Reasonable. R.A. Beth. Ext. 2263 or AT 6-8215.

11 FT. REVEAU HYDROPLANE - 5 ft. beam, 1957. 10 hp Evinrude motor, extras, \$200. Also Silent Glow Oil Burner and full set of controls. Like new. Cheap. BE 7-0256J after 6 p.m.

LOTS - Center Moriches, 1 landscaped, large trees, on Beach Fern Rd., 1 on Neville St., \$1800. Good residential section - walking distance stores, etc. Ext. 689 or BE 7-0147.

SKIS - 6'8", G.I. Laminated, with steel edge and safety bindings. \$15. Also, G.I. Ski Boots, size 9. \$5. J. Mapes, Ext. 427.

CRIB - Edison Colonial, maple, with mattress, very good cond. Also: Stroller - Deluxe Atlas, good cond. H. Katz, Ext. 696.

BEDROOM SET - Modern style mahogany, chest of drawers, dresser with mirror, night table, sewing table. \$40. Pion, Ext. 2430.

REFRIGERATOR - Westinghouse, 7 yrs old., 10 cu. ft., with freezing compartment. Runs well, but plastic on inside of door needs patching. It is our #2, and someone gave us a freezer. I'll help you load it onto something in Setauket. About \$25, more or less. D. Christman, Ext. 731.

PIANO - Small Weber upright, 51" high, needs tuning, otherwise in good cond. \$100. GR 5-0831.

BABY CARRIAGE - Allwin, coachette. Navy blue, metal frame. Can be used as car bed & stroller. \$25. Ext. 2113.

SOLOVOX - Electronic attachment for the piano, which gives the tonal effect of an organ. In perfect condition, no longer used. Will part with it for \$75.00 - or a good second hand guitar with amplifier. Demonstration or inspection of Solovox can be made, by calling Lloyd, Ext. 2196.

## FOR RENT

HOUSE - 2 bedroom, large sun porch, living-room and kitchen. Has just been completely refinished inside including new cabinets in kitchen and bathroom retiled. East Sayville. Call Ext. 2196 before 8:30 a.m. or AT 4-1975 after 9:00 a.m.

## CAR POOLS

Would like to join or form carpool from E. Northport (Commack or Kings Park) area. D. Miller, Ext. 2373.

Would like ride from Bellport, just off Sunrise Hwy, on WEEKENDS. Eugene Humes, Ext. 2151.

Would like to join carpool from vicinity of St. James and Nesconset. T. Arns, Ext. 2208 or G. Wall, Ext. 618.

Two drivers needed for Blue Point carpool. G. Strickland, Ext. 2383.

## FOUND

Call Personnel Services, Ext. 2107.

PIPE - outside of Lecture Hall.

GREY SWEATER - with brown patches on the sleeves.

ST. CHRISTOPHER MEDAL - in AGS (Bldg. 911) parking lot.

BLUE EARRING - large.

TOP - to umbrella case.

WOOL SCARF - tan border. Found in back of Bldg T-185.

## WANTED

TUTORING - Experienced teacher, remedial reading specialist, will tutor in her home in all elementary subjects and remedial reading. J. Fuchel, Ext. 409 or AT 9-1631.

USED SAILBOAT - About 12 ft. long, sloop rigged, in reasonably good cond. E. Wirsing, Ext. 2387.

BABY SITTING - Own transportation, available day or evening. AT 1-8740.

DROP SIDE CRIB - Reasonable cond. Ext. 321 or SH 4-3181.

## ANSWER TO CHESS PROBLEM

White wins with...

WHITE: N x P

BLACK: Black has little choice but to take the Knight... P x N

WHITE: Pawn to King followed by mate.