

the Bulletin Board

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JULY 26, 1960

EXTRA VISITORS' DAY PLANNED

Due to the heavy demand for tickets to Visitors' Day, Saturday, October 22, it has been decided to hold an additional Visitors' Day on Sunday, October 23. There will be only three admission periods on October 23: 11-1:30, 1-3:30, and 3-5:30. Employees, their families, and friends are invited to attend on either day.

Please indicate the date and time on your application for tickets. If you have already sent in your application and wish to change the date, notify M. Kuper, Building 460, by mail.

College Student Visitors' Day and High School Student Visitors' Day will be held on October 28 and 29, respectively.

ANYONE FOR GLYCHARAS AFTON?

There will be an evening of Glycharnas Afton at the Lecture Hall on Monday, August 1 with Ake Gronberg, Harriett Andersson, Hasse Ekman and Anders Ek. These friendly people are not the Swedish Hi-Lo's, but the cast of Ingmar Bergman's film "Sawdust and Tinsel". This is a circus drama. A middle-aged circus owner has forsaken his family for an equestrienne. He takes to the bottle (wotta life!), is beaten in a fight with an actor, attempts suicide. Eventually the man and his problems move on to their uncertain fate through the dark night which ingulfs the caravan. Come to see "Sawdust and Tinsel", undoubtedly one of the most depressing films of the year.

MONDAY, AUG. 1 AT 7 AND 9 P.M.

LECTURE HALL - ADMISSION 75¢

THIS WEEK'S VISITORS TO BNL

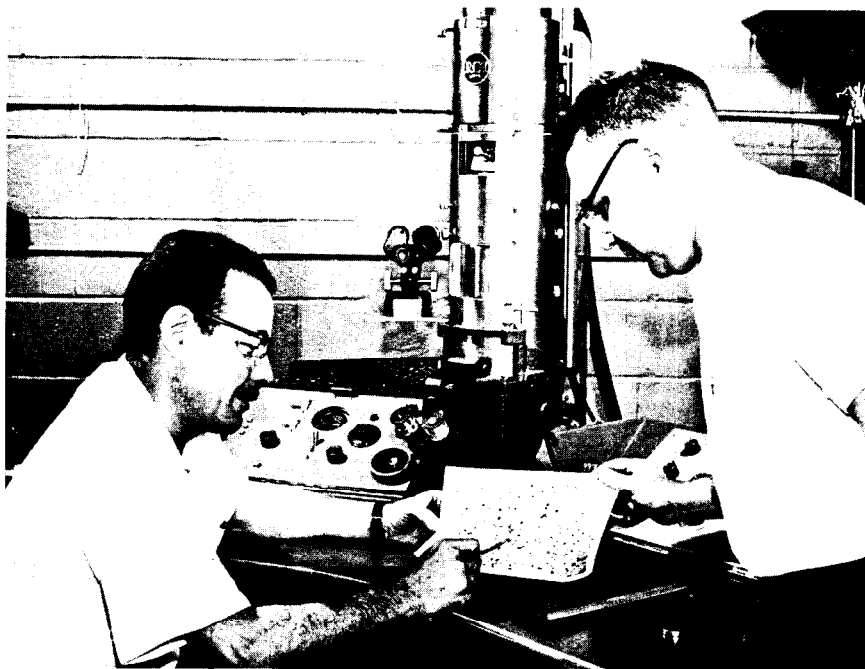
High school chemistry and physics teachers attending a National Science Foundation program at Trenton State College will visit the Laboratory on Tuesday, July 26. A group of Asian high school students who have been attending American schools for a year will be given a general tour of BNL on Friday, July 29. These students are in this country under the auspices of the American Field Service for Exchange Students and are currently taking a bus tour of the United States.

OPERATION GET-TOGETHER

No. 3

JULY 30

ELECTRON METALLOGRAPHY AT BNL



J. Kelsch, left, and P. Buhl, members of the Metallurgy group, examine photograph taken on electron microscope of fission fragment track in aluminum film.

