



What Will Neutron Do Next?

Dr. Sol Pearlstein, Director of the National Neutron Cross Section Center, and a member of the Department of Applied Science at BNL, will deliver the 99th BNL Lecture on Wednesday, February 17, at 8 p.m. in Berkner Hall. Dr. Pearlstein's lecture will be titled "What Will the Neutron Do Next? - Systematics of Neutron Reactions."

The ancient alchemists looked for ways to change base metals into gold. One way to cause elemental changes is through neutron bombardment of nuclei. The neutron is an especially suitable tool for nuclear applications since, unlike other particles, it easily penetrates the charge fields surrounding the nucleus to react with nuclei. At neutron energies easily produced in the laboratory about 20 neutron induced reactions are possible leading to the emission of protons, deuterons, tritons, and other light nuclei. The development of neutron technology has made possible the formation of selected nuclei and the release of energy in a controlled manner. This technology is often based on a phenomenological approach to the observed data rather than a deep understanding of nuclear forces. As a result, properties of neutron reactions can often be established from systematic patterns gleaned from experimental data. The general characteristics of neutron reaction data and the use of simple models to extend the range of application of these data will be described in the lecture.



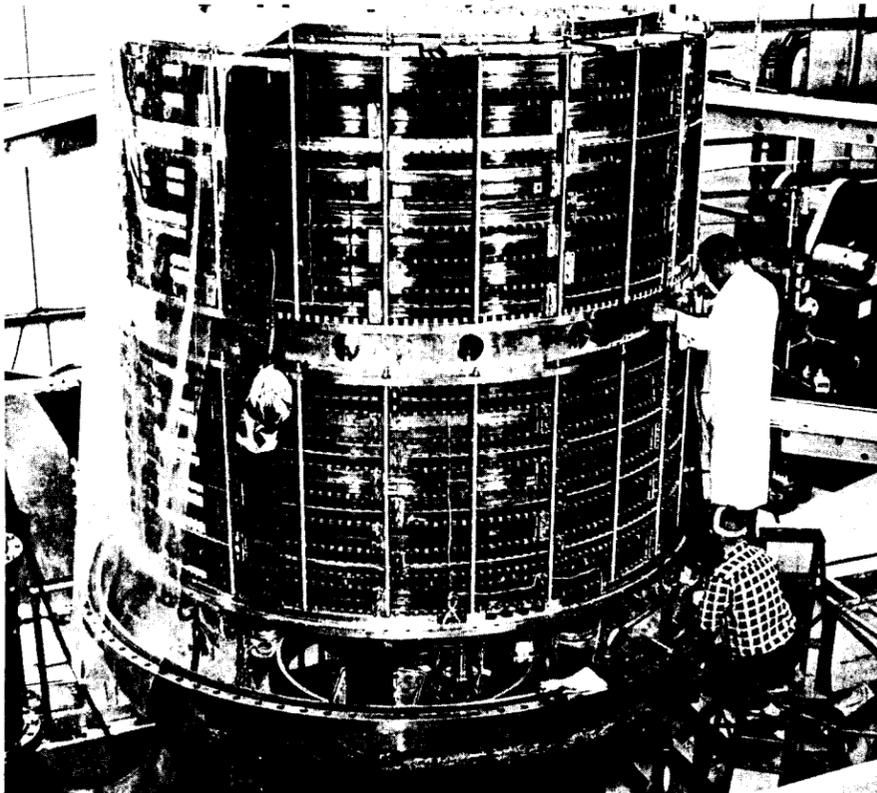
Sol Pearlstein, a New Yorker by birth, was educated at Brooklyn Polytech, NYU and Rensselaer, where he was awarded his PhD in Physics. Before coming to Brookhaven in 1964, he worked at Evans Signal Laboratories in New Jersey and at Knolls Atomic Power Laboratory in Schenectady.

Since coming to BNL, Dr. Pearlstein has been associated with the Department of Applied Science in neutron data calculation and evaluation. In 1968 he was named Director of the National Neutron Cross Section Center which is part of a worldwide network for the gathering and evaluation of scientific data.

Dr. Pearlstein lives in Port Jefferson with his wife Susan and their three daughters.

A buffet supper will be served at the Brookhaven Center before the lecture starting at 6 p.m. Reservations should be made in advance by calling Ext. 2283 before 5 p.m. Refreshments will be available in the lobby of Berkner Hall immediately after the conclusion of the lecture.

Superconducting Bubble Chamber Magnet



Technicians apply finishing touches to the world's largest and most powerful air-core superconducting magnet prior to its recent successful operation. The entire 7' chamber facility is now in the process of being moved to the North Experimental Area where it will again be put into operation by the Bubble Chamber Group of the Accelerator Department.

Superconducting Magnet Successfully Operated At Seven-Foot Chamber

The largest and most powerful air-core superconducting magnet yet constructed has been successfully operated to its maximum design field at Brookhaven. The 8-ft. diameter by 8-ft. high magnet is totally immersed in liquid helium at 450 degrees below zero Fahrenheit, a temperature where its conductor loses its resistance to current flow and becomes superconducting. It achieved an operating field of 28.2 kilogauss, which is about 50,000 times stronger than the earth's magnetic field.

The magnet fits around a 2,483 gallon, 7-ft. bubble chamber, a device used by physicists to detect and photograph the interactions of sub-atomic particles which are produced in the 33 GeV (billion electron volts) Alternating Gradient Synchrotron. It is the first large bubble chamber in the world using an air-core superconducting magnet.

The usefulness of a bubble chamber for high energy physics depends significantly on the intensity of the magnetic field surrounding the chamber. Charged particles, passing through a magnetic field, experience a force which deflects them. This force causes the particles moving through the bubble chamber liquid to follow curved paths. The momenta of the particles can be obtained from measurements of the curvature of these paths, and the precision of the measurement of momenta of the charged sub-atomic particles is linearly proportional to the intensity of the magnetic field. The use of superconductors has made it feasible to construct and operate economically magnets which can generate high magnetic fields for bubble chambers of large volume. The development of such

bubble chambers has made possible for the first time the routine study of rare and elusive neutrino interactions which require large volumes for efficient detection.

