



Gil Raynor (bottom) hands an anemometer to John McNeil which he will attach to the tower.



Mark Powell, who was a summer student in Meteorology, stands by as a kytoon is flown from the LCM.

Meteorology Studies Patterns Of Off-Shore Atmospheric Diffusion

Despite the choppy water and the slight chill in the August sea breeze, the fishing trawler Liberty and the smoke-stack-laden Landing Craft Medium (LCM), left their respective docks for a rendezvous at sea.

The two boats are part of a field experiment by BNL's Meteorology Group to study wind patterns and diffusion above the Atlantic Ocean. The study was initiated two years ago in response to plans for the construction of a nuclear power plant further south along the East Coast on a floating platform, approximately three miles off-shore.

If such a plant were built, how would low-level routine emissions and unlikely accidental emissions be dispersed in the atmosphere? This is what members of the Meteorology Group are trying to find out. The results of the study will provide a base for the evaluation of the environmental effects of an offshore nuclear power plant, says Paul Michael, the head of the Meteorology Group.

To simulate releases from an off-shore site, oil-fog smoke is generated through the smoke stack on board the LCM, which is on loan to the AEC from the Navy. The vertical and horizontal spread and the density of the plume, as it approaches shore, are measured from land, sea and air.

Once the two boats reach their rendezvous, one to three miles off Tiana Beach on Long Island's south shore, the LCM drops anchor. It now becomes a simulated off-shore nuclear power station. At Gil Raynor's signal, the smoke generators on board the boat are started up and in a matter of

minutes thick, white smoke spews out of the smoke stack and heads for shore. Raynor, who coordinates the field work from the beach, is in radio contact with both boats.

The trawler Liberty traverses the smoke plume at several different distances from shore. Members of the meteorology group on board, use a densitometer to measure the concentration of smoke in the atmosphere as the plume approaches land. Lateral photographs of the plume are taken from the trawler as well.

At the same time, aerial photographs are taken from a circling chartered plane by Ansel Tuthill. Air temperatures and turbulence from 500 to 3000 feet are also measured from the plane. The plane is equipped with an infra red thermometer which measures surface temperatures of the ocean and the land.

Preliminary results show that diffusion patterns above the ocean are determined largely by the differences between water and air temperatures. When surface water is colder than the air above it, the air is stable and diffusion is minimal but when surface water temperatures are warmer, there is vigorous diffusion.

On shore a densitometer is used to determine smoke concentrations and how much of an area is affected by the plume. The instrument is mounted inside a van which is driven by Bob Brown back and forth along Dune Road through the plume.

Eventually, a laser device designed by Brown, will supplement the densitometer on land. A beam of laser light, shot through the smoke plume will be reflected back to

(Continued on page 2)

Risks To Public From Nuclear Power Plants Very Small, Study Finds

A two-year independent study of nuclear reactor safety, the most definitive ever undertaken, concludes that the risks to the public associated with nuclear power are "very small," and that the likelihood of reactor accidents is much smaller than many types of non-nuclear accidents with similar consequences.

These findings, contained in a 3300-page draft report issued in 14 volumes, result from a study directed by Professor Norman C. Rasmussen of the Massachusetts Institute of Technology, using a technical staff of about 60 scientists and engineers, plus a large number of specialized consultants. The cost of the study was about \$3,000,000.

The draft report submitted to the Commission by Dr. Rasmussen has been made available by the AEC for public comment. The 14 volumes include the basic report, technical appendices, and a summary. The study is titled "An Assessment of Accident Risks in U.S. Commercial Nuclear Power Plants," and has the report number WASH-1400.

The reactor safety study was sponsored by the AEC to estimate the public risks that could be involved in potential accidents in large commercial power reactors of the type now in use. The risks have to be estimated, using modern techniques of analysis developed in the space program, because the approximately 50 such plants now operating have had no nuclear accidents.

The objective of the study was to make a realistic estimate of reactor accident risks and to compare them with non-nuclear risks to which our society and its individuals are already exposed.