The electron microscope is a tool of many uses. It was first developed in Germany in 1932, and the first commercial models were produced in 1940. Since that time almost every field of science has felt the impact of the mass of information brought from the microcosm by this instrument.

Electron microscopes function in a manner quite analogous to light microscopes. Each uses a source of illumination; the light microscope a tungsten filament or carbon arc, the electron microscope a beam of electrons emitted from a small tungsten filament. Glass lenses are used to focus light rays, and electromagnetic lenses are used to focus electron beams. The magnified image of the specimen can be viewed on a ground glass in the case of the light microscope, and on a phosphor coated plate in the electron microscope. The image from each instrument can be recorded on standard photographic emulsions.

The electron microscope, however, is a much more complex apparatus. There are stringent requirements for high stability in the voltage supplies to the electron gun and to the lenses. The microscope operates with high vacuum, which it must attain quite rapidly. External vibration and varying magnetic fields present serious problems. When all of these are solved, the matter of specimen preparation presents itself. Briefly, this is a stringent art. Electrons can penetrate only a few hundred Angstrom units (an Angstrom unit equals one hundred-millionth of a centimeter) of matter, hence the specimens must not exceed this. In order to prepare thin replicas of solid surfaces, or substrates to support fine particulate matter, one uses such instrumentation as the vacuum evaporator in which thin electron transparent films are made by condensing atoms of carbon, chromium, aluminum, platinum, etc.

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METALLOGRAPHY (continued)

Etching of metals to bring out minute details of structure without leaving chemical coatings behind to obscure such details often requires the use of ion bombardment equipment.

Slicing of softer solids to be thin enough for electron penetration demands the use of microtomes capable of cutting 200A sections.

To aid in the interpretation of complex surfaces interference microscopes are used.

The microstructure of metals, alloys, and their corrosion products, the effects of liquid metals on container materials, the appearance of dislocations and other lattice defects in crystalline substances: all these can be studied with light microscopes. However, as in fields other than metallography, the light microscope can tell only a relatively small part of the story.

Details smaller than about .25 micron cannot be resolved when light is used as illumination, as the wavelength is too long. Utilizing the exceedingly short wavelengths associated with electrons accelerated by 100,000 volts, one is able to resolve detail as small as 10A (.001 micron). Objects and structure larger than 10A appear very sharp and clear, and accordingly can be enlarged photographically to immense magnification for study.

The electron microscope has a range of magnification from 500X to 200,000X. The resulting micrographs can then be enlarged some ten times, making the range 5000X to 2,000,000X. At this latter figure 100A can be represented by a line 2 cm in length.

The electron microscope has been used for about two years in the Metallurgy Division in the study of corrosion on metals and since late last year in a thorough investigation of the effects of fission fragment capture on metals and oxides. One is able to make direct high magnification micrographs of the tracks of fission fragments from U_{238} in other metals and non-metals, and a variety of experiments in this area are being carried out. This is made possible only by the very high resolving power of the electron microscope.

"REDHEAD" AT WESTBURY

REDHEAD, a recent hit on Broadway, is the current attraction at the Westbury Music Fair. It will play until August 7. CAROUSEL, the Rodgers and Hammerstein favorite, will play from August 9 to August 21.

There will be an evening of Jazz in the Round on August 1 with Count Basie and His Orchestra. On August 15, the Weavers will give an appearance.

20% discount tickets are available to BNL employees and their families. Seat reservations and payment are made directly through Personnel Services, 58 Brookhaven Avenue. Payment must be by check made payable to Westbury Music Fair.

HELP - HELP - HELP!

We know you're out there - all 3300 of you. This is your affair; it's a get-together. Many of you have signed up to help out on the big day. However, we still need 50 more. Please call Blanche Laskee, Ext. 798, and tell her you'll help out with OPERATION GET-TOGETHER.

