

# the Bulletin Board

VOLUME 18, NUMBER 51

Published by the BNL Public Information Office

OCTOBER 27, 1965

## BNL SHORT SUBJECTS

### Ski Club Meets October 28

The Ski Club will have its second meeting on Thursday, October 28, at 5:15 p.m. in the Recreation Building in the Apartment Area. At this meeting will be featured a 51-minute ski film on the techniques of the Austrian skiers.

### Folk Song Group Meeting

The Folk Song Group will meet for singing and strumming. Bring your guitar, banjo or other instrument. Everyone is welcome.

Place: Recreation Building (Apt. Area).

Time: 7:30 p.m., Thursday, October 28.

For any further information call J. Powell, Ext. 7789, or H. Courtney, Ext. 7688.

### October 28 - Cooking Exchange Group

The Cooking Exchange Group will meet on Thursday, October 28, from 3 to 5 p.m. in the Apartment Area Recreation Building. All Lab wives are cordially invited to attend.

### Volley Ball League Forms

The Volley Ball season will begin the week of November 22. Team entry blanks for the 1965-66 season are now available at the Recreation Office. Entry deadline is November 10. A meeting of team captains will be held November 12 to discuss league structure and playing dates. Individuals who wish to participate may submit their names to the Recreation Office, Ext. 391, for assignment to teams. For more information contact Y.Y. Chu, Ext. 2541.

### Pro Arte Symphony Orchestra

Mail order applications are now available at the Recreation Office, which entitle employees to a substantial discount, for a concert series sponsored by Hofstra University and featuring Alfred Wallenstein as guest conductor for the first performance.

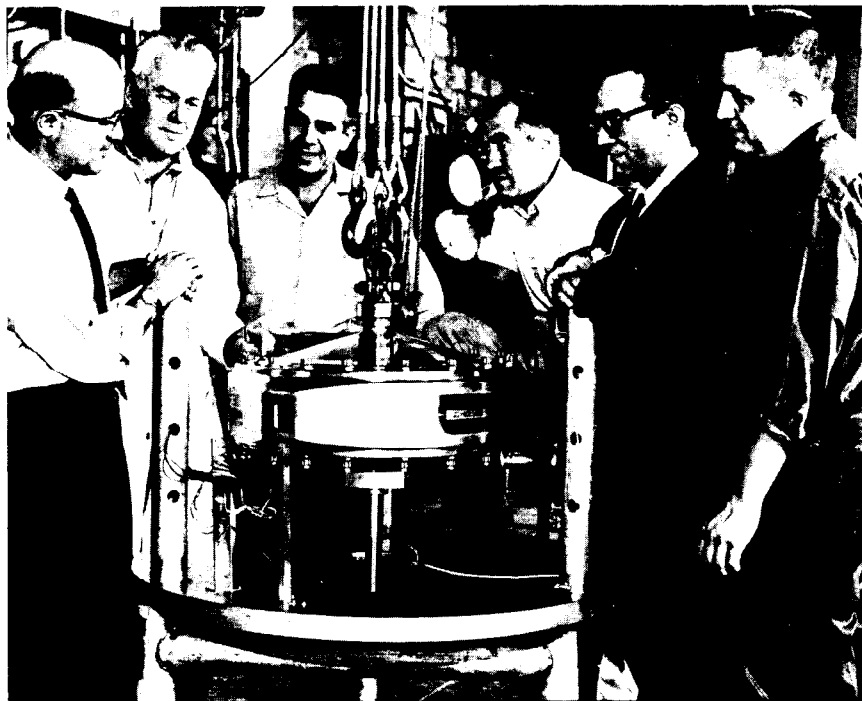
Preferred seating - Regular price, \$13.50. Our price, \$10.50.

The first concert will be held Nov. 20.

### Discount Coupons

Coupons are now available for the following games at Madison Square Garden: **New York Ranger Hockey** games on November 3, 10, 17 and December 1. **New York Knickerbocker Basketball** games on November 6, 9, 13, 27, December 4, 11 and 18.

