

# the Bulletin Board

VOLUME 14 - NUMBER 35

Published by the BNL Personnel Office

May 9, 1961

## FRINGE PATTERN

### RETIREMENT PLAN FACTS TIAA AND CREF

1. The plan is fully vested. This means that you own your annuities completely. The annuities bought for your retirement by you and by the Laboratory remain yours regardless of your future employment status.

2. You have the option of putting part of your money - and the Laboratory's - in CREF, to provide reasonably stable buying power of the dollars you will receive when you retire.

3. The death benefit provided in the plan is the full current value of your annuity money, plus all interest and dividends, paid to your beneficiary as a regular, guaranteed income.

4. The plan gives you a wide range of flexibility - in methods of receiving payments when you retire, in dividing your contribution between TIAA and CREF, and in making extra payments.

5. The TIAA Retirement Plan benefits are in addition to those under the Social Security Law. According to that law as of Jan. 1, 1961, a single man or woman at age 65, fully qualified **in all respects**, will receive approximately \$1500 annually. A man aged 65 with dependent wife of the same age will receive approximately \$2100 annually. These figures may be projected with your TIAA income.

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**CHILDREN'S OPERA CONCERT**  
**Saturday, May 13, 10:30 A.M.**  
**Research Staff Lounge**

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### SEVENTH BROOKHAVEN LECTURE

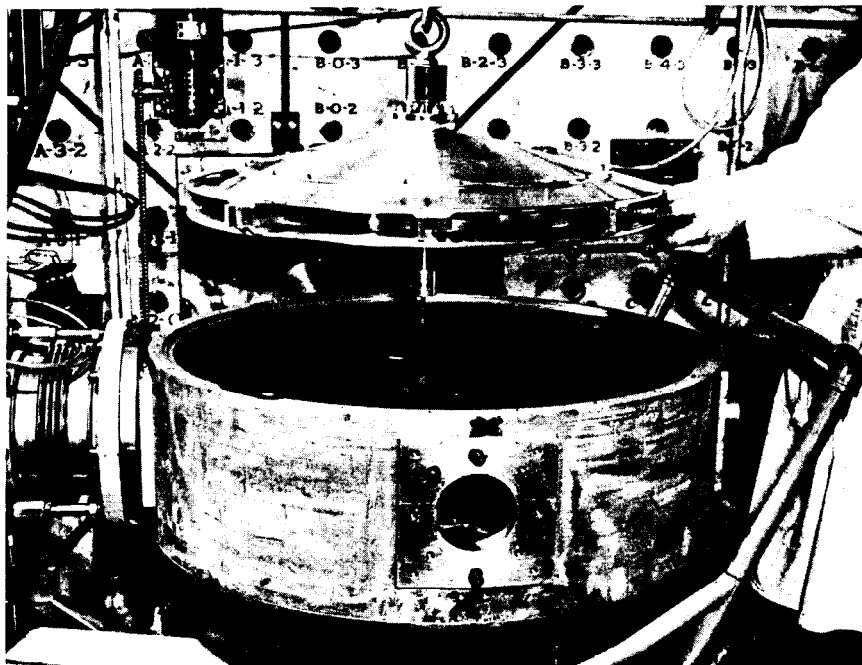
By DR. GEORGE VINEYARD  
Physics Department

Title: DEFECTS IN CRYSTAL LATTICES  
Lecture Hall: 8:00 P.M., WED., MAY 17

A buffet supper (\$2.75) will be served at the Brookhaven Center before the lecture, beginning at 6:00 p.m. Reservations should be made at least one day in advance, by calling Extension 2302 before 5:00 p.m. or Extension 2453 in the evenings.

Refreshments will be available in the Research Staff Lounge following the lecture.

## FAST CHOPPER



Nuclei display a great affinity for neutrons at particular energies. This selective neutron absorption, or resonance phenomenon, yields valuable information about the structure of the nucleus.