SQUARE DANCE

Wednesday, July 27, at 8:30 p.m.
Recreation Building Free Admission

This Wednesday evening we are particularly fortunate in being able to present the FEARSOME FOURSOME and their delightful square dance tunes.

This talented group thrilled the audience last year and we received many wonderful letters and requests to have them perform again.

The dance starts at 8:30 p.m. in the Recreation Building (York Lane - Apartment Area). Ice cold beer and soda are available and **ADMISSION IS FREE.**

FIRE EXTINGUISHERS HAVE ARRIVED

The group order of Kidde 2½ pound dry chemical fire extinguishers has arrived at Personnel Services, 58 Brookhaven. Please pick up your extinguishers.

"HIT THE DECK" DISCOUNT TICKETS

Discount ticket applications to HIT THE DECK, the 1960 attraction at the Jones Beach Marine Theatre, are available at Personnel Services, 58 Brookhaven Ave. Regular prices: \$4.80 and \$3.80; discount prices: \$3.60 and \$2.90.

ADVICE TO THE LOVE LAWN**JAPANESE BEETLES**

Japanese beetles, which are particularly in evidence at this time, may best be controlled with 50% wettable D.D.T. powder at the rate of three rounded tablespoons per gallon of water. Respraying after each rain is necessary.

There is no way of keeping them off the rose itself as the beetles enter the flower when it unfolds. Daily picking of the blossoms will prevent the beetles from destroying them.

Wettable or liquid chlordane may also be used for Japanese beetle control.

MOWING

During hot weather, mowing frequency can be reduced to less than once a week and in dry spells can be omitted entirely. Mowing height at this time should preferably be 2 inches and not below 1½ inches.

CRABGRASS

Potassium Cyanate applications at the rate of 3 teaspoons per gallon of water will help to control crabgrass. Application should be made after a rain, as temporary discoloration of desirable grass species may occur when Potassium Cyanate is applied in hot dry weather.

VACATION FUN

IF YOU'RE DRIVING: Have your car thoroughly checked. Major repairs far from home can often be prevented by minor repairs before you set out.

Don't follow the car ahead too closely - your heavily loaded car means longer braking distances and different handling techniques.

Be a defensive driver - always on the lookout for what the other fellow might do.

IF YOU GO SWIMMING: Don't try to out-distance the fish - know your limitations. When you dive, know what's below the surface of the water.

Keep a watchful eye on children in the water. Floating toys and tubes are fun, but can carry youngsters into deep water in a hurry.

BOATING, ANYONE? Step in the center of the boat and once seated, stay put.

Every boat has its capacity - don't overload. If you capsized - don't give up the ship - stay with the boat until help arrives.

PLAY SAFE: Play and exercise are just what the doctor ordered for vacation fun - but, don't overdo - doctor may be on vacation, too.

VACATIONING AT HOME? Even so, take time for safety

BERA FISHING CONTEST

A 2 lb. 5 oz. Fluke entered by G. Schwender last week has nosed out the previous 2 lb. 4 oz. entry for first place in the Fluke species.

The entries are still coming in at a slower rate than we hoped for. None of the entries so far should be too hard to beat, so let's get out there and do some fishing.

The largest entries to date are:

Striped Bass - No Entries

Sea Bass - No Entries

Blackfish - 5 lb. 2 oz. - F. Cermak

Bluefish - 2 lb. 3 oz. - A. Ravenhall

Cod - No Entries

Flounder - 1 lb. 13 oz. - A. Kokinelis

Fluke - 2 lb. 5 oz. - G. Schwender

Kingfish - 12.5 oz. - W. Castleman

Mackerel - 1 lb. 9 oz. - A. Beckwith

Porgy - 3 lb. 0 oz. - A. Schroeder

Tuna - No Entries

Weakfish - 2 lb. 14 oz. - J. Klein

Brook Trout - 12 oz. - K. Jellett

Brown Trout - No Entries

Large Mouth Bass - 2 lb. 2 oz. - J. Klein.