## THE END OF THE JOURNEY



For over two years, more than 100 BNL people have been working to develop a rotor for a neutron beam chopper to be used in the HFBR. Recently the rotor was tested and approved. Here's the story of the machine and the men who made it.

### THE MEN

Surrounding the rotor are six men who represent the more than 100 BNL employees who worked over two years to perfect the rotor. They are identified from the left.

Harry Palevsky - Senior Physicist, who was in charge of the physics aspect of the design and fabrication of the rotor. Dr. Palevsky's group will be the user when the rotor is installed at the HFBR's Hole No. 2 or Hole No. 9.

Albert Manger (Central Shops) - A crack machinist. Working to extremely fine tolerances, tens of thousandths of inches, Manger took the component parts and made them fit together. In one section of the rotor he worked with tolerances as close as two seconds of arc (a second is 1/1,296,000th part of a circle). This is the eighth rotor he has machined in his 15 years at BNL.

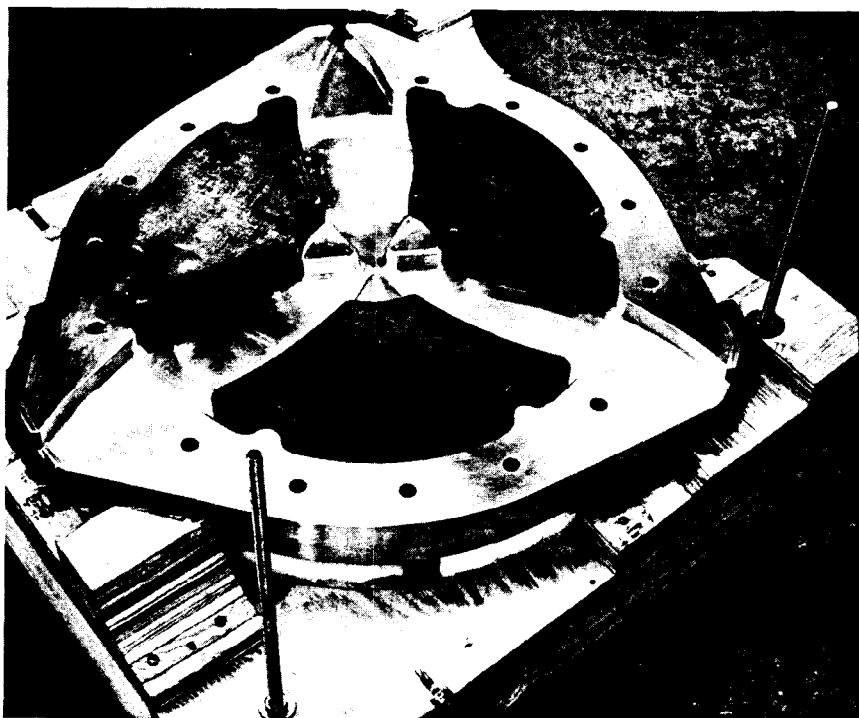
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### THE MACHINE

Imagine if you will, two ash-can covers bolted together concave sides in. Fill up the space inside with a hard plastic-like insert, leaving a hollow roughly shaped like a three-bladed propeller. Now make three slits at the tips of the propeller shaped space so that a small object can pass through from one side to the other in a 120 degree arc. What you have is a rough model of a rotor to be used in a neutron beam chopper, except that the real thing is infinitely more precise, infinitely more expensive, and takes almost three years to design, fabricate, and test.

A neutron beam chopper is a filter; by spinning at a preset speed - in this case, up to 12,500 revolutions per minute - it allows only neutrons of a certain energy to pass through the rotating slits. Neutrons of other energies, whose speeds are not synchronized with the spinning apertures, are blocked.

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**INTERIOR VIEW** of the rotor shows the resin inserts and the propeller-like channels. The inserts aid in the shielding; the channels allow neutrons of the proper energy to pass through the rotor and on to the experiment. The curvature of the channels causes the walls to literally move out from in front of the straight-traveling neutrons.