Until Brookhaven put its air-core superconducting magnet into operation, bubble chamber magnets were usually made with an iron core, or yoke and water-cooled copper coils. These cores sometimes weigh hundreds of tons. They also become saturated magnetically a little above 20 kilogauss and further increases in magnetic field are achieved solely by raising the power input to the copper windings.

Brookhaven's air-core superconducting magnet requires only a few thousand watts of power, used mainly to get the power from its source to the magnet, while a comparable conventional magnet of similar air-core design would require tens of millions of watts of power. After the power gets to Brookhaven's magnet, the current flows in the magnet conductors with virtually zero resistance, since they have become superconducting in the super-cold of the liquid helium.

The unique design and assembly of the four-layer, two-inch wide strips used to make the coil windings of the magnet have led to a magnet structure which is compact and economical. The inner layer is the current-carrying conductor and is made of pure copper in which are imbedded six filaments of a niobium-titanium alloy. The next layer is a thin mylar insulator to which is bonded a thin strip of stainless steel whose purpose is to help support the conductor against the large electromagnetic forces generated when the magnet is turned

(Continued on page 2)

Budget Reduction And Inflation Is Serious Problem Says Lab Director

Allotments provided by the National Budget for Fiscal Year 1972, which starts on July 1, 1971, present a serious problem to Brookhaven National Laboratory, according to Director Maurice Goldhaber.

In a memorandum to all employees, distributed on Monday, Dr. Goldhaber said:

"On Friday, January 29, the President announced his budget for FY 1972. The total allotments provided by this budget for Brookhaven's operations are about \$1,000,000 less than our budget for the current fiscal year, which is \$47,026,000. The budget for FY 1972 is not final because it also depends upon Congressional action and subsequent allocations by the Office of Management and Budget and the AEC.

"The reduction in funds presents a serious problem. Moreover, we face major escalations of operating costs. Some examples are increased costs of fuel oil, electric power, social security, and fringe benefits. As you are all aware there has been a great inflation in these times. In anticipation of these increased costs, I appointed a committee early last fall to investigate all possible means of reducing expenses. Many of the committee's recommendations have already been implemented, and others will be implemented in the near future.

"Because of stringent budgets during the past two years, our expenditures for materials and supplies have been drastically reduced, to the point where 78% of the Laboratory's budget now goes for salaries and wages. I regret very much to say that the difficulties now facing us cannot be met without further reductions in staff. Our strongest efforts will be devoted to minimizing the impact on our employees.

"During the next several weeks we will be assessing the specific effects of the budget on the Laboratory's individual programs. We shall keep you advised as information becomes available."

Five Men From Lab Judge Science Fair

Five members of the Brookhaven staff served as judges last week at a Science Fair held at Bishop Reilly Diocesan High School in Fresh Meadows, New York.

The school's Ninth Annual Science Fair exhibited approximately 50 projects in areas of Biology, Chemistry, General Science, Mathematics, Physical Science, and Earth Science.

The judges were: Bob Baldwin and Gerald Bennett from Accelerator; Tom Overluizen and Matt Rosso from Physics, and Norb Dernbach from Public Relations.

Summer Student Program

The summer of 1971 will be the 20th birthday of the formal BNL Summer Student Program.

Applications will be ready for review by the various scientific departments on February 16 at the Office of Scientific Personnel. Response has been good and there are about 500 applications on file.

Department Chairmen will be advised to notify all those interested that the applications are ready and lists of selected students and alternates should be returned through the Department Chairmen to the Office of Scientific Personnel by March 1st.

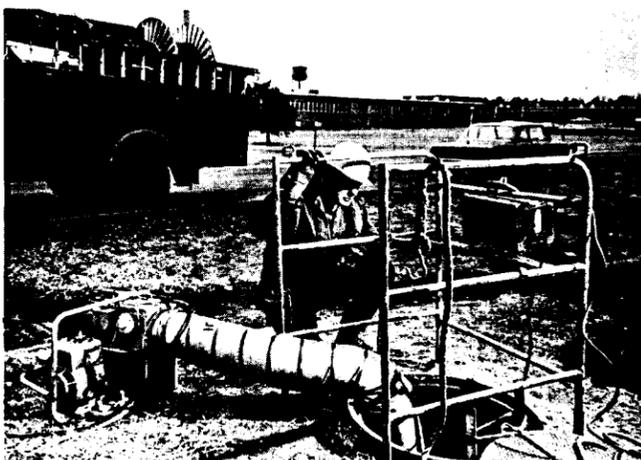
Pegram Lecturer Reviewed In Times

Barbara Tuchman, author of "Stillwell and the American Experience in China - 1911 to 1945" will be the next Pegram Lecturer. Miss Tuchman will be at Brookhaven on March 29 and 30. A review of her latest book appears on the first page of the current issue of the New York Times Book Review Section.

Cable Failure Silences Lab



While communications with the Apollo 14 mission were loud and clear, BNL's communications with the outside world were cut off on Monday due to a failure of telephone cables caused by a heavy downpour of rain. From early Monday morning till 7:30 a.m. on Tuesday, outgoing phone



calls were made from a mobile transmitter supplied by the Telephone Company. Jim Ermete, special service foreman (at left) places a call for Bill Tuttle of Physics. Lineman Tony Kevel works with a heating unit above a manhole at Bell Avenue. —Humphrey

BROOKHAVEN BULLETIN

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Here and There

Claire Lamberti

John M. Olson (Biology) will speak at Grambling College, Grambling, Louisiana on February 19; the subject of his talk will be "Photosynthetic Units: Models for Focusing and Utilizing Power."

Dr. Clemens Auerbach (DAS) will attend the Annual Information Meeting of the Oak Ridge National Laboratory's Analytical Chemistry Division on February 10-12.