RECREATION BUILDING

Our Recreation Building, which is located on York Lane in the Apartment Area, is open Monday through Friday, 5 p.m. until 11 p.m.

This building is open to all Laboratory employees and summer students for use as a lounge, meeting place, or reading room. For your convenience we have a radio and phonograph on which you may play our records or your own, chess and checkers and magazines to pass your idle hours. We have kitchen facilities and cold drinks. A piano and ping pong table are also available.

There is a picnic area just outside the building where you may also enjoy a game of volleyball, badminton or horseshoes. When darkness comes, you may go inside and enjoy dancing in our ballroom.

An attendant is on duty at all times and he will be happy to aid you in planning group or individual activities.

This building is available for reservation by departments or groups wishing to have parties, dances or barbecues. For information, call the Recreation Office, Ext. 391.

RIFLE CLUB - HELP!

We, the members of the Rifle Club are again adding our efforts to help make Operation Get-Together a success. We are setting up an air-rifle booth with targets and prizes to the youngsters. We need a few more volunteers to assist in the operation. Please call F. German, Ext. 2151.

OPERATION GET-TOGETHER THIS SATURDAY

3300 Party-goers will fill the picnic area as BERA's third annual OPERATION GET-TOGETHER takes place this Saturday. The picnickers will be treated to a complete program to provide fun for all age groups. This elaborate list of events combined with ample food and drink will produce a memorable day for BNL'ers.

WHERE: Laboratory site. WHO: Employees - immediate family members.

WHEN: Saturday, July 30, 1960 - 2 to 9 p.m., WHY: FUN FOR ALL.

This Get-Together is intended for the enjoyment of every employee and his immediate family. All rides, refreshments, food and entertainment are covered by the admission ticket. The cost of the picnic is much more than the fee of admission. The deficit is assumed by the Brookhaven Employees Recreation Association.

So . . . COME ONE, COME ALL! Join the fun!

MENU

2:00 - 9:00 p.m. Beer - Soda will be served continuously.

2:00 - 4:00 p.m. Potato Chips - Pretzels to accompany your beer and soda.

4:00 - 7:00 p.m. DINNER: Charcoal broiled hamburgers Charcoal broiled frankfurters. Long Island Sweet Corn. Ice Cold Watermelon. Ice Cream. Soda. Beer.

Beer and soda will be served in paper cups. If you wish, bring your own pitcher or favorite beer stein . . .

PLEASE KEEP THE PICNIC AREA CLEAN

PROGRAM

2:00 - 3:30 p.m. Father and son, mother and daughter, children's athletic contests.

2:00 - 6:00 p.m. Sprinkler area for kiddies; horseshoes, basketball, volleyball, ping pong for all.

2:00 - 7:00 p.m. Kiddie Rides - whip, fire engine, merry-go-round and swing. Pony rides. Cartoons.

2:00 - 7:00 p.m. Weight and bean guessing contests for all.

4:00 - 7:00 p.m. Adult games - "Dip the Doll", "Throw Ball in Barrel", "Ring the Bell".

3:45 - 4:15 p.m. Marching Band.

4:15 - 5:15 p.m. "THE FEARSOME FOURSOME."

5:15 - 7:15 p.m. Jazz Concert.

7:15 - 9:00 p.m. "Melody Aces" - dance band.

In case of rain the picnic will be held Sunday, July 31, 1960. If you are in doubt, call Yaphank 4-6262, Extension 391, or tune in WALK, WPAC, WRIV.