The Fast Chopper facility, operated at the Research Reactor, is used to conduct experiments in nuclear physics using the abundance of low energy neutrons supplied by the Reactor. Such experiments, performed at Brookhaven, have contributed a wealth of experimental data vital in the fields of nuclear physics and reactor technology. A great deal of these experimental results are collected and summarized, together with those of other laboratories throughout the world, in the well known "barn" book, BNL 325.

The operation of the Fast Chopper may be likened to that of a camera. The Chopper acts as a shutter for neutrons with a shutter speed of one millionth of a second. To attain these high speeds the rotor is constructed in the shape of a large top with small slits running through the rotor in a direction perpendicular to the axis of rotation. The top spins at high speeds and literally chops the continuous beam of neutrons emerging from the Reactor into short time bursts of neutrons emerging from the slits. Once the short burst of neutrons is produced, it is then possible to sort out the various neutron energies emerging from the Reactor by measuring the time it takes the neutrons to travel from the Chopper to a detector at a distance of twenty meters.

The Fast Chopper is literally the world's largest spinning top. It has eight double slit openings, 45 degrees apart. The material between the slits is composed of highly neutron-absorbent cloth base phenolic bakelite. Each slit is only 11 thousandths of an inch wide and 30 inches in length. These sixteen slits are sandwiched between forged aluminum cover plates, forming the

(Please turn to page 2)

**FAST CHOPPER - Continued**

rotor of the Chopper. This rotor, weighing approximately 250 pounds, is suspended on a steel shaft  $\frac{3}{8}$  of an inch in diameter and is spun in a vacuum chamber at 10,000 revolutions per minute by a specially built D.C. motor capable of attaining this speed. At this speed, each burst of neutrons has a duration of approximately one millionth of a second and the tips of the slits at the outside of the rotor travel at a speed of 890 miles per hour or almost 1.2 times the speed of sound. At these speeds, it is imperative that the rotation take place in an evacuated chamber to eliminate the enormous frictional forces with air which would impede the motion.

Surrounding the entire assembly is an eight ton steel encased shield, or "dog house," for the protection of persons working nearby. The speed of rotation is automatically controlled to better than one per cent accuracy and the Chopper runs continually, 24 hours a day and months on end without stopping, until periodic maintenance is required.

The Brookhaven Fast Chopper was the first to provide such short bursts of neutrons and its successful construction and operation was considered a breakthrough in the field of experimental low energy neutron physics.

**RECREATION BUILDING**

(York Lane — Apartment Area)

**OPEN** — Monday through Thursday, 5:00 p.m. — 11:00 p.m.

**SCHEDULE** — Lounge available to all at all times. A variety of social recreational activities are scheduled weekly. (Including dance instruction, folk dancing, club meetings, lectures, parties, and small dances).

**FACILITIES** — Rooms downstairs include a large hall for dancing, a fully equipped kitchen, a comfortable lounge and utility room. The upstairs level houses Club Room facilities such as: Camera Club Darkroom, Model Railroad Club, Rifle Pistol Club, Skin Divers Club, and the Ceramics Work Room.

**EQUIPMENT** — (For employees' use at the building) Television, Record Player, F.M. Radio, magazines, Chess and Checker sets, 8-16 and 35 mm projectors and screen, playing cards, Table-Tennis table, and a piano.

**REFRESHMENTS** — Cigarettes, Candy and Liquid Refreshments available at all times.

**RESERVATIONS** — By special arrangements the building will be opened at other than normally scheduled hours, if desired, for group or departmental parties.

**ATTENDANT** — A BERA employee is on hand at all times to assist with individual as well as activity needs.

**INFORMATION** — For additional information, schedules, or reservations contact the Recreation Office, 3 Center Street, Ext. 391.

**GYMNASIUM**

The Gymnasium will remain closed until its summer schedule begins sometime in June. Watch THE BULLETIN BOARD for further details.

**UPTON RIFLE AND PISTOL CLUB**

**Diener Big Shot in Large Bore Shoot**

Fireball J. Diener proved that he is the man to beat when he fired a 188 out of a possible 200 in the large bore tournament Wednesday evening. P. Colombo, P. Buhl, and R. Domish split a three-way tie for second with scores of 178.