Arnold H. Sparrow (Biology) recently participated in the Conference on Evaluating Mutagenicity of Drugs and Other Agents, sponsored by the National Research Council, and conferred at AEC Headquarters with Dr. R. Rabson in Washington, D.C.

Dr. Manny Hillman (DAS) will present a paper at the National ACS Meeting, Los Angeles, California, on March 28-April 2.

Mortimer M. Elkind (Biology) recently presented a seminar on "Studies of Radiation Damage to DNA from Chinese Hamster Cells" at the University of Illinois in Urbana.

George M. Woodwell (Biology) recently participated in a Panel Discussion on the Crisis of Environment, sponsored by AIBS, at Coho Hall, Detroit, Michigan.

Service Awards - February

Twenty Year

- Dunnigan, Raymond M. Accelerator
- Merritt, Frederick C. Instr. & HP
- Minardi, Arthur L. Applied Science
- O'Brien, Thomas M. Systems & DP
- Shelton, Edward E. Plant E&P
- Walker, Gerald J. Applied Science

Ten Year

- Arnesen, Henry Physics
- Baer, George W., Jr. Security
- Brewer, Ronald E. Central Shops
- Comstock, David A. Chemistry
- Hough, Paul V.C. Physics
- Koehler, John T. Mech. Eng'g
- Masem, Helen L. Central Shops
- Meier, Robert E. Mech. Eng'g
- Nelsen, Louis E. Accelerator
- Robinson, Wayne F. Accelerator
- Ruffing, Richard N. Biology
- Swan, Florian Supply & Mat.
- Symonds, Elizabeth Physics
- Tooker, William R. Accelerator
- Traxel, Fred Jr. Plant E&P
- Wirszyla, Alexander Physics

Arrivals & Departures

Arrivals

- Richard A. Houghton III Biology
- Michael Petrilak Jr. Physics

Departures

- Paul W. Koch Physics
- William J. Michalowski Physics
- George J. Reuter Security

Payroll Notice

Because Friday, February 12th is a legal bank holiday, the Upton facility of the Peoples National Bank will be closed. Therefore, weekly pay checks will be distributed in the first regular mail run on Thursday, February 11th and may be cashed on that day.

Coming Attractions

- 2/15 Washington's Birthday - Holiday
- 2/17 BNL Lecture - "What Will the Neutron Do Next? - Systematics of Neutron Reactions" - Dr. Sol Pearlstein
Berkner Hall - 8 p.m.
- 2/18 Concert - Beaux Arts Trio
Berkner Hall - 8:30 p.m.



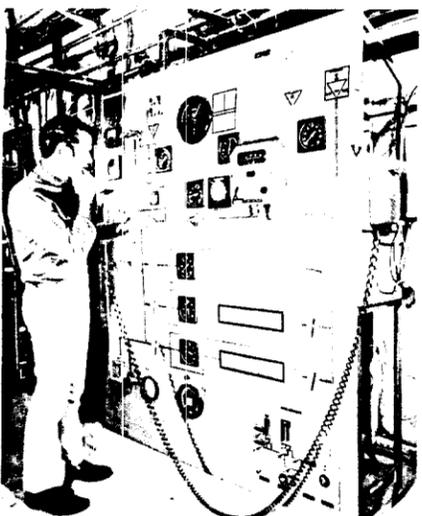
Carmen Spirio checks the inside of the 7' chamber. Above Spirio's head can be seen the three ports for cameras used to photograph bubble chamber tracks.



Roger Baker on top of the containment shell of the 7' chamber after it has been moved ready for placing in the newly-constructed North Experimental area. Bob Dagradi (on ground) helps with the check of the recently-moved shell.

Superconducting (Continued)

on. The fourth layer, which looks like a continuous strip of breakfast waffle, provides channels in the windings so that liquid helium may contact and cool the conductor. From top to bottom, the entire magnet has 32 coils containing over 37,000 feet of each strip. The coils are separated by channel-spacers, which in combination with the waffle-strip in the windings themselves, allow the liquid helium to flow freely in almost every direction throughout the magnet. This free circulation of cool-



Walter Lundgren at the controls of the 7' chamber.

ant minimizes the possibility that "hot-spots" could occur which might cause the superconductors suddenly to become resistive. The niobium-titanium alloy filaments in the copper strip are the components of the windings that become superconducting at the liquid helium temperature of minus 450 degrees Fahrenheit.

At maximum field of 28 kilogauss, the conductors carry a current of 5,460 amperes, and the magnetic field has energy stored in it equal to 18 kilowatt hours.

The 16 coils in the upper half of the magnet are connected electrically but are separated from the 16 coils in the bottom half by a bridge structure. When the magnet is fully energized, the two halves are attracted to each other by a force of almost 1,000 tons (two million pounds).

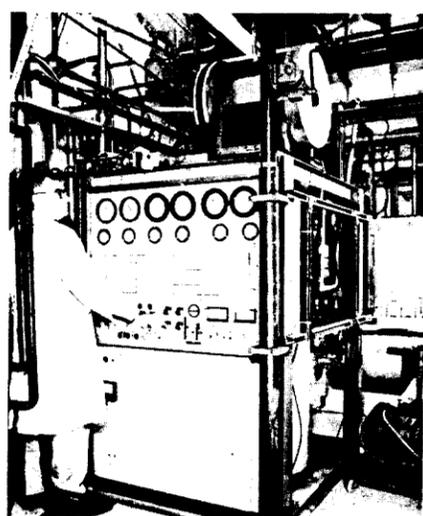
The cost of the Brookhaven air-core superconducting magnet and its refrigeration system was \$500,000, which is comparable to the capital cost of an equivalent iron core magnet. However, considerable savings will accumulate in operating cost because Brookhaven's magnet requires relatively few kilowatts of power costing perhaps \$1 - \$1.50 per hour of operation versus many megawatts of power costing over \$100 per hour of operation for a comparable conventional iron core magnet.

Brookhaven is considered to be one of the world's foremost organizations in the research of bubble chamber magnets and superconducting materials. It is anticipated that Brookhaven's successful operation of superconductivity in a bubble chamber will pave the way for other useful applications, a pattern that has followed many

other previous developments in basic research.

Among the many people who contributed to the design effort of the 7-ft. Bubble Chamber's magnet system are: J.A. Bamberger, R.H. Bergoffen, R. Burgess, D.P. Brown, B.B. Culwick, C. DiLullo, J.E. Jensen, D.A. Kassner, W. J. Museler, A.G. Prodel, R.P. Shutt, C.A. Spirio, W.A. Tuttle, W. Wilhelm, (W.B. Fowler and G.T. Mulholland, now at NAL).

Substantial contributions during the fabrication assembly and operation were also made by technicians, designers and others associated with the 7-ft. Bubble Chamber Facility.



John Valek operates the helium refrigerator of the 7' chamber.

NAL Booster Installs Last of 96 Magnets

It was a busy, fruitful December for National Accelerator Laboratory's Booster Section. Approximately four months ahead of its original and formal schedule, the Booster group completed the precise installation of the 48 complex girders carrying 96 magnets in the 500-foot-diameter Booster tunnel at the Main Site.

The heavy installation work was completed December 14; a week later, on December 21, the Booster Ring was completely aligned and a vacuum was achieved all around. The first "topping off" was observed with an informal party in the tunnel; the second was celebrated with a party at a restaurant near the NAL site.

In the impressive and intricate triad of the NAL accelerator system, the Booster, so to speak, is the "sensitive middle-man" - the vital link between the Linear Accelerator and the Main Accelerator. The NAL Booster is designed to accelerate protons to Eight Billion Electron Volts (BeV) at the rate of 15 pulses per second.

The Booster, which will receive the proton beam from the Linac at an energy of 200 Million Electron Volts (MeV), is one

of the few "rapid-cycling" booster synchrotrons in the world. In the esoteric field of elementary particle physics, two other "booster" accelerators are being built at this time - one at CERN in Switzerland for its 28 BeV accelerator and another for the Zero Gradient Synchrotron at the Argonne National Laboratory.

During January NAL hopes to begin attempts to circulate a proton beam around the Booster and is expecting to get acceleration during February. Once they have achieved acceleration, somewhere about one BeV, they expect to extract the beam and transport it to the Main Ring.

Attention All Vagabonds!

Are you one of the many BNL employees who has moved one or more times since you joined the staff? If you have moved or plan to do so in the future, please advise the Laboratory of your new address and telephone number to keep our records up to date. Your department secretary should have a supply of change of address forms - just fill out one and leave it with her or stop by the Personnel Office if that's more convenient for you.

New Special at Center

Buffet - \$3.00
Served alternating Wednesdays
at the Center 5:00 to 8:00 p.m.

Fruit Cup
Chicken in the Basket
French Fries & Tossed Salad
Glass of Beer & Coffee

Antipasto Salad
Spaghetti with Meatballs
or Sausage
Escarole Salad
Includes Garlic Bread (Indiv. Loaf)
and
Glass of Red Wine

Cooking Exchange

The next meeting of the Cooking Exchange will be held on Thursday, February 18, from 3 to 5 p.m. in the Apartment Area recreation building. The cooking demonstration will feature the preparation of bread.

A fee of 75¢ will be requested from each adult to help defray the expenses of the babysitters and the cooking demonstration.

BNL Concert Group

The fifth concert in the current series will be presented on Thursday, February 18 by the Beaux Arts Trio of New York (Menahem Pressler, piano; Isidore Cohen, violin; Bernard Greenhouse, cello). The program will include trios by Haydn and Ravel and will conclude with Beethoven's "Archduke" Trio.

Praise for the Beaux Arts Trio has been echoed over and over, not only by audiences and critics, but by the strictest judges of musical excellence - their fellow musicians. "An inspiring experience," was the late Arturo Toscanini's verdict after hearing the trio play, "fine chamber music with impeccable taste and musicianship." When Robert Casadesu heard them, he immediately called them "the finest trio I have heard in America." Zino Francescatti wrote that he enjoyed tremendously "the perfection and artistry of this admirable ensemble... a great ensemble with great artists."

Freshness of approach, oneness of ensemble playing, superb musicianship and tremendous zest characterize the Trio's performances. Since its debut a dozen years ago, the Beaux Arts Trio has been hailed on three continents and has played more than 2,000 engagements throughout North America, Europe, Israel, Africa and the Middle East. In 1965 they performed in Israel, Turkey and Iran under the auspices of the State Department's Cultural Program. Appearances followed in Paris (series of five concerts), London, Salzburg, Hamburg, West Berlin and other European cities to which they have returned every season since then for reengagements. Ireland and Greece were added in 1967 and last year Japan heard them for the first time.

Typical current critical reactions from *The New York Times*: "With the Beaux Arts Trio back at Hunter College to begin a series of three concerts, the New York chamber music season is safely on its way. The Beaux Arts Trio has always had a special gift for projecting busy, animated music with deftness of touch and spirit that makes it uncommonly buoyant and invigorating. As applied to Beethoven last night, their way of playing kept susceptible passages of the music from seeming pretentious or pompous, as it can on occasion."

The Concert will be held in Berkner Hall at 8:30 p.m. Tickets may be purchased at the Recreation Office or at the door on the night of the concert. Employees single admission is \$3.50, guests \$4.00 and those under 18, \$1.75.

333 - Fire Emergency
444 - Police Emergency
555 - Medical Emergency

Lunar Sample Exhibit At Local School



Since October, 1969 when the lunar sample was brought to BNL more than 65,000 people have gotten a close look at it either at Brookhaven or during a special exhibit arranged by the Lab. On February 2, the second day of the Apollo 14 mission, the lunar sample was exhibited at the Mt. Sinai Elementary School. Alf Christoffersen, (above) Public Relations representative, explained the exhibit to more than 800 students and local residents. At right, a Mt. Sinai teacher shares a view of the moon rock with two of her students.



Bowling News

Grace Fales

Red League

The Bubble Boys and the Old Timers proved to be true competitors as they bowled their finest games against each other. The Bubble Boys just nosed out the Old Timers by 7 pins with a 3112 gross series - new high. Spurred on by this great bowling, Walt Reams made the "Hall of Fame" with his 202/244/254, for a new high scratch series of 700. Added to the 200 club were S. Kiss 223/619, R. Nelson 220/600, J. Berech 241, W. Kollmer 226, E. Malcolm 201, M. Anderson 201, and R. Adams 201.

Green League

Joe Scesny has been the spark to Bill Crockett's, Soc-Et-Tuum's, who are taking an early lead in a close second half race. Highs were J. Lee 201, J. Scesny 202/247/643 series, R. Meier 214, L. Jacobson 254, and R. Penna 209.

Pink League

Alley Oops have a lead on first place and the Fiscal Assets didn't like anyone else taking over "their position" - so, they took it back. Highs for the night were Grace Fales 191/532 series, Betty Jellett 163, Ellie Murgatroyd 163, Pat Fox 159, M. Stoecel 157, Pat Oster 157, Kay Hunt 155, and Bev Nine 154.

Black and Blue League

It has become a tight race with only 5 points separating 1st and 5th place, Pace-setters hold first, followed by the AR's Sizzlers, Sore Losers, and the Omegas. Dick Murgatroyd bowled the only 200 with a 201/552 series. Jo Schonberg was high for the "BW's" with a 151/383 series.

BERA Election

The following is the slate of candidates selected by the 1971 BERA Nominating Committee.

- Kenneth Doughty** (Technical Supervisor) Accelerator
- Grace Fales** (Property Control Supervisor) Supply & Materiel
- Lynn Kalbach** (Secretary) Biology
- Paul Kelly** (Sign Painter) Plant Engineering & Planning
- Leslie Lawrence** (Scientific Programming Analyst) Applied Math
- Edwin Taylor** (Technical Apprentice) Personnel

The BERA Trustees whose terms expire on March 1, 1971 are: Leslie Lawrence (present Board President), Lynn Kalbach and Paul Kelly.

Incumbent members include Charles Meinhold, George Oldham and Jerome Weiss. Their terms will expire on March 1, 1972.

Ballots for the election will be mailed to all employees on February 11.

Night of Nashville at Brookhaven



Some of the dance committee members and their wives sample the special menu. Left to right are: Gerry Riker, Gert Jenny, Ken Doughty, John Jenny, and Kenny Riker.



Committee member Carl Anderson and his wife enjoyed the dancing.



A group of square dancers do si do's to the music of Hank Poeling. Gerry Riker, was the vocalist with the band. More than 300 people turned out for this affair on Friday, February 5. One of the highlights of the evening was the Chuck Wagon which dispensed Texas Joe's cooked by Gert Jenny, Christine Doughty, Gerry Riker and Peggy Erickson. The committee was headed by Ken Doughty assisted by Kenneth Anderson, John Erickson, John Jenny, Kenneth Riker, Stanley Sajacki, Elton Tank and John Richter.

—Photos by Rosen



Chairman Ken Doughty has pretty helpers to draw winners of the door prizes.

Two of the people who helped decorate the Chuck Wagon were Stanley and Rosalie Sajacki.

Standing Ovation For Eleanor Steber at BNL

Eleanor Steber's recital at Berkner Hall on February 2 was one of those rare evenings in concert-going. When Miss Steber, in a tangerine silk sari, made her entrance, there was an immediate response from the large audience by way of a warm and prolonged applause. She apologized for having to forego her usual entrance with a "swing" due to a recent accident which forced her to postpone her appearance originally scheduled in October.

Miss Steber opened her program with three arias from "The Marriage of Figaro." Susanna's aria, "Deh vieni," had just the right lightness to the voice; this was followed by the enchanting "Non so più." However, it was in the "Dove sono" that one heard the ethereal pianissimo and the thrilling intensity that delighted the audiences at the Metropolitan and other opera houses of the world. Miss Steber is indeed the finest Mozartian singer.

Contrary to belief, lieder singing requires not only interpretation but also a lot of voice, especially if the songs are by R. Strauss. Outstanding in this group were "Allerseelen" with the characteristic Straussian sweep and the lovely "Morgen." The big operatic aria came just before Intermission. Beginning the "Pace, pace, mio

Dio" with a superbly controlled piano building up to a forte, she delivered one of the most electrifying interpretations of the aria heard from any lyric spinto or dramatic soprano.

After the Intermission came the dramatic aria from "L'Enfant Prodiges" sung with opulence, followed by three art songs by Debussy. The voice was unusually beautiful in this group of songs with the proper intimacy so essential for a correct interpretation of a chanson. The last group of songs on the program consisted of American folk songs sung without pause, as in a cycle. It was somehow very fitting for the greatest American prima donna to end a memorable evening with songs that are so close to the American heritage.

Miss Steber was called back many times and graciously rewarded the audience with a passionate rendition of the aria, "Vissi d'arte" from "Tosca." Many critics have claimed that Steber is the greatest "Tosca" today. After Malotte's "The Lord's Prayer," the audience spontaneously gave a prolonged standing ovation to a beloved artist and friend. Edwin Bitcliffe, the fine accompanist for the evening, shared the ovation with Miss Steber.

—M. Ledbetter

Cafeteria Menu

Week Ending February 18, 1971

Friday, February 12	
Manhattan Clam Chowder	
Deep Fried Filet of Sole w/Tartar Sauce & French Fries	.90
Sliced London Broil w/Mushroom Sauce & 1 Veg.	.85
Broiled Halibut w/Lemon Butter & 1 Veg.	.90
Monday, February 15	
Snack Bar open 9 a.m. - 2 p.m.	
Tuesday, February 16	
Puree of Split Pea Soup	
Braised Meatballs w/Veg Gravy on Noodles	.70
Veal Pattie Parmigiana w/1 Veg.	.85
Rolled Stuffed Cabbage w/1 Veg.	.80
Wednesday, February 17	
Onion Soup w/CROUTONS	
Beef Hash w/1 Veg. & Chili Sauce	.80
Ham Steak Hawaiian w/Pineapple Ring & 1 Veg.	.85
Fish & Chips w/Tartar Sauce	.75
Thursday, February 18	
Beef Barley Broth	
Pot Roast of Beef a la mode w/1 Veg.	.80
Baked Chicken & Rice w/Mushrooms	.75
Italian Spaghetti w/Meatballs & Parmesan Cheese	.75

Selected Reading

- Search 1, October 1970**
 Science and politics. P. Mason. 139-41
 Science and politics. C.W. Bridges-Maxwell. 145-6
 Ecology, conservation and politics. L. Peres. 147-51
- Am. Scientist 59, January-February 1971**
 Job pressures and research performance. D.T. Hall and E.E. Lawler, III. 64-73
 Man on a changing earth. W.O. Roberts. 16-19
 The brain of Pooh: An essay on the limits of mind. R.L. Sinsheimer. 20-8
- Science 171, January 22, 1971**
 Randomization and social affairs: The 1970 draft lottery. S.E. Fienberg. 255-61
 Fort Detrick: A top laboratory is threatened with extinction. P.M. Boffey. 262-4
 Harvard: New President's task to unify, preside over change. T.P. Southwick. 264-6
- Science 171, January 29, 1971**
 Accelerator at Batavia: The next step in high energy physics. A.L. Hammond. 362-4
- The publications referred to above are available at the Research Library, 25 Brookhaven Avenue.*

Illustration Moved

The Illustration section of Photography and Graphic Arts has moved from its former location on Rochester Street to a new location near the center entrance to Building 197, at 25 Cornell Avenue.

Classified Advertisements

Positions Available

The Brookhaven Bulletin each week will list job openings which have come to our attention and may be of interest to Lab employees. Each listing will be repeated (if still available) only once.

TV TECHNICIAN - Full or part-time. Atlantic TV Service, Center Moriches. Call 878-0707 during business hours.

For further information, please contact Employment Supervisor Ext. 2109 or 2513.

Autos & Auto Supplies

- TIRES - Firestone F. 70x14 wide ovals, red striped, good cond. \$8 ea. 732-5829.
- 67 COUGAR - V8, very good cond. \$1700. George, Ext. 565.
- 65 PONTIAC CATALINA - 4 dr hdt, air cond, ps/pb, excel cond. 744-8302.

Stony Brook Events

Activities ranging from ecology lectures to a panel discussion on women's liberation are among the events open to the public at the State University of New York at Stony Brook. Unless indicated, the events are open to the public without charge.

Sunday, February 14

"Cinema East" will show two films with English subtitles, "Accidental Trio," a modern comedy from Taiwan, and "The Seven Samurai," a Japanese film which has fathered two Hollywood versions: "The Magnificent Seven" and a sequel, at 1 p.m. and 8 p.m. in the Union Theater.

Monday, February 15

Dr. H.S. Horn of Princeton University will speak on "Canopy Closure and Forest Succession" as part of a Distinguished Visiting Lecture Series sponsored by the Department of Ecology and Evolution at 5 p.m. in Room 109 of the Lecture Center. Coffee will be served at 4:30 p.m. in Room 105 of the Biology Building.

"Cinema East" will repeat the films "Accidental Trio" and "The Seven Samurai" at 7 p.m. in the Union Theater.

"Women's Liberation and Career Opportunity," a panel discussion featuring professional women working in a variety of fields, is the first of a three-part series on women's liberation at 7:30 p.m. in the Kelly Cafeteria.

Tuesday, February 16

Dr. H.S. Horn will speak on "Ecological Succession as a Markov Process" at 5 p.m. in Room 109 of the Lecture Center.

Dr. Bentley Glass, Distinguished Professor of Biological Sciences and Academic Vice President, continues his lecture series on "The Future of Man," an exploration of man's relation to his environment and to scientific evolution, at 7 p.m. in Room 100 of the Lecture Center.

Dr. Elizabeth Garber, Assistant Professor in the Program on Science and Society, will speak on "Dante and Aristotelian Cosmology" as part of her "Science and Literature" lecture series at 7 p.m. in Room 141 of Social Sciences Building A.

Wednesday, February 17

Dr. Thomas Altizer, Director of the Program in Religious Studies, continues his "Contemporary Theology" lecture series with a talk on "The Historical Jesus and the Christ of Faith" at 7 p.m. in Room 101 of the Lecture Center.

Thursday, February 18

Dr. H.S. Horn will speak on "The Coexistence of Exclusive Beasts Subjected to Predation" at 5 p.m. in Room 109 of the Lecture Center.

"On the Waterfront," Eli Kazan's classic film starring Marlon Brando, Lee J. Cobb and Rod Steiger, will be shown at 8:30 p.m. in Room 100 of the Lecture Center. Admission is free but tickets must be picked up between 2 and 10 p.m. Monday through Wednesday in Room 294 of the Administration Building.

Sanger College will sponsor a talk by Stony Brook student Marty Gold on "Universities are Big Business - Invest Your Children" at 9 p.m. in the Sanger College Lounge.

67 AUSTIN HEALEY MK 3000 - Showroom cond, all extras incl wire wheels, tonneau, low mileage, always garaged. \$2500. W. Stakes, 286-8502 after 9 p.m.

60 VW - New 40 hp eng, new clutch, new paint, good brakes, good tires. \$400 firm. EM3-6292.

65 FORD - 2 dr custom sedan, auto trans, 6 cyl, good cond. \$325. Bob, Ext. 2843.

64 GTO - Silver grey/blk vinyl top, new tires, new batt, very good cond. 281-5289 after 4 p.m.

64 CHEVROLET - Chevelle, 2 dr hdt, r/h, auto trans, 6 cyl, good trans. \$450. Jake, Ext. 2580.

67 SUNBEAM MINX - 4 cyl, auto trans, r/h, excel running car. \$850. Jake, Ext. 2580.

57 VW - Excel cond inside & out, just inspected Jan, good rubber, 28-30 mpg, burns no oil. Walter, Ext. 567.

66 KARMAN GHIA - Mechanically excel, has a few dents. \$575. Joe, 236-9260 eves.

TIRE - 8.00x14 w/w tubeless on Ford rim, like new. \$10 firm. Manny, Ext. 2577.

61 VW ENG - Transaxle, transmission. \$125. G. Seebode, 929-4699.

4 EA 6.00x16 TIRES - On rims, 2 very good cond, 2 fair. \$8 & \$5 ea. Ext. 2179.

2-6.50x13 TIRES - First line Goodyear power cushion. Ext. 2725.

70 MONTE CARLO - V8, auto trans, tinted glass, vinyl top, excel cond, 18,000 mi. \$3000. T.R. Brown, 878-0624.

SNOW PLOW - Hydraulic, for jeep. \$150. Ext. 7121.

65 RAMBLER - 2 dr sedan, blue, auto trans, new batt, very good cond, avail Mar 6. \$350. Gesi, Ext. 7606, 523 after 6.

65 CADILLAC - Sedan de Ville, all pwr, air cond, steel grey/blk leather top & int, immaculate. \$1650. 864-5310.

63 PONTIAC STATION WAGON - Catalina, ps/pb, r/h, good tires, very clean. \$450. Joe, Ext. 698.

SERVICE MANUAL - All 1959 Buicks. \$5. Ron, Ext. 614.

326 PONTIAC MOTOR - 2 spd, auto trans for Pontiac; compl Pontiac GTO rear, 3:08 gears. 281 5289 after 4 p.m.

Boats & Marine Supplies

16' HOMEMADE INBOARD - W/cabin, 18 hp Universal elec start, excel cond, boat in good cond. \$800. 281-5633 after 5.

17' THISTLE SAILBOAT - Wood hull, fiberglass covered bottom, 2 sets dacron sails, trailer incl, excel cond. \$750. 472-1833.

CAPE DORY - 10' sailboat model, excel cond, F.G. \$500. N. Ryan, 929-6378.

"OWN A SAILBOAT" FOR THE SEASON - Unique rental plan makes it possible, 23' & 17' sloops, brochure available. B. Museler, Ext. 7676.

Miscellaneous

70 TRAVEL TRAILER - 20' fully self contained, tandem wheels, sleeps 8, excel cond. \$3200. 281-5633 after 5.

MAGNAVOX TV - Chassis, 21" rebuilt picture tube & 12" speakers. \$5. 929-4540.

SPARK PLUGS - Autolite, new, type A-42, set of 8. \$3.60. 929-4540.

NEW PORTABLE RADIO - Batt & elec, am/fm, Soundwave. \$25. George, Ext. 565.

SMALLEST DOMESTICATED ANIMAL IN WORLD - Mice! All shapes & sizes avail, make great pets, interesting science projects. 454. Karen, 475-5543.

SKI BOOTS - Child size 5, rubber, buckles, good cond. \$5. Ext. 7121.

FLOOR POLISHER-SCRUBBER - GE elec, perf cond. \$20. Ext. 2515.

HENKE SKI BOOTS - 5 buckle, size 9M, used twice, Sold for \$45, will sacrifice for \$25. Walter K., Ext. 2457, 286-0246.

COUCH - Green, traditional, down cushion & wing chair, neutral, down cushion. HR3-2879 after 4

REGINA FLOOR POLISHER - Good cond \$8. 286-1097.

19" RONSON DELUXE BROILER-OVEN - 1 yr old. \$35. T. Lehecka, Ext. 2475, LT9-2470.

SKI BOOTS - Men's size 13, lace, good cond. \$15. Ext. 7353, 587-9372.

SKIS - Children's 4', bindings & poles, \$6; boots, lace, size 13, \$6; boots, buckle, size 2, \$9. Ext. 7353, 587-9372.

DOG OBEDIENCE CLASS - Last chance to join our 19 wk course in beginners obedience. Fee \$20. To register, call PA7-1218 days, for information call P. Warner, 728-0273 eves.

ANTIQUA SCHOOL DESK - \$20; green leather swivel chair, \$5; wing back maple love seat w/ maroon velvet cushions, \$20. 289-1754.

B&W TV - 21" RCA, good cond. \$20. Gesi, Ext. 7606, 523 after 6.

RECLINING CHAIR - Green vinyl, \$40; 1 old (30 yr) Royal portable, \$15. Ding, Ext. 7218.

REFRIG - 14 cu ft, freezer on bottom, \$75; din rm buffet & china closet, \$75. FO8-0757.

2 PC COLONIAL LIV RM SET - 286-8718 after 6.

LIGHT METER - Argus L-3, w/case. \$5. C. Reed, Ext. 2248.

4 USED WINDOW SASH - 57"x37", compl w/alum storm windows & screens. \$40. JU8-9548 after 6.

STEREO PHONOGRAPH - Motorola, in good cond. \$25. Paul, 286-8544 after 6.

KAY ELEC GUITAR - Reasonable. Danny, 744-5969 after 6.

16 MM RCA PROJECTOR - Motion picture sound, \$200; 8-16 mm sound b&w & color movie film printer, fully automatic, \$150. 289-8649.

ADMIRAL 12" TV - B&W portable, 1 1/2 yrs old, excel cond. \$60. 473-9403 after 4 p.m.

FIRE WOOD - Oak, about 1 cord, split, cannot deliver, 85 Country Club Rd, Bellport. \$40. Earl, 286-3829.

1 TON CHAIN HOIST - \$25. T. Henck, 281-5626.

DOBERMAN PINSCHER PUPS - AKC reg, reds, blks, males, females, champion sired, definite show quality. HR3-5689.

CHILD'S ICE SKATES - Excel cond, size 4. \$5. Ext. 7115.

24" B&W GE TV - Blond cabinet. \$50. M. Jahnig. 281-9298.

WHITEHALL PORTABLE ORGAN - W/6 voices, vibrato, tone & Bass Octave Control, amp (Kustom) self-contained, 100 w, both in excel cond, used once. 732-3296 eves.

MICROSCOPE - Professional Kyowa model 1 KHS-2, monocular, new cond, 3 eyepieces, 4 objectives, graduated coaxial mech stage, Koolite lamp illumination, locking wood carrying case, extras. Saxon, Ext. 2366.

OAK FIREWOOD CUT TO ORDER - Ken, 281-8622 after 6.

MALE PARROT - 2 1/2 yrs, blue fronted Amazon in full plumage, w/cage, beautiful, must see, reasonable. Tony, 924-8664.

NYLON RUG - 6x9 gold oval, fringed, excel cond. 473-7376.

ELEC MOTOR - 1/2 hp, \$9; 30 old phonograph records, \$8. O. Booker, Ext. 2411.

Real Estate

Real Estate advertised for sale or rent is available without regard for the race, color, creed or national origin of the applicant.

For Sale

EAST QUOGUE - 1/2 acre landscaped, 3 bedrm ranch, fireplace, 1 1/2 baths, panelled din rm w/built in hutch, fam rm, appliances, full bsmt, take over existing mort at 5 1/2%. 653-4618 after 6.

SHOREHAM - 4 bedrm colonial, 2 1/2 baths, liv rm, din rm, fam rm, part air cond, 2-car garage. 744-6657.

Wanted

RECORDERS - Alto, tenor, bass, also recorder players for group meeting Mon night in Bayport. M. Hillman, Ext. 2378.

AUTO TIRES - 6.40x15 (7.35x15) & 6.70x15 (7.75x15), tubeless, good cond. Bob, Ext. 7633.

SKATES - Men's size 8 or 9. J. Moeller, Ext. 510.

PORTABLE TV - B&W, good cond. J. Moeller, Ext. 510.

2ND HAND GASOLINE WATER PUMP - Cheap, for community organic garden. M. Hall, Ext. 7626, 878-0817.

HOME - For 2 yr old poodle, blk w/white markings, housebroken, good w/children, good watchdog. Al, Ext. 2943.

WOODEN HIGH CHAIR - In good cond. Palmedo, 744-9505.

BABY CARRIAGE & CAR BED - Reasonable. 286-1097.

WILL SHARPEN ICE SKATES - T. Lehecka, LT9-2470.

CANOE - Inexpensive, usable, will repair minor damage. L. Dox, Ext. 2913.

CLIPPERS - Elect, to cut poodle's hair, reasonable. G. Dioguardo, Ext. 2369.

TUTOR - For 17-year-old boy who needs high school Physics equivalency, immediately. Carole, Ext. 2907.

BABY CARRIAGE - Buy or borrow. O.W. Dietrich, Ext. 2435, 744-5892.

TAXPAYERS - Federal & State income tax forms prepared in the privacy of your home or mine. 475-8330.

PETS - To do in my home; terriers, poodles, spaniels, reasonable. Tony. 924-8225.

PETS - Going on vacation? Pet sitting by day/wk/mo, reliable & reasonable. Tony, 924-8225.

ICE SKATES - Women's size 8; ladies' bicycle, 26". 744-5219.

VOICES - For Mor. Chor. Soc. performance of Bach's Creation, 1st rehearsal Mon 2/22, 8 p.m. Ctr. Mor. H.S.

Carpools

STRATHMORE-STONY BROOK AREA - Wish to join or form carpool. F.E. Short, Ext. 481.

DRIVERS WANTED - To compl existing 2-member carpool from Riverhead. Pat, Ext. 7691.

WISH TO ENTER CARPOOL - From Holtsville/Centereach area, starting immediately. Stu, Ext. 2723.

Lost & Found

LOST - Will the person who took my GE electric heater from the Research Library please return it? Temperature is drafty. Sniffles have set in.

Fun In The Sun At The Pool February 15

The pool, which is normally closed on BNL Holidays will break with tradition and remain open on Monday, February 15 from 1 p.m. to 9:30 p.m.

This is the time to break up the mid-winter doldrums and take the whole family on a summer-type outing. Get in the swim of things for the price of an admission to the pool.

Bank Notice

The Peoples National Bank Facility on site will be closed on Friday, February 12th and on Monday, February 15th.

No orders will be accepted at this time for the special Eisenhower coin which is scheduled to be issued in 1972. Notice will be given when orders will be accepted.

Classified Ad Policy

Deadline is 12 noon Friday for publication the following week.

- The Brookhaven Bulletin's classified section may be used only by active and retired Laboratory employees.
- All items for sale or rent must be the advertiser's property.
- Ads for material acquired for resale in association with a full or part-time business cannot be accepted.
- Firearms offered for sale or trade may not be brought on site.

5. Ads not carried because of space restrictions will be held for publication in the next issue.

6. Ads are run only once and must be resubmitted if they are to be repeated.

7. Ads should be restricted to 20 words or less and typed or printed on the form provided, and must bear the employees signature.

- For Sale: Auto & Auto Supplies
 For Sale: Boats & Marine Supplies
 For Sale: Miscellaneous

- Wanted
 Carpools
 Lost & Found

Check the heading applying to your ad.
 Print or type your ad in 20 words or less.

Ads concerning property for sale or rent cannot be accepted on this form. Special Real Estate Ad forms are available at the Office of the Brookhaven Bulletin, Room 112, 40 Brookhaven Avenue.

(Name & Phone No. To Call)

Employee's Signature Life No. Ext.

Send to: Brookhaven Bulletin, 40 Brookhaven Avenue