

the Bulletin Board

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MOSCOW DISARMAMENT CONFERENCE TO BE DESCRIBED AT BNL

William A. Higinbotham, who recently returned from Moscow, where he attended the Sixth Pugwash Meeting of Scientists to Discuss Disarmament, November 27 to December 5, will describe this conference at a meeting at BNL on Thursday, January 5, 1961. The meeting, which is sponsored by the Brookhaven Chapter of the Federation of American Scientists, will be held in the Lecture Hall at 8:00 p.m. Laboratory employees and their friends are invited to attend.

THIRD BROOKHAVEN LECTURE

By Dr. Werner Hirs, BNL Biology Department.

Title: Inside the Protein Molecule.

Lecture Hall: 8:00 p.m., Wednesday, January 11.

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 Ext. 2302 before 5 p.m., or Ext. 2453 in the evenings.

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

EXPECTANT MOTHERS' CLASSES

Expectant Mothers' Classes sponsored by the Suffolk County Department of Health will be held in Babylon, Bay Shore, Patchogue, Huntington, and Riverhead during the next several months. These classes, designed to aid in the preparation for parenthood, will be given by Public Health Nurses. In addition, an opportunity will be given for demonstration and practice of prenatal exercise. For further information on this free program, call SElden 2-3949 or write Suffolk County Department of Health, Box 97 A, Selden, Long Island.

CONCERT

GRETE SULTAN

Wednesday, January 18

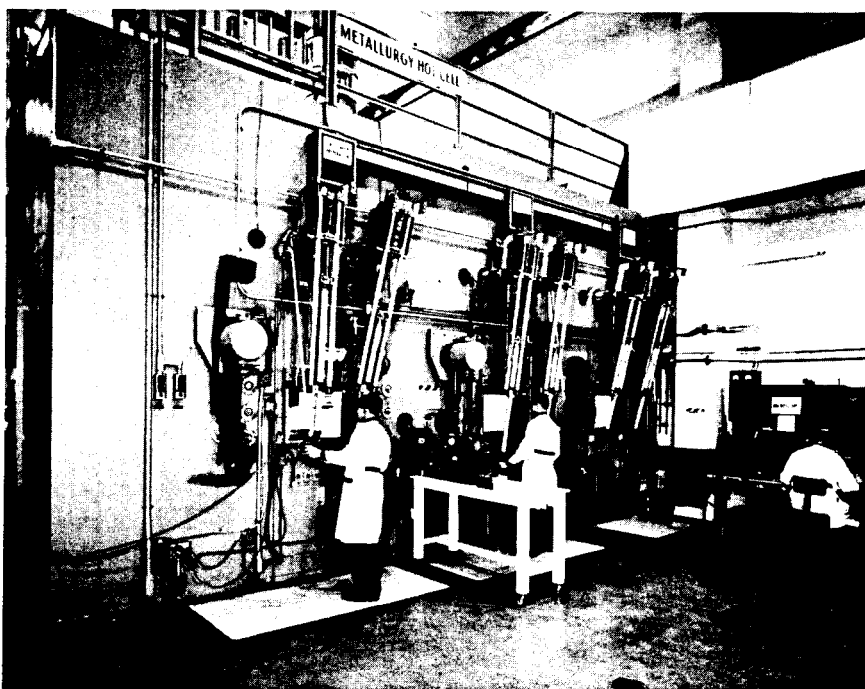
Research Staff Lounge, 8:30 p.m. - \$2.50

Dried-out Christmas Trees and other combustible decorations should be promptly removed from all on-site (and home) locations.

METALLURGICAL HOT CELL

The Metallurgical Hot Cell, located in the Hot Laboratory Building, is one of the Laboratory's newer experimental facilities. It is used principally by members of the Nuclear Engineering Department's Metallurgy Division.

The Metallurgical Hot Cell, as its name indicates, is designed to handle materials which have been exposed to radiation, and are thus "hot". The cell can handle extremely high levels of radiation (up to 100,000 R/hour of 1 Mev gamma radiation), since it has heavy concrete walls three feet thick and a ceiling two and a half feet thick.



There are similar facilities elsewhere in the country, but the completion of the Metallurgical Hot Cell early last year represented a very substantial increase in the level of radiation that can be handled by metallurgists at BNL.