This is the first of six tournament shoots. Best four out of the six shoots counts toward beautiful trophies. We had a very good turnout but would welcome more. Call A. Lukas, Ext. 769, or P. Colombo, Ext. 624 for details. Still not too late to join in the fun!

**JUNE DANCE**

Another of our BERA seasonal dances is now in the planning stage. The date has been set — June 9th. The committee will meet this week to pick a theme and contract a band. Save the date and watch THE BULLETIN BOARD for details.

**DISCOUNT TICKETS**

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

1ST ANNUAL OUTDOOR — INDOOR SHOW  
(L.I. Arena, Commack)

THE MIRACLE WORKER  
(Playhouse Theatre, N.Y.C.)

**BNL IDENTIFICATION CARDS**

All employees are responsible for seeing that their BNL I.D. Cards are always in good condition. Please check yours. If the card is soiled, broken or cracked, or if your photograph is old or description inaccurate, please report to the Security Office for a replacement.

**CHILDREN'S OPERA CONCERT - MAY 13**

The BERA Concert Group will present an opera recital for children on Saturday, May 13, at 10:30 a.m. in the Research Staff Lounge. The Sunken Meadow Opera Company, directed by Alvin Bauman, will perform two one-act operas — "In a Garden" by Meyer Kupferman, with libretto by Gertrude Stein, and "Chanticleer" (from the Chaucer tale) by Seymour Barab. The program will be opened by a short explanation, "What is an opera?", in which the children participate.

"In a Garden" is the story of a little girl who pretends to be a queen. She has two royal suitors whom she incites to duel with a long-handled spoon and fork which are hanging in the garden. They "kill" one another and she is left with both crowns, singing "Oh, it is so lovely to be a Queen".

"Chanticleer" concerns the capture of Chanticleer, the rooster, by the Fox, who has disguised himself as an opera impresario and flatters Chanticleer by telling him he has the most beautiful voice in the dale. Chanticleer manages to escape, and the opera ends with an amusing chase and finale in which the cast gives several morals.

The Sunken Meadow Opera Company is a group of professional singers who live on Long Island. They have performed these operas and Mozart's "Cosi Fan Tutte" frequently and have received high praise for the quality of their productions.

Tickets will be sold at the door only. Admission will be 50¢ for children, \$1.00 for adults.

**BNL SAFETY RECORD**

20 Days since last disabling injury.  
(April 18th — May 7th)

**CHESS PROBLEM**

This week's problem is an end game. We have no diagram so take out the board and set them up. White has two pieces, Queen and King. The Queen is on Queen's Rook 6 and the King on King 6.

Black has four pieces: King, Rook and two pawns. King on King 1, Queen's Rook on Rook, QRP2 and QBP2.

It is white's move and mate in two. Also prove why black can't castle. Answer elsewhere in this week's BULLETIN BOARD.

**MICROMET SALE**

Orders for Micromet accompanied by full payment are now being taken at the Personnel Office, 58 Brookhaven. No orders will be taken after Friday, May 19. For information, call Ext. 2107.

**SQUARE DANCE COMING**

Arrangements are now being made to schedule a square dance at the Recreation Building within the next few weeks. Watch for date, time, and further information in next week's BULLETIN BOARD.

**SOFTBALL****Brookhaven League****MONDAY**

Phoubars vs. E.O.A. (Rained out)

**TUESDAY**

Untouchables 25 Potsareebies 7

Nip and tuck at end of 4th inning. In 5th Untouchables scored 14 runs shattering hopes of opponents. Potsareebies waiting for summer student ringers.

**WEDNESDAY**

Biology 11 Medical 9

Cold weather reason for errors. A seesaw game up until the 7th inning. Hal Marshall making 2 great catches in left field saved the game.

**THURSDAY**

Electronics 15 Health Physics 7

Combination of good hitting and fine fielding on part of Electronics was deciding factor in win. Health Physics had a late 7th inning rally where they scored five runs.

**UPTON ARCHERY CLUB**

There is still time to enter the Archery Contest being run off at the Gym on Monday nites. Come One? Come All! Contest will run for three more weeks - final high score will win a prize - Come On Out and Join the Fun.