The basic conclusion of WASH-1400 is that the risks to the public from potential accidents in nuclear power plants are very small. Specifically, the study found that:

- The consequences of potential reactor accidents are no larger, and in most cases, are much smaller than people have been led to believe by previous studies such as WASH-740, the so-called "Brookhaven Report," of 1957, which deliberately maximized risk estimates by using physically unrealistic assumptions in its calculations.
- The likelihood of reactor accidents is much smaller than many non-nuclear accidents having similar consequences.
- Non-nuclear accidents, including fires, explosions, toxic chemical releases, dam failures, airplane crashes, earthquakes, hurricanes and tornadoes, are much more likely to occur and can have consequences comparable to or larger than nuclear accidents.
- Non-nuclear accidents to which society is already exposed are about 10,000 times more likely to produce large numbers of injuries to people than nuclear plants.
- Nuclear plants are about 100 to 1000 times less likely to cause costly large dollar value accidents than other sources.

Comments on the WASH-1400 draft report should be submitted by November 1, 1974, to: Saul Levine, Project Staff Director, Reactor Safety Study, AEC, Washington, D.C. 20545. Copies of the report are available from him for those who wish to review it for comment. The final version of WASH-1400 will be issued several months after comments are received.

Review copies of the complete report are on file at the AEC's Public Document Room, 1717 H Street, N.W., Washington, D.C. Single copies of a 30-page popular level summary of the report may be obtained at no charge from AEC's Technical Information Center, Oak Ridge, Tennessee 37830.

Copies of the draft study, WASH-1400, may be purchased beginning October 7 from the National Technical Information Service (NTIS), Department of Commerce, Springfield, Virginia 22151. Cost of the main report in microfiche form is \$1.45, and \$1.45 for each of the appendices (one of the 10 appendices has two sub-sections).

Paper copies will also be available from NTIS at a cost of \$7.60 for the main report and \$174.50 for a set of appendices.

Report Available

The following report is now available to the Laboratory staff and to affiliates of the AEC, AUI, and BNL. Others may purchase it from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22151. Staff members should call Ext. 3484:

BNL 50417 \$5.45
Concrete-Polymer Materials for Highway Applications - Progress Report No. 3. Dec. 1973. L.E. Kukacka, J. Fontana, A. J. Romano, M. Steinberg and R.G. Pike.

CREF Unit Values

1973			
January	\$50.36	February	\$47.11
March	46.44	April	43.69
May	42.06	June	41.40
July	44.80	August	44.06
September	46.63	October	47.06
November	41.30	December	42.61
1974			
January	\$40.75	February	\$40.83
March	39.32	April	37.58
May	35.11	June	34.29
July	31.71		
	August	\$29.09	

Official & Special Events

Monday, September 30
Federal Highway Administration Sponsored Course on Introduction to Concrete Polymer Materials (Sept. 30 - Oct. 4)

Wednesday, October 2
Concert - 8:30 p.m., Berkner Hall

Monday, October 7
Oceanography Program Planning Meeting (October 7-10)

Tuesday, October 8
Radiation Assistance Program Meeting

Thursday, October 10
University Relations Meeting (October 10-11)

Monday, October 14
AEC Technology Utilization Program Meeting (October 14-16)

Wednesday, October 16
AUI Board of Trustees (October 16-17)

Theatre Name Contest Winner

Two tickets to that coming smash *The Real Inspector Hound* to lucky R.C. Anderson, 460, for winning the contest. The winning name will appear in lights soon.

Health Commissioner Visits BNL



On a tour of the Medical Department, Associate Director Victor P. Bond discusses the operation of the Whole Body Counter with Mary McLaughlin, Commissioner, Suffolk County Health Services Department. During her one-day visit to BNL on Tuesday, September 17, Dr. McLaughlin was given a brief tour of the Brookhaven site, and a more detailed tour of the Medical Department. While here, Dr. McLaughlin engaged in discussions with various members of the BNL staff, and with AEC personnel.



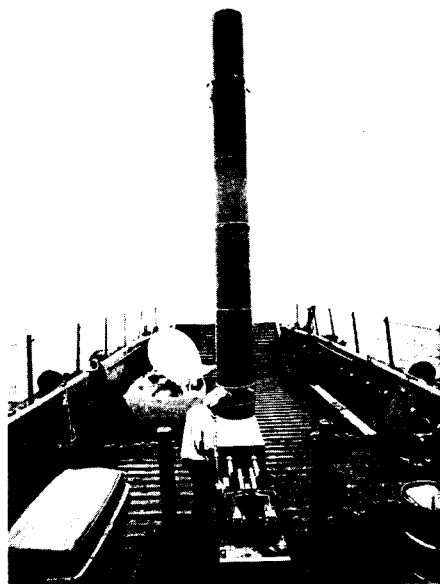
Mark Powell (left) releases a pilot balloon while John McNeil prepares to track its flight using an instrument which resembles a surveyor's transit.