IMPORTANT

In order to insure the success of this affair we ask you to please cooperate by abiding by the following:

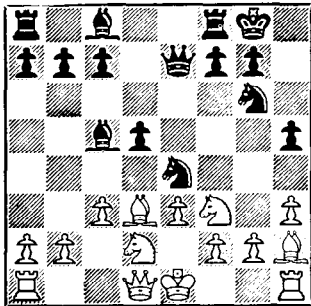
1. Have your tickets ready to show the guard at the gate. (NO ONE will be permitted to enter without a ticket.)
2. Do not bring anyone who does not have a ticket.
3. Follow the directions of the Lab Police for PARKING.
4. REMAIN within the confines of the Picnic Area.
5. Please! NO PETS! PLEASE!
6. WEAR your ticket in plain sight at all times.

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CHESS PROBLEM

A REMINDER: The Upton Chess Club meets every Tuesday at 8 p.m. in the Recreation Building. All are welcome. In this week's problem it is Black's move. The game is only about 8 moves old and one of the two has a winning position already. Who is going to win, Black or White?



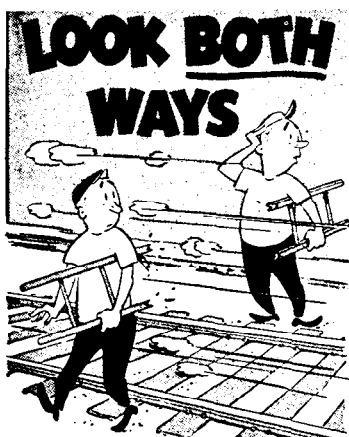
CHESS TOURNAMENT COMPLETED

The Upton Chess Club tournament, sponsored by BERA, ended last week. Out of a possible 22 points, G.L. Miller and J.B. Cumming had 21. Congratulations to both of them. Runners up were Theodor Korsos with 18, Bruce Foreman 14, and Noel Corngold with 13 points.

TENNIS TOURNAMENT

The 1960 BNL Tennis Tournament starts Wednesday, July 27. Contests will be played in Men's Singles and Men's Doubles. Unfortunately, there were not enough entries in the Mixed Doubles and Ladies' Singles, so these contests were cancelled. All entrants are requested to stop at the Gymnasium to check the draw, rules and regulations which will be posted.

BNL SAFETY RECORD



11 DISABLING INJURIES at BNL thus far in 1960 (for a rate of 4.17 injuries per 1,000,000 man-hours - compared to the All AEC Research Contractor rate of 1.67).

OPERATION GET-TOGETHER —Cont'd

7. A DIRECTORY, INFORMATION CENTER, and LOST & FOUND will be centrally located in the picnic area.
8. FIRST-AID facilities will be provided at the CLINIC. Please make use of this service if necessary, but please **be careful**, first.
9. Come PREPARED to enjoy yourself. These suggestions might help: your pitcher, folding chairs or a blanket, a folding table, a beach umbrella, a beer mug, comfortable clothes, bathing suit for the youngsters and anything else you can think of to insure your comfort.
10. Remember, this is YOUR Picnic. To make it a success, YOU must cooperate. Please help KEEP THE AREA CLEAN. Make sure all waste is properly placed in the disposal units provided. PLEASE.

CLASSIFIED ADS

FOR SALE

1958 CHEVROLET - Biscayne. 2 dr. V8. Excellent condition. Auto. trans. Silver blue. Helen Kelly, Ext. 315.

1953 FORD - Victoria hardtop. Auto. trans. R&h. Clean, excellent running cond. \$325. Ext. 2369, or Yaphank 4-3382.

1953 PLYMOUTH - station wagon, r&h. Good tires, clean. Reliable transportation, with lots of cargo space. Avail. August 31 when owner leaves for Europe. Weston, Ext. 2241 or 2145.

1957 FORD - 4 door Country sedan. Radio, heater, overdrive. Ext. 797.

NOT A ROLLS - but an excellent 1953 Pontiac 8. Stereo radio and heater. \$350. Available end of August. Mason, Ext. 2324 or 708.