The Cell is actually composed of three connecting cells, each used for different specific purposes in the preparation and testing of irradiated specimens. Each of the three sections has a 36-inch-thick lead glass window filled with oil. All work in the cells is done remotely with manipulators by operators who stand outside the cell. The manipulators, or "master-slave" hands, although they may become routine to the men who operate them, are always fascinating to visitors to the Laboratory. In addition to the manipulators, Cell No. 1 has a mechanical arm with a simulated elbow, which has more flexibility and maneuverability than the manipulators. Each cell is also equipped with an overhead hoist. With their mechanical devices, the operators can perform all the necessary functions that they would perform in a "cold" metallurgy laboratory, but work speed is cut down considerably.

Cell No. 1 is used for cutting, Cell No. 2 for polishing, and Cell No. 3 for testing. Each partition has a "lazy susan" for the manual transfer of samples

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METALLURGICAL HOT CELL

between sections and a larger "guillotine" door for passing larger specimens and tools.

The facility was designed specifically to handle the Liquid Metal Fuel Reactor (LMFR) In-Pile Radiation Loop. This twenty-foot-long loop, made of a special steel pipe, was filled with molten uranium bismuth and put into the Reactor in May to study the effect of pile radiation on LMFR materials. After 3,000 hours in the Reactor, the liquid was drained out of the Loop, and the Loop itself was removed on November 20. The loop was then moved to the Metallurgical Hot Cell. Since the pipe was too long to fit into the seven foot sections of the cell, it was cut as it entered Cell No. 1. Members of the Metallurgy Division staff are still working with the loop: cutting, polishing, and examining specimens of it to learn the effect of its months in the Reactor.

After work with the LMFR loop has been completed the Metallurgical Hot Cell will be used for many other experiments. Its facilities will be available for service work for all of the BNL scientific departments.

The procedure used for handling the LMFR loop is essentially the same as that which will be used with other metallic materials studied in the Hot Cell. In Cell No. 1, the metal is cut into small pieces by a remotely operated hack saw. Some of these pieces are then sectioned with a high speed cut-off wheel. Photographs with low magnification can be taken in Cell No. 1 through a periscope.

In Cell No. 2 the sectioned pieces are mounted in 1¼-inch-diameter Bakelite cylinders for examination. Then the mounted samples are placed in holders for polishing. This is done to make the sample's surface perfectly flat and free from scratches, thus enabling examination and photography with a high magnification microscope called the metallograph. The automatic polishers and grinders in Cell No. 2 used diamond paste.

In Cell No. 3 the mechanical properties of the samples are tested. The specimens undergo tensile, impact, and hardness tests to determine the changes which have come about as the result of irradiation. For example, many metals become stronger and more brittle after exposure to radiation.

In addition to these three cells, there is a metallography cave located outside the hot cell. This cave is connected to the polishing and testing sections by means of a 2-directional remotely-operated conveyor. In the cave specimens may be examined and photographed at up to 1000× with the metallograph.

Protection and safety for the people who work with the Metallurgical Hot Cell was one of the most important factors in its design. For example, there is a multiple shower and change room connecting the contaminated work area with the clean area outside. In case of serious air contamination within the cell or hot work area there are rubber suits, called "Man from Mars" suits, with supplied air and communication lines available for use.

The air in the cells is constantly changed and filtered and a negative pressure maintained to prevent the escape of contamination. Finally, there are radiation and air sampling monitors in the cells and their readings are recorded outside the cells. Thus the cell operators can determine in advance what sort of radiation hazard they will face when it is necessary to enter the cells.

The Metallurgy Division is confident that the Hot Cell will yield extremely useful results. Information gained through its use will help scientists to learn how metals will behave when used in any radiation environment. In addition to applied research, the Hot Cell will also be a valuable tool in the exploration of the general properties of metals and other materials.

BUTTON UP YOUR OVERCOAT

A review of BNL Meteorology Group records shows that January is the coldest month of the year in this section of the Island, although the average monthly temperature (30.6°F) is only one degree below that of February. The average minimum and maximum daily temperatures are 22.2°F and 39.3°F, respectively. The lowest temperature recorded during the previous 12 Januarys was -12°F in 1954, and the highest temperature was 62°F in 1951. Degree days averaged 1066, was a maximum of 1282 occurring in January 1957 and a minimum of 839 occurring in January 1950.