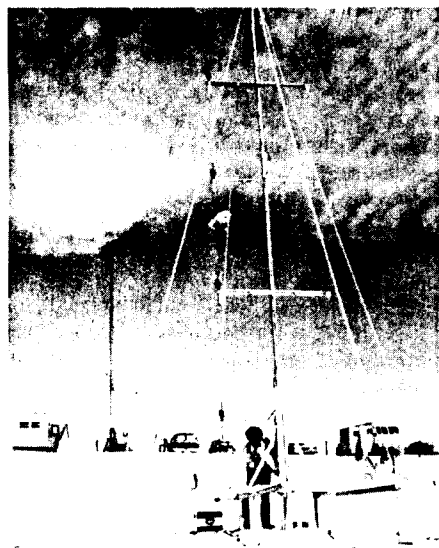
Gil Raynor (left) uses a sextant to determine the kytoon's distance from the ground. Sethu Raman makes a note of these distances and of the temperatures recorded by instruments on the kytoon.



Walter Jahng, who pilots the LCM, keeps in radio contact with shore and the other boat.



Mark Powell checks to make sure the smoke generators on the LCM are functioning properly.



Two towers are set up at Tiana Beach for meteorological measurements. Data from the towers are fed into the trailer on the left which contains recording equipment. The van to the right is used for land traverses of the smoke plume.



Bob Brown with the laser device he designed, which will eventually be used to measure the density of the smoke plume as it passes over land. When in use, it will be lifted through the trap door in the roof of the van.



Cy Fink (right) and Art Tingle on board the fishing trawler Liberty. The owner and captain of the boat is Jack Tuttle.

A Master Of Ingenuity

An ingenious maze of lighted signs, colored buttons, switches, locks and other gadgets greet visitors to the Health Physics and Safety Calibration Laboratory.

Although one might think so, it is not a Rube Goldberg creation but is Budd Pollock's. Pollock came to the Lab in 1947 with a background in electronics and a forte for designing and building things. Since he has been here, he has designed instruments for monitoring radiation and has devised methods of calibrating them.

Because radioactive sources must be used to calibrate a monitoring instrument, Pollock practices extreme caution in all his designs. Distance is an important factor. When not in use, the sources are kept behind heavy shielding in the basement of the building. A metal fence separates the source area from anyone who might accidentally wander in. A "source area clear" sign lights up when there is nobody within the fence.

When someone enters the source area, the sign turns off and no sources can be unshielded. Upon leaving the area, a red button must be pushed and within 60 seconds the sign is automatically relit. The sources can once again be unshielded. This system was designed by Pollock to avoid the possibility of a source being unshielded in the laboratory upstairs and exposing someone in the source area downstairs.

The method used for calibrating most instruments is known as the free air source. This is used on low range instruments, measuring two to three roentgens per hour. The instrument is placed on a small cart

Meteorology

(Continued)

the laser operator. The more smoke particles there are, the more light is reflected back. Therefore the laser can be used to determine the concentration and width of the plume.

Tiana Beach was selected as the site for the field experiments for four reasons. The coast here is straight and typical of much of the eastern seaboard south of Cape Cod. A large parking field at the Southampton Town Beach provides a good sweep of the ocean for meteorological measurements. The site is close to Shinnecock Inlet which connects the ocean to the bay, where the boats used in the experiment are docked. Dune Road, a long straight road running parallel to the beach, is convenient for traversing the smoke plume on land.

Two meteorological towers are set up at the beach. One is situated in the parking area on the bluff overlooking the beach and the other is on the beach itself, a few feet above the water mark. The towers are equipped with anemometers for measuring wind speed, Aerovanes to detect wind direction, bivanes for measuring air turbulence, and thermometers for measuring temperature. The towers are used, explains Raynor, because wind patterns and temperatures on the beach differ slightly from those on the bluff. Data from the towers are fed into a trailer and recorded on charts or magnetic tape which is processed by computers back at the Lab.