**The Men, cont'd.**

Joe Russo (Physics) – A mechanical technician, supervised the assembly and testing of the rotor and its components.

Bill Rogers (Mechanical Engineering) – A mechanical designer. Rogers did all the drawings for the rotor and acted as right hand man to –

Morris Reich (Mechanical Engineering) – Principal mechanical engineer for the project. It was up to Reich to see that the design concepts were adhered to in the actual fabrication. Reich was directly responsible for the rotor's detailed engineering.

Bill Ruland (Physics) – A physics technician, was responsible for the instrumentation and measuring devices used during the testing. Ruland will be one of those responsible for the rotor's installation and operation at the HFBR.

Rudy Hodor (Mechanical Engineering) – Not in this picture, had the responsibility for the engineering management and the overall coordination of the project.

**The Machine, cont'd.**

Thus, the beam is "chopped" into bursts of neutrons of a precise energy as determined by the experimenter's needs.

The design and fabrication of such a rotor is a very delicate piece of business. From design concept to finished product requires hours on hours of designing and testing, re-designing and re-testing till all the components fit and the device does what it is supposed to do.

The rotor must spin at an exact speed – no more, no less. It must not pull itself apart when faced with a stored energy equal to that of a ten-ton truck moving at 35 miles per hour and an outside tip speed of over 2000 feet per second – the muzzle velocity of many rifles. It must have enough mass and shielding to stop any neutron leakage when not in use, and it must be carefully synchronized with respect to other devices in the experiment.

**Folk Dancing Group To Meet**

The Brookhaven Folk Dance Group will hold its next program at the Recreation Hall on Monday, November 3, starting at 8:00 p.m. Folk dancers with all levels of experience are welcome.

**Camera Club to Meet**

A meeting will be held Thursday, November 4, 8:15 p.m. at the Recreation Building. Prospective members interested in photography and dark room work are cordially invited.

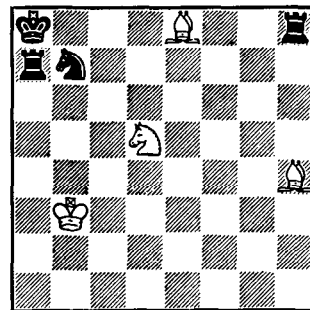
**BIOLOGY DEPARTMENT DEBUTS CONTROLLED ENVIRONMENT, RADIATION LAB COMPLEX**

The new labs in the basement of the new wing of the Biology Building have been officially declared open for business. The labs are unique in that they offer precise control of environment including day length, temperature, light, and other growth factors; and the amount of gamma radiation.

Radiobotanists expect that the new labs will allow experiments heretofore impossible in either the Gamma Field or the Greenhouse. The Bulletin Board will explore the labs and the radiation sources, which were designed here at BNL, in a later issue.

**CHESS PROBLEM**

A good look at this week's diagram shows a hopeless position for White. In point count Black is about 4 points up. Next best to a win is a Draw. If you were playing with White, and it was your move, could you force Black into a Draw???



**DAYLIGHT SAVING TIME ENDS SATURDAY NIGHT**

Eastern Standard Time will go into effect on Sunday, October 31. Employees are reminded to set their clocks back one hour before retiring on Saturday, October 30.

Laboratory policy detailing the procedure for reporting time worked by wage employees during the change-over period is contained in the Supervisors' Personnel Manual, pp. 9 and 10.

"Well, I thought I'd always hate men. Loathe and despise them. But last night—"

—Summer and Smoke, Nov. 12, 13, 19, 20.

### IT'S ALL WORTH IT

Those who worked so hard to make Visitors' Day the success that it was, will be interested in this letter received by the Public Information Office.

Public Relations Department  
Brookhaven National Laboratory  
Upton, Long Island  
New York

Gentlemen:

This past Saturday, I, with a group of friends, had the opportunity to visit your facilities. We were all flabbergasted by what we saw - things which before had only been read about or seen on the tv or in movies. Seeing it, and having what we saw made somewhat understandable, removed nuclear research and basic research from myth to reality. We were all very pleased. You showed exceptional astuteness in the selection of your guides. They were well informed, ready to help, and full of patience.

As you probably know, most people don't write to express pleasure with a service or a product, it's usually to complain or to ask for something. I've written you today not to complain but to thank you for a wonderful experience.

Sincerely yours,

John W. Connell

#### Exhibit of Color Motion Art

The BERA Art Exhibit Committee announces an exhibit of color-motion paintings, to open Tuesday, November 16. These works of art are on loan from East Hampton Gallery, New York City. Watch for further announcements.

#### BUBBLE BUBBLE TOIL AND TROUBLE HALLOWEEN IS ALMOST HERE!! S O

All you goblins, witches, ghouls, vampires and zombies, The time for the gathering will be **2000 (8:00 pm), Friday, 29 October** in the Apt. Area Recreation Hall.

If interested and can fly in with your own witches brew and a supply of spiders, toads, lizards, snails, newts (Food) get in touch with (not esp) the head witch, Gail Mansfield Ext. 2857, or the head goblin, Alex Nicholson Ext. 2877. This is the last nite of the "Pegram" Lectures, so come over after the lecture.

There will be a charge of 25¢ for Hall Rental. The dance is sponsored by the Medical Department.

### SCOTCH DOUBLES

The Scotch Doubles Tournament will be held on November 13, 1965, at 3:00 p.m., at the Patchogue Bowling Center. Due to the tremendous response received last year, we are again including a "social hour" complete with hors d'oeuvres.

If you wish to form a party of four teams or less to bowl together, **submit your entry blanks and fees at the same time**; the Tournament Committee will then try to make the arrangements for you.

A maximum of 80 teams can participate, so sign up early. Don't miss BNL's biggest bowling and social tournament!

Want to bowl, but no partner? Contact Pat Towey, Ext. 602; Frank Walsh, Ext. 2164; or Lew Jacobson, Ext. 7772. Entry blanks are available in last week's **Bulletin Board** or at the Recreation Office.

#### ENTRY APPLICATION

Submit to Recreation Office

Must be accompanied by \$5.00 (non-refundable fee)

- Names..... Employee Partner
- Average as of Oct. 25, 1965.....(BNL Bowlers use current BNL average)  
(Others use highest current average).....
- League in which average was made.....
- Lanes at which League bowls.....  
Entrants are responsible for familiarizing themselves with Tournament Rules.

Received at Recreation Office (Date)..... By.....

Assigned Team No. .... The total number of teams will be.....

#### FREE ENTRY

The \$5.00 entrance fee will be refunded to the first team that guesses the total number of teams (closest to but not above that accepted by the Tournament Committee) in the Tournament. Sign up early, only one winner, no two teams may have the same guess. To be eligible submit completed entry blank and entrance fee to the Recreation Office.

## APPLIED MATH COMPUTERS HAUNTED

Witches, black cats, and skeletons haunt the realms of the Computer Center at Applied Math now that their time of the year is approaching. The talented gremlins who brewed up this scene from lots of imagination and old computer print-out carbon paper are, counter clockwise from 12 o'clock: Dottie Meehan, Verna Gannon, Maryanne Austen, Elizabeth Distel, Ruth Fredericks, JoAnne Reipolo, and Janet Stoffel (not pictured).



**CAFETERIA MENU**

**THURSDAY Oct. 28**

**Special .99**

Juice

Roast Long Island Duck

Mashed Potatoes - French Green Beans

Apple Sauce or Green Salad

Bread & Butter - Beverage

Pudding or Jello

Macaroni Beef & Tomato..... .65

**FRIDAY, Oct. 29**

**Entrees**

Broiled Swordfish Steak, Lemon wedge.. .65

Salisbury Steak - Brown Gravy..... .65

Creamed Chipped Beef on Toast..... .55

Macaroni & Cheese..... .50

**Hot Special**

Grilled Cheese, Tomato, French Fries

Cole Slaw..... .60

**Special Sandwich**

Crabmeat Salad on Roll, Cole Slaw,

Sweet Pickle..... .65

**MONDAY, Nov. 1**

**Entrees**

Hamburg Steak - au jus..... .65

Creamed Turkey on Hot Biscuit..... .65

Franks & Beans..... .65

**Hot Special**

Hot Corned Beef on French Bread, Let-

tuce Tomato..... .65

**Special Sandwich**

Genoa Salami and Provolone on French

Bread, Tomato & Pepper..... .65

**TUESDAY, Nov. 2**

**Entrees**

Roast Boneless Loin Pork, Spiced Peach.. .70

Corned Beef Hash..... .65

Spaghetti with Meat Sauce..... .65

**Hot Special**

Cheeseburger, Potato Chips, Tomato,

Lettuce..... .55

**Special Sandwich**

Sliced Turkey on Roll, Cole Slaw

Pickle..... .65

**WEDNESDAY, Nov. 3**

**Entrees**

Batter Fried Chicken..... .65

Swiss Steak - Brown Gravy..... .65

Chow Mein - Rice..... .65

**Hot Special**

Knockwurst & Sauerkraut, French Fries.. .60

**Special Sandwich**

Loin of Pork on white, Cole Slaw,

Pickle..... .60

**NEW ROADS TO EASE AGS TRAFFIC**

A new road from Rutherford Drive at the Graphite Reactor north to Fifth Avenue was opened Monday. This road, as yet unnamed, will relieve traffic congestion at the AGS caused by a partial blockage of the road along the AGS East Target Building by an external beam experiment.



Representative Chet Holifield (D-Calif.), second from left, listens to Dr. Maurice Goldhaber, on his left, explain a BNL-California Institute of Technology experiment in particle physics. On Rep. Holifield's right is Dr. Kenneth Green, Chairman of the Accelerator Department; behind the Congressman is Douglas Fong, a Cal. Tech. graduate student. Behind Dr. Goldhaber is Clarke Williams, BNL's Deputy Director. Rep. Holifield, long considered one of Congress's experts on atomic affairs is Chairman of the Joint Congressional Committee on Atomic Energy. He visited the Lab briefly last week while in the neighborhood to address the Long Island Association of Commerce and Industry.

**Ten Pin Alley . . . . .**

An award was given out in the Ladies' Pink League this past week to Ann Miller of the Atomettes for her triple score - not to be announced at this time. In the league standings the All Toes lost their first place hold to the Diamonds - they are now in a tie for second place with the Fizzles.

With the Purple League - J. Scesney of the Woodbutchers rolled a 224 and a 595 series. M. Jarrocci of the Bowlkids bowled a 693 gross series.

In the Red League, L. O'Laughlin and W. Brown, each with a 202, lead the Twisters to victory and a tie for Hi Team Gross series for season of 3016 - they're tied with the Ah Sos. The Twisters hold first place in the league standings.

News from the Blue League this week - Lew Jacobson rolled 198, 200, and 245 for a 643 series. The Bubble Boys had a Hi Game Team Series with a 3078. The Mixed Five continue to hold first place in the league.

**NEW STEAM BOILER TO BE TESTED**

A 180,000-pound capacity steam boiler, recently acquired by the Lab will be tested sometime this week. Testing will include building up a head of steam and letting the pressure relief valve blow. There is expected to be some noise and a plume of steam - but no cause for alarm.

**SOLUTION TO CHESS PROBLEM**

- |                              |         |
|------------------------------|---------|
| 1. N - N6 check              | K - N1  |
| 2. B - N3 check              | N - Q3  |
| 3. B x N check               | K - N2  |
| 4. B - Q7 very good          | K x N   |
| 5. B - K5                    | R - KR5 |
| 6. B - N3                    | R - Q5  |
| 7. B - B2                    | R x B   |
| 8. K - B3                    | K - B4  |
| 9. B - K3 or B - N1          | R - Q1  |
| 10. B - B2 very good,        |         |
| a draw by perpetual shuttle. |         |