A considerable variation in January precipitation occurs from year to year, particularly with regard to snowfall. In some years the total snow accumulation in January was as much as 26 inches and in others less than one inch. Over the last 12 years, precipitation has occurred on an average of 13 days during the month, with snow falling on seven of these days (an average monthly snowfall of 6.83 inches).

CAMERA CLUB MEETING

The next meeting of the Camera Club will be Wednesday, January 11, at 8 p.m. in the Recreation Hall. A model night is planned, with emphasis on lighting.

ACCIDENTS REDUCED IN 1960

Although 1960 saw an increase in serious non-work injuries, our on-the-job record showed a large improvement over prior years. There were 14 disabling work-injuries during 1960 giving a frequency rate (disabling injuries per million man hours) of—

1960 - 2.9	1957 - 7.4
1959 - 4.0	1956 - 6.0
1958 - 3.4	

THE UPTON RIFLE - PISTOL CLUB

The URP pistol shooters lost the last match of the year to Mattituck by a score of 961 to 919. Paul Colsmann shot a 264 followed by J. Diener 246, M. Johnson 235, J. Rutherford 174. Despite the loss the pistol team took second place in the East End Pistol League. Awards for the team members and trophies for the top shooters will be announced as soon as all the scores are in and added up.

The monthly club meeting has been changed to Thursday, January 12, and pistol trophies will be awarded at this meeting.



BERA BOWLING

LADIES WIN —

SPECIAL BOWLING EVENT!

A prize of a night's free bowling to the team scoring the high series, including handicap, in BNL League play during the week of December 13th was won by the Odds and Ends. This team of Rosemarie McCann, Barbara Oelkers, Kathy Brennan and Jean Walker, captained by Grace Siemen, rolled a gross series of 2786.

Not winners, but high in their respective leagues, were the Old Timers No. 3 (2769), Splitters (2725), Scotchies (2639) and Biology (2520).

The BNL Bowling season, now a little more than one-third over, resumes after the holidays. League winners will meet the week of April 19, 1960 to play-off for the BNL Championship.

Current standings are:

PURPLE - no information.

BLUE	WON	LOST
1. Techs	31	13
2. Splitters	30	14
3. Pacers	26	18
4. Nuclides	23	21
5. Powermites	21	23
6. Meteors	19	25
7. Snafus	16	28
8. Bubble Boys	10	34

GREEN	WON	LOST
1. Old Timers II	30	14
2. Old Timers III	28	16
3. Reefers	24	20
4. Fire Department	22	22
5. Molestars	22	22
6. Blackbirds	18	26
7. Electrons	18	26
8. Old Timers I	18	26

RED	WON	LOST
1. Bugs	30.5	13.5
2. Skins	28	16
3. Down Unders	22	22
4. Gnats	20	24
5. Biology	19.5	24.5
6. Bismuth Kings	13	31

PINK	WON	LOST
1. Medigals	30	10
2. Odds and Ends	25	19
3. Twinkle Toes	24	20
4. Alley Kats	22.5	21.5
5. All Thumbs	20.5	23.5
7. Nightingales	17	27
8. APC's	14	30

FAMILY PASSES

All employees are urged to obtain long term passes for members of their immediate families if such members will use the recreation areas without the employee being present.

Members of immediate family include husband, wife, children over 13 years of age and other relatives who reside in the employees home. A memo of request to the Security Office is sufficient.

BROOKHAVEN DIVERS CLUB

The next meeting of the Skin Divers Class will be held at 7 p.m., Monday, January 9th at the Pool. A film on mouth-to-mouth artificial respiration will be shown.

The class will be followed by the regular monthly meeting of the Divers Club. The election of officers for 1961 will be held. All members are requested to attend. The meeting will be held promptly at 9:30 p.m. in the Recreation Building.

GYM SCHEDULE

The re-finishing of the gym floor has been completed and the following schedule will be resumed this week:

MONDAY: 5:00 - 7:00 p.m. Tennis (by reservation).

TUESDAY: 5:00 - 6:00 p.m., General Activity; 6:00 - 10:00 p.m., BNL Basketball League. 3 department games, 6:15, 7:25 and 8:25 p.m.

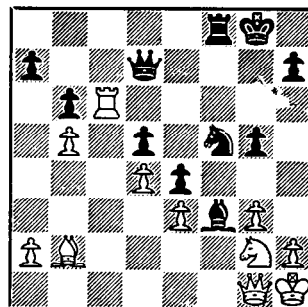
WEDNESDAY: 5:00 - 7:00 p.m., Tennis (by reservation); 7:00 - 10:00 p.m. Open for general activity, badminton, volleyball, table tennis, basketball, exercising, etc.

THURSDAY: 5:00 - 7:00 p.m., BNL Volleyball League. Badminton, Table tennis. 7:00 - 10:00 p.m., Open for general activity, badminton, table tennis, basketball, volleyball, exercising.

FRIDAY: 5:00 - 7:00 p.m., Tennis (by reservation).

CHESS PROBLEM

In this week's problem, submitted by the BNL Chess Club, it is black's move and win. The answer to the problem appears elsewhere in this week's BULLETIN BOARD.



Our Chess Club meets every Tuesday night at 7:30 in the Recreation Building. Come on out and have a few games.

ANYONE ORDER AN ELECTRIC SKILLET?

Will the person who ordered a Dormeyer electric skillet from L.&C. Mayers, Order No. 27492, please contact the Personnel Office, Ext. 2107?

THE WHITE SHEIK

The BERA Winter-Spring program of films will begin on Monday, January 9 with a showing of the Italian comedy THE WHITE SHEIK.



Directed by Federico Fellini and starring Giulietta Masina, this satire is based on the Italian craze for the romantic serial and deals with a bride who deserts her husband on their wedding day to meet The White Sheik, hero of these picture novels on a comic strip level.

Other films to be shown in the series are the French film directed by Francois Truffaut, THE 400 BLOWS; the Tati comedy hit, MON ONCLE; Lawrence Olivier's RICHARD III; the Swedish import, TIME OF DESIRE and the memorable SEVENTH SEAL of Ingmar Bergman.

Series tickets for employees only will be available for \$4.00. Single admissions will be 90 cents. High school students will be admitted for 50 cents. Tickets may be purchased at the box office, Recreation Office, or from Francis Rizzo (Nuclear Engineering), Robert Nathans (Physics), and Noel Corngold (Chemistry).

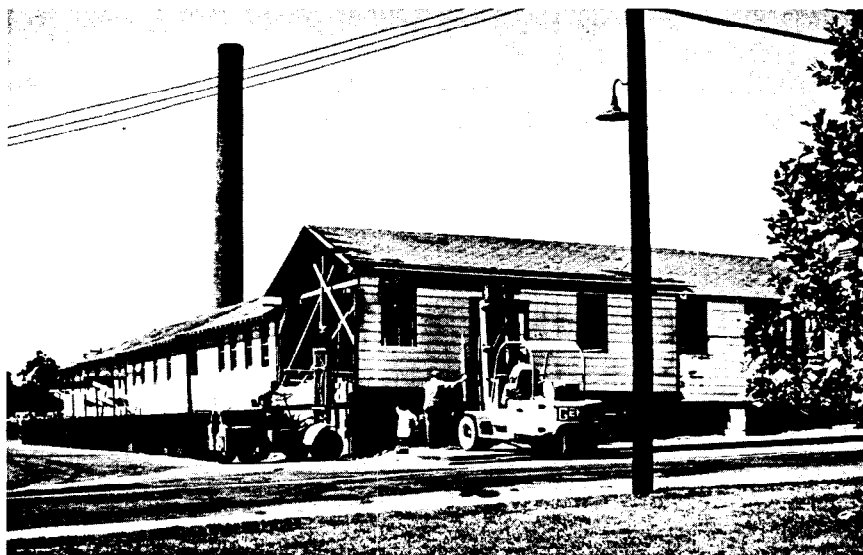
All films will be shown in the Lecture Hall at 8:30 p.m. Non-employees will be welcomed, but they must be accompanied by an employee.

DISCOUNT TICKETS AVAILABLE AT PERSONNEL OFFICE

At the present time the discount tickets are available at the Personnel Office, 58 Brookhaven Avenue, for the following shows and games:

EPITAPH FOR GEORGE DILLON, Actors' Playhouse (Sheridan Square); THE 49TH COUSIN, Ambassador Theatre; ICE FOLLIES OF 1961, Madison Square Garden; NEW YORK RANGERS, Madison Square Garden; NEW YORK KNICKERBOCKERS, Madison Square Garden and PEPE, Criterion Theatre.