Temperatures up to 500 feet above the towers are measured by instruments on a small helium-filled tethered blimp called a kytoon. The kytoon can be flown from the beach or the LCM. Wind speed and direction up to 3000 feet is recorded using a pilot balloon. Once the balloon is set free in the atmosphere, it is tracked with a theodolite which resembles a surveyor's transit.

The field experiments have demonstrated that diffusion patterns over the ocean differ in many ways from those over land, and are largely determined by air-water temperature differences. Nearly all the members of the Meteorology Group have contributed to the study in some way. Many have been active in the field while others have constructed and calibrated instruments or analyzed data.

For a week at the end of September, the field experiments will be shifted to Great Gull Island, a wildlife refuge off shore from Orient Point. The island will be used to more realistically simulate the size of an offshore nuclear power station. Smoke will be released simultaneously from the island and the boat so the effect of the island on the plume spread can be measured. The results of the plume studies at Tiana Beach will be compared to these results.

Report Available

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BNL 50410 \$10.60
Basic Mechanisms in Plant Morphogenesis - Brookhaven Symposia in Biology Number 25 (1973)
Various authors



Bud Pollock takes no chances when it comes to radiation. When he calibrates an instrument he reads the scale from a distance through a small telescope.

which is mounted on tracks. At the end of the tracks are five lucite tubes which extend down into the basement where each one contains a relatively weak cobalt or cesium source.

To activate the free air sources, Pollock first unlocks the system. Then he pushes one of the five colored buttons which activates a vacuum pump and brings a source up from the basement. This illuminates a sign telling you the "free air sources" are unshielded.

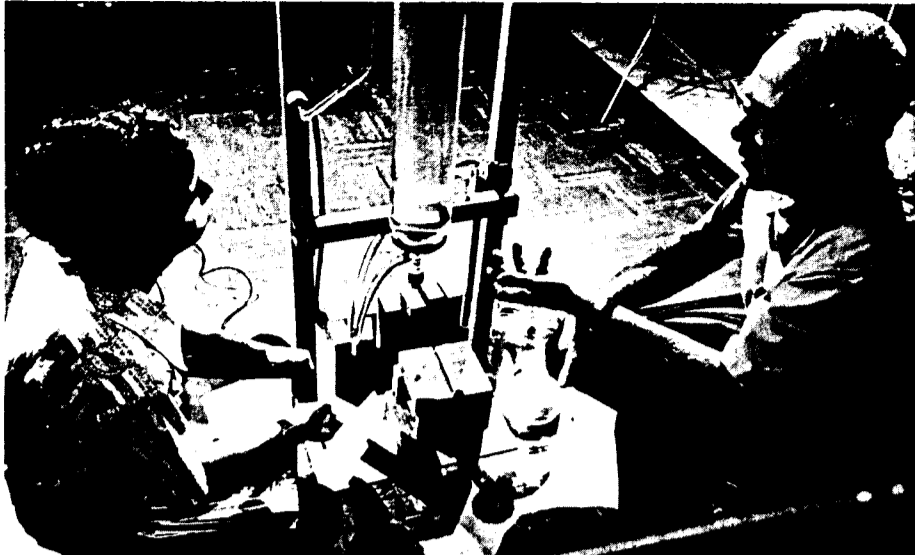
By pushing another button Pollock can move the cart on its tracks, placing the instrument any distance from the source. At a known distance from a known amount of radiation, an instrument should register a known reading. If it does not, then it is not functioning properly and must be repaired.

To avoid being exposed to the unshielded source, Pollock reads the instrument's scale from a distance, through a low-powered telescope. A wooden fence and gate separates him from the source area. If someone were to inadvertently open the gate, the sources automatically drop back down into the basement. This holds true for the outside fence surrounding the building so even the deer are protected, said Pollock.

What appears to be a terribly complex system is really ingeniously simple. Everything used to build it can be found in a

(Continued on page 3)

Science Conference Winner At BNL



Ray Davis (right), Chemistry, explains his research to Robert Schaeffer, recipient of the AEC award for the best nuclear related project at the 1974 N.Y. State Science Conference. Schaeffer's September 13 visit to BNL was arranged through Glenn Price, Head, Office of Academic Relations.

Pollock (Continued)

hardware store. When asked if anyone has compared him to Rube Goldberg, he smiles and modestly says, "a few."