A reminder the next monthly meeting will be on Wednesday, May 10, at 5:15 p.m. in Recreation Building.

**ATHLETIC EQUIPMENT**

The following items are available at the Recreation Office for purchase at a discount by employees: tennis balls, golf balls, badminton birds, handballs, softballs, athletic socks, softball gloves, and tennis rackets.

**FOLK DANCING**

The Brookhaven Folk Dance Group is starting a new series of weekly dances. The first of these will be on Monday, May 15, at the Recreation Bldg., from 8 to 11 p.m.

These dances are open to all BNL employees and their guests. Beginners are especially welcome - for their benefit the first portion of each program will be devoted to elementary instruction.

**ANSWER TO CHESS PROBLEM**

WHITE: Queen to Rook 1

BLACK: Black can make any move

WHITE: Queen to Rook 8 mate...

**BOWLING TOURNAMENT FILLING UP!**

Entries for the June 3rd Mixed Doubles HANDICAP Tournament at Port Jefferson are pouring in at a surprising rate. The minimum number of teams (which was set at 30) has been passed, and it looks as though there is a real possibility of filling all available lanes **before** the cut-off date of Friday, May 26th (3:00 P.M.)

Don't be left out - sign up a partner and enter now! Complete rules and list of guaranteed prizes were in the April 18th BULLETIN BOARD (copies posted in the Gym). All awards are on a handicap basis, so you don't have to be a bowling star to win. Get your entry in, and join the fun - June 3rd at Port Jefferson at 3:00 P.M.

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)

**RENTAL LIBRARY**

Among books currently available at the rental library at the Personnel Office, 58 Brookhaven Avenue, are:

THE SIDE OF THE ANGELS

A. Federoff

MISTRESS OF MELLYN

V. Holt

SET THIS HOUSE ON FIRE

W. Styron

DIAMOND HEAD

P. Gilman

THE LOVELY AMBITION

M.E. Chase

THE CHESS PLAYER

F.P. Keyes

CONFESSIONS OF A SPENT YOUTH

V. Bourjaily

THE HEARTLESS LIGHT

G. Greene

A SENSE OF VALUES

S. Wilson

WORLD CRUISE

F. Malm

ENOUGH GOOD MEN

C. Mercer

THE QUEEN'S GROVE

J. Westcott

THE STRANGE ONE

F. Bodsworth

THE STARS IN THEIR COURSES

H. Brown

DEAR BEAST

N. Hale

RIGHT BANK

E. Neal

THE GOLDEN CAGE

T. Torres

WHAT IS THE STARS

A.J. Roth

**CLASSIFIED ADS****CAR POOLS**

Ride wanted from Sunrise Highway, Brightwaters, Nan Kelly, Ext. 2105.

Anyone want to form a two-man car pool, driving alternate days, from vicinity of Bellport Beach Estate. Howard Pate, Ext. 2133.

Ride to Lab from River Ave., Patchogue. Ronald Smith, Ext. 541 or GR 5-3632.

**FOR RENT**

HOUSE - Stony Brook Shores. For Summer. Ideal for visiting scientist and family. 3 bedrooms, living room, breezeway, garage. Beautiful residential area, beach privileges. Furnished, 1/2 acre, Wooded. Ext. 396.

**LOST AND FOUND**

FOUND: Turn indicator from a car. Found in front of A.G.S. Personnel Services, Ext. 2107.

FOUND: Blanket, blue, on street. Bldg. T-117. Ext. 791.

LOST: Card case - contained all credentials. Wm. Vlahakis, Ext. 301-37.

LOST: Eyeglasses, beige frames. Lost outside Personnel Bldg. Joan Depken, Ext. 2100.

**WANTED**

APARTMENT - 3 1/2-4 rooms beginning about August 1-15. West of Lab. Private entrance preferred. Also interested in small house. Eleanor Tingen, Ext. 2131.

HOUSE OR APARTMENT FOR RENT - Summer visitor needs small house or apartment, (3 or more rooms), for June, July, and Aug. Anyone going away for the Summer? Call V. Brown, Ext. 396.

HOME - for two adorable, but superfluous under present circumstances, kittens. One black with white markings, one gray, 8 wks. old. YA 4-3719.

# SHOP YOUR CLASSIFIED ADS

## FOR SALE

1953 OLDSMOBILE - in good cond., r&h, price reasonable. Ext. 2460.

1961 CORVAIR STATION WAGON - R&h, automatic trans., w/w tires, 5,000 miles. \$2,200 firm. Robert Gottschaulk, AT 1-6108.

1960 CHEV. CONVERTIBLE - Red, auto. trans., r&h, excell. cond. Ext. 396..

1949 FORD CONVERTIBLE - Not new, its true - but runs well with top up or down. R&h, good front tires. J. Bateman, Ext. 301-72 or HR 3-2615 evenings.

CROSLLEY FRONT END - Complete, wheels, springs, shocks. \$15. Ext. 2467.

1951 BUICK STATION WAGON - One owner, 38,000 miles, always kept in garage. \$250. Pellegrin, Ext. 750.

HOUSE - in Yaphank on well-landscaped wooded lot 125x200 ft., two bedrooms, plus finished room in cellar, large living room, modern kitchen, full basement. Ten minutes from Lab. \$9950. SH 4-5096.

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

HOUSE - Rocky Point, 9 rooms, 2 baths, full basement, hot water heating system, combination storm and screens. six lots, two-car garage, patio, well-developed trees, view of the Sound, access to beach on premises. \$18,000. Treuenfels, SH 4-3294.

HOUSE - East Patchogue, brick, 3 bedrooms with abundant closets, extra hall closets, large living room with oversized fireplace, dining room, modern kitchen with dishwasher and wall oven. Huge finished basement room, garage 30' long, lot 100x125. Excell. lawn and landscaping. No through traffic, convenient to elementary school. Shapiro, Ext. 397 or AT 6-8911 evenings.

HOUSE - 5 rooms, porch. Cape Cod, excell. cond. North Patchogue, incl. range, refrigerator, washing machine & wall to wall carpeting. Lot 50x180. Asking \$15,000. Call after 6:00 p.m. and Saturday and Sunday all day, GR 5-1839.

8 FT. PRAM DINGHY - 79 lbs. brand new, unfinished, needs painting and hardware. \$45. Ron, Ext. 464.

1957 EVINRUDE 7½ hp. Has long shaft, ideal for high transom boats, completely overhauled this spring. Guaranteed for season's use, excellent condition. Ext. 482 or BE 7-1092 after 5:30.

OUTBOARD RUNABOUT - Extras, Reasonable. AT 6-8215 after 6 p.m.

CHRIS CRAFT "Cavalier Cruiser" 1958 - 22'. New navy top - 95 hp Engine with 176 hrs total time. 2 - 12 volt batteries with explosion proof double-thro Smith-Bow rails - 2 anchors - Electric bilge pump - Life time muffler - 3 large & 3 small life preservers. Head, galley, 2 burner stove & ice box and dish closet. 10 gallon fresh water - 30 gal. fuel tank - fire equipment - life ring - flags and windshield wipers. Excellent condition and ready to go. AN 1-2531.

15 HP 1956 JOHNSON OUTBOARD MOTOR - excellent condition, 6 gal. tank. Best offer over \$150. Ext. 2357.

18 FT. OUTBOARD CABIN CRUISER - 35 hp Evinrude motor and trailer. \$900. Ext. 681 or AT 6-9669.

12 FT. BOAT - 7½ hp Evinrude motor, Elgin Trailer. \$185.00 for all. Also freezer, large, 17 cu. ft. Revco, like new \$175. 1 yr. old G.E. Deluxe washer and dryer, matched set, \$300. GR 5-3632.

12½ FT. BEETLECAT SAILBOAT - All painted, ready to go, good for small family or beginner. BE 7-0291 after 4:00 p.m.

TRANSCEIVER - Citizen Band, Lafayette HE-15, 110-GVDC Converter, 6 ft. whip. \$45. Also bilge pump, like new, automatic Sutton. \$18. Edwin Rappe, Ext. 792.

SPRING CLEAN UP - Bilt Rite Baby carriage, fold-up. Two 20-in. bicycles, one boy, one girl. Two hand lawnmowers; one 12 in. one 16 in. All in usable condition. Make me an offer, best gets merchandise. Ext. 301-39, or BE 7-0603 after 5:30.

FENCING - 100 ft. of medium heavy wire mesh fence 6 ft. high. Twelve 4x4 cedar posts. 1 aluminum gate, good cond. Ext. 414 or HR 2-0192.

DOG HOUSE - For medium sized dog, shingled roof, shielded entrance, double layer sides. Ext. 414 or HR 2-0192.

SCOT TUNER MODEL - 310-B. \$100. Heathkit 20W, ampl. and preamp. model W-4 \$50. KLH bass speaker and matched tweeters \$200, EMI record player and G.E. cartridge \$30., Hallicrafter S-15 communications receiver \$35. Fredi, Ext. 2129.

BOY'S BICYCLE - 20 inch wheels, excell. running cond. \$10. Be 7-0294.

INSTRUCTOGRAPH CODE MACHINE - with instruction book and 10 tapes. 5 w.p.m. to 40 w.p.m. Built in oscillator, excell. cond. Also:

Eico Monaural HiFi HF 20, 20 watt amp. excell. cond. RME 152A 2, 6 & 10 meter tuneable convertor self contained reg. power supply. All above singly or all for best cash offer. B. Howard, Ext. 2314.

FREEZER - 12 cubic feet, Frigidaire, in excell. cond. \$35. Central Islip 4-6015.

STEEL BED FRAME - Adjustable, with hard rubber caster wheels. 3 months old, used approx. 1 month. \$10. Also 16 Hotbed sash. 3x6 ft. each. All cypress frames in good cond. Will sell individually at \$4 each or all 16 for \$56. Be 7-0246 after 5:30 p.m.

HAND MOWER - Pennsylvania, 17 in. reels, used only four months last summer. \$8.00. S. Pickart, Ext. 402.

GILLEN OIL BURNING FLOOR FURNACE - \$35. Kenmore Oil Burner \$20. Homart Glass Lined Electric Water Heater, 50 gal. capacity, \$35. Mary Hall, Ext. 2245.

M1 CARBINE & AMMO - brand new. For Sale - Best offer. Ext. 782.

9x12 UMBRELLA TENT - Very good cond. \$40. T. Semplicino. Ext. 2430.

ONE TWIN SIZE BOX SPRING - Good cond. and clean, \$15. R.M. Brown, Ext. 455 or BE 7-1214W.

BIKE - Man's 26" Austrian 3-speed lightweight. Dark green finish better than new, chrome fenders. Tourist bag with tools, padlock, touch-up paint. Michelin tires. Every part waxed and spotless. Best offer over \$25. Ext. 2325.

CHILDREN'S EQUIPMENT - Now available after spring-cleaning our attic are: wonder horse, play gym, child's chair, bathinette and car bed. BE 7-0428.

2 TIRES - 670-15 with tubes. Not recaps. \$18. Call YA 4-3586 after 6 p.m. Henry.

RCA VICTOR PHONO - 3 speed auto. change. Good cond. Ext. 615.

HIGH CHAIR - Convertible to table & chair. Call D. Heymann, Ext. 607.

DELTA SHOP COMBINATION - 8" Circular saw, planer, drill press, assorted drills, sabre saw sanding disc, motor. \$175.00; 5" Diam. Wood turning lathe. No motor \$7.00; Starret Micrometer 1" by tenths. \$8.00; 50 # anvil \$15.00; 2 vises 3" face, \$4.00 each; 1 vise 4" face swivel \$12.00; 14' Bowman #70 boat, oars, rope, anchor, 1957 Evinrude 7½ hp. \$1500.00. F. Rumph, Ext. 2221.

BICYCLE - 22" Girl's. Cheap. AT 6-8215.