BEFORE AND AFTER



Shown in the photographs above is the new Procurement Building at 50 Brookhaven Avenue (Building No. 355). The top photograph was taken last summer shortly after several sections of the old Medical Department complex near the apartment area were moved to the new location, where they were modified to house the Purchasing Division, Contracts Section, and the Business Manager's office. The bottom picture was taken after moving day last month from the old quarters on Brookhaven Avenue to the new ones next door.

PROFESSIONAL OPENINGS AT BNL

From time to time, THE BULLETIN BOARD lists job opportunities for which employee referrals are sought. At the present time there are openings at the Laboratory for Electrical and Electronics Engineers, and Mathematicians-Programmers.

If you know of anyone who might be interested in exploring these or other professional vacancies, notify P. Paige, Ext. 2100 or R.C. Anderson, Ext. 741.

ANSWER TO CHESS PROBLEM

WHITE

- 1.
2. P x N
3. Q - R 2

BLACK

Black scores most surely with N x P check
Q - R 6 check
B x N check - then mate.

Smith, Johnson, Brown, Williams, Jones, Miller, Davis, Anderson, Wilson and Moore — in that order — are the most popular family names in the U.S.

CLASSIFIED ADS

FOR SALE

1953 FORD - 4 dr. auto, trans., radio, heater, good cond. \$245. Ext. 301-23. Evening Ext. 528. Available January 15.

1949 CHEV. COUPE - \$90. Good transportation, good tires. R. Steele, Ext. 2244.

RANCH-TYPE HOME - 3 bedrooms, large living rm. with full wall fireplace, hot water heat, with 24x24 ft detached garage on plot 150x125 ft. located outside Patchogue village. Ext. 2381.

TRANSCIVER - Citizens Band Super Heterodyne. Lafayette model HF 15. Six months old. Complete with 12 volt converter for use in car or boat. Call Ext. 2381.

TV - 10 inch screen. Excellent condition \$25. Available January 20, Ext. 528.

REMINGTON 12 GAUGE PUMP SHOTGUN - \$40. Also: Remington 270 Rifle (new) \$65. Stevens 12 gauge Double-Nydar Sight \$35. Call Ext. 467 12:00 noon till 1:00 p.m.

OSCILLOSCOPE - Dumont No. 274 excellent condition. Hi Fi Cabinets 21x15x27 inches. Two matching units - 1 speaker cabinet - 1 component cabinet. Call J. Faust, Ext. 2255.

STEREO - Complete stereo set up, Dual amplifier 10 watts per channel, miracord X-100 changer with sonatone 8TSD diamond stylus, 45 rpm spindle. 2 speaker systems, one housing 2-10 inch speakers and 2-3 inch tweeters, the other 1-8 inch, 1-10 inch, and 1-3 inch. \$150. W.J. Fedrich, Ext. 672.

WASHING MACHINE - 1950 Blackstone 11 lb. ringer being displaced by new automatic. \$10. J. Bateman, Ext. 301-72 or Port Jefferson 8-2615.

BABY GRAND PIANO - G. Munoz, Ext. 393 or JUniper 7-0711.

ICE SKATE SALE - all in good condition. Jr. black figure skates, size 3, \$4.00. Men's Johnson Hockey Skates, size 9, \$3.00. J. Handloser, Ext. 645.

FLIGHT COMPUTER - Dalton E-6 B dead reckoning, with case and instruction book. Also Dalton aircraft navigational computer, Mark VII, with instruction book. Make offer. GRover 5-1744 after 6 p.m.

FOR RENT

APARTMENT - 3-rm. furnished, steam heated. Located in Yaphank 5 miles from Laboratory. Call Ext. 481.

CAR POOLS

Driver wanted to join existing car pool from Patchogue, Ocean Ave., four corners area. Door-to-door service. Call Kay, Ext. 2463.

Driver wanted for car pool from Blue Point. Call G. Strickland, Ext. 2383.

Driver wanted to join car pool from vicinity of Hicksville, Massapequa. M.J. Stravino, Ext. 301-78.

Interested in joining or starting car pool, Brentwood-Islip vicinity, via Sunrise Highway. Call Mary Smith 301-110.

WANTED

BABY'S HIGH CHAIR - good condition. MacKenzie, Ext. 572.