Besides calibrating and repairing 700 BNL instruments every three months, the Calibration Lab checks instruments for the Suffolk County Health Department, the Army's Picatinny Arsenal in New Jersey, and the AEC Regulatory Operations Office in King of Prussia, Pennsylvania. Tony Meo, who has been with the Lab since its beginnings, works with Pollock. Ed Hagelberg works in the Calibration Lab on a part-time basis.

They are also responsible for checking the Radiation Area Protection (RAP) equipment every month so it will be ready for use in an emergency.

Pollock and his wife Dorothy live in Brookhaven Hamlet. Although they have no children of their own, they have had quite a few through the Save the Children Foundation, which they have been supporting for the last 15 years. Presently they are sponsoring three children; Au Wai Mun and Cheng Choi Kon who are Chinese, and Justin Morgan who is an American Indian.

Five years ago they sponsored a Korean boy who asked the Pollocks to help him buy a cement factory. When they found out that a cement factory only cost \$24 in Korea, they sent him enough money for two. Today he is a successful builder in his village and makes enough money to support his whole family.

New York Islanders Hockey Tickets

Tickets for the Islanders hockey games will go on sale at the BERA Sales and Services Office in the Cafeteria on Thursday, September 26, starting at 7:30 a.m.

Tickets are priced at \$7.50 each. There will be no limit on the number of tickets sold to each employee, with the exception of the Ranger games (limit - tickets for one game per employee).

A schedule of home games may be picked up prior to the day of ticket sales at the BERA Sales Office or at the Recreation Office in Personnel.

Tennis Awards



Bob Fuchs (second from right), BERA Awards Chairman, presents tennis awards to (l-r): Robert Gibbs, Men's Singles runner-up; Allan Auskern, Men's Doubles championship; Tom Luhman, co-winner of the Mixed Double championship with Christine Saitta (not present for picture); Andrew Kevey, Men's Doubles championship; and Shizue Iwai, runner-up in Women's Singles.

Arrivals & Departures

Arrivals

Tzi-shan Chou.....	Chemistry
Vi Duong Dang.....	Applied Science
Gregory J. Donaldson.....	Physics
Ronald D. Gasser.....	Applied Science
Kelvin G. Lynn.....	Physics
Michael W. McDonell.....	Biology
Stoffer Reiffers.....	Chemistry
Carol A. Russo.....	Medical
Jane K. Setlow.....	Biology
Richard B. Setlow.....	Biology
James K. J. Yeh.....	Medical
Richard J. Zahra.....	Accelerator

Departures

Mary Bownes.....	Medical
Carson F. Daniels.....	Physics
Harold C. Geiss.....	Accelerator
Michael I. Kern.....	Applied Science
Alexandra C. Nielsen.....	Applied Science

Letters To The Editor

Dear Sir:

During the past six years I have enjoyed the challenge of working at BNL. My supervisors and fellow workers have made my experiences most interesting and inspired. BNL has provided the atmosphere most conducive to my success in development. I wish to extend my sincerest appreciation to all.

Sincerely,
Carson F. Daniel

Hospitality News

The next coffee is to be held Tuesday, October 1, at 10:00 a.m., at the Recreation Building in the Apartment Area.

There will be a silk screen demonstration given by Mrs. R. Bird, with special attention to possible holiday cards.

All are welcome.

Bowling News

Grace Fales

First week of bowling, and it must have been a slow start for most, with only 2 leagues reporting in.

Pink League

Carolyn Eterno, one of our new bowlers, rolled a 197, and Lindora Boyd was off to a good start with a 194.

Black and Blue League

A high gross game pot was initiated this year; Kit D'Ambrosio (210) and Howard Bell (242) took first honors. On her fourth ball of the night Dot Pollock converted the 2-7-10 split. High games: Lew Jacobson 211/204/543, Dick Murgatroyd 203, Nancy Mayeski 182, Kit D'Ambrosio 166, Irma Montanez 165. Best wishes for a speedy recovery to Joe Mayeski.

P.S. We forgot to mention, Renie Rosati of the Pink League converted the 6-7-10 split.