1958 DODGE CORONET - 4 dr. sedan, V-8, Torque Flite automatic transmission, r&h, super deluxe interior with washable upholstery, 2 snow tires, excellent condition. Owner leaving for Europe at end of August. J. Wenner, Ext. 602.

HOUSE - Cape Cod style. N. Country Road, Wading River. 3 bedrooms, oil hot water heat. 100x150 ft. property. Fully landscaped. 10 miles from Lab. \$12,000. I. Meyer, Ext. 2222 or Wading River 9-4326.

HOUSE - Blue Pt. 500 ft. from Great South Bay. 5 rms., 2 bedrooms, sun porch and fireplace. Oil hot water heat. Alum. storms and screens. 1 rm. cottage at rear of property. Rights to priv. beach with boardwalk and netted swimming area. \$13,500. Ext. 548 or Emerson 3-6497.

STAR SAILBOAT - 22 ft., sails in good condition, 4 wheel trailer. \$150. Ext. 2179 or Bellport 7-0651 after 6 p.m.

12 FT. DURATECK RUNABOUT - with front deck and steering wheel. Constructed of heavy gauge alum. All riveted. This maintenance-free boat with cushions, pair of oars, anchor and lines sells for \$195. Ext. 624.

19 FT. EXPRESS CRUISER - incl. floating dock space for year on Patchogue River. Sound, seaworthy, ready to go. Will haul and paint bronze bottom for buyer. 35 h.p. Evinrude w/8 hrs. running time, fully remote. Will demonstrate by appointment. Jack, Ext. 2165 or Grover 5-2888 after 6 p.m.

18 FT. RAVEAU RUNABOUT - 7 ft. beam. 25 h.p. Evinrude, new navy top, back cover, wintr cover. Excellent condition, \$950. Ext. 482.

BOWLING BALL - (Ned Day grip) and bag. Both used but in good condition. Ed Sperry, Ext. 2376.

GERMAN SHEPHERD PUPPY - brindle A.K.C. registered. Champion bloodline. 10 wks. old, wormed, temp. shots, good temperament. Sacrifice. Call evenings: Sayville 4-4385.

FAIRCHILD - No. 230 monoral cartridge 0.7 mil diamond stylus. Used about 10 hours. \$12. I. Meyer, Ext. 2222.

BELL AND HOWELL CAMERA - electric eye 16 mm. magazine camera. Model 200 EE, complete with carrying case. Purchased new 1958 for \$350. Factory overhauled Jan. 1960. Will sell for \$150. Ext. 347 or STony Brook 7-0716.

BICYCLE - girl's 24 in. Rolfast, blue color, and in good condition. Original cost \$35. Asking \$12. Don Reinhardt, Ext. 2259.

COUCH - Queen Anne style living room couch 6 ft. wide. Newly upholstered (beige). Excellent condition, \$50. Ext. 481.

WANTED

MOTORCYCLE OR MOTORSCOOTER - to rent for two weeks starting in mid-August. Must have seat for two. J. Powell, Ext. 782.

NICE HOME FOR MAC - part Airdale, part Doberman Pinscher. Fixed male, 7 yrs. old. Wonderful with older children. He must move due to large influx of civilization, restricting his running area. Jim Klein, Ext. 375.

HOME FOR PET - who stays behind when we leave for Europe. Black dog, 3 years old, spayed female. Breed - 100% pure dog. Good with children. Weston, Ext. 2241 or 2145.

24 IN. GIRL'S BICYCLE - Irving Lipton, Ext. 2430.

FOR RENT

APARTMENT - to 3 single men. Completely private. 5 rms., fully furnished. Easy commuting distance. Available Sept. 1. Grover 5-1371.

CAR POOLS

Want riders for car pool from Smithtown. Ext. 2382.

Would like to join car pool from Heilman Ave., Lake Ronkonkoma to BNL. Ext. 2385.

Would like to join car pool from South Country Road, Brookhaven. P. Corey, Ext. 583.