BNL French Group Starts New Year

Brookhaven has always been an international community - scientists and their families from abroad come to the laboratory, either temporarily or to stay; in addition, many members of the Brookhaven staff travel abroad, or work in other countries for extended periods. Several years ago, a group at BNL interested in the French language and culture founded the BNL French Group, which began as an independent organization but later became a participant in BERA. The Group has sponsored a variety of events, all of which have been open to members of the Brookhaven community and their friends. A typical year's program has included three or four full-length films (in French with English subtitles), a lecture or two (in French), a concert, three or four *soirees* centered around some form of French culture - popular records, wine and cheese tastings, travelogues, play readings, and so forth. The Group is a member of the International Federation of French Clubs; this makes available to it lecturers from France, films, and books and magazines which are kept in the Research Library and may be borrowed. Also, individual members are eligible to participate in charter flights from New York to Paris and return. In addition to the members at Brookhaven, there are several from the State University at Stony Brook, from Suffolk County Community College, and from surrounding communities.

Activities for the current year will begin on Tuesday, September 24, at 8:30 p.m. in the Recreation Hall (Apartment Area). Past and prospective new members are cordially invited. We plan to discuss future activities, and are especially interested in reaching out for new members and for new ideas. Some of the atmosphere for the evening will be provided by a short contemporary film, "A Paris," a view of life in the city over a 24 hour period. Refreshments will be served.

Rifle & Pistol Club

The fall reactivation meeting of the Rifle and Pistol Club will be held at 5:15 p.m. in the Recreation Building on Wednesday, September 25th. Please come and bring interested friends.

As in past years, we have the use of the Barton Avenue Armory in Patchogue from September 3rd through May of 1975. The rifle team will normally practice from 7 to 9 p.m. and the pistol team from 9 to 11 p.m.

We are hoping to increase rifle team membership, so if you would like to try this very inexpensive sport come to our September 25th meeting and join us. If you lack equipment, the Club has some you can borrow.

IBEW Meets September 26

Local 2230 IBEW will hold its regular monthly meeting on September 26, 1974, at 8 p.m. in the Knights of Columbus Hall, Railroad Avenue, Patchogue. There will also be an afternoon meeting at 2 p.m. for shift workers in the Union office at 31 Oak Street, Patchogue. On the agenda will be regular business, committee reports and the President's report.



John Elmore, Men's Singles Champion.

Pool Scheduled To Close For Maintenance

The swimming pool will be closed for maintenance from Monday, September 30 through Sunday, November 3. Opening day is scheduled for Monday, November 4 at 11:30 a.m.

Passes for the Winter season, which will extend from November 4 through February 2, will go on sale at the BERA Sales & Services Office in the Cafeteria starting on Monday, October 21.

Season Pass Fees:

Family	\$10
Employee	\$ 5

Cooking Exchange

The next meeting of the Cooking Exchange will be held on Wednesday, September 25, at 12:30 in the Apartment Area Recreation Building. The theme of this meeting will be San Francisco.

Classified Advertisements

Placement Notices

Each week the Personnel Office lists personnel placement requisitions, currently being processed. The purpose of these listings is, first, to give notice of all non-scientific staff positions being filled and, second, to give employees an opportunity to request consideration for themselves through the Personnel Office. In filling vacancies, the Laboratory's objective is to give first consideration to present employees, as follows: employees within the immediate group having the vacancy, employees within the department or division, employees within the Laboratory as a whole.

For further information regarding a placement notice, or to request consideration for an available position, contact Supervisor, Personnel Placement & Development, extension 2874 or 2882.

13. COMPUTER OPERATORS - Shift assignment. Applied Mathematics Department.

14. TECHNICIAN - A.A.S. degree or equivalent in mechanical technology and experience in operation, assembly, and test of cryogenic systems. Occasional shift assignment. Target Group. Accelerator Department.

15. OFFICE SERVICES ASSISTANT - Temporary position. Fiscal Division.

16. TECHNICIAN - A.A.S. degree or equivalent in mechanical technology. Experience in construction, modification, and testing of electronic detector equipment desirable. Engineering Group. Physics Dept.

17. COMPUTER SCIENCE ANALYST - Physics Dept.

18. TECHNICIAN - A.A.S. degree or equivalent in electro-mechanical technology with strong mechanical experience. Assignment involves construction, operation, and maintenance of mechanical and electronic equipment associated with research at HFBR. Physics Department.

19. DEVELOPMENT ENGINEER - Seeking B.S.M.E. degree or equivalent and 5-10 years' experience in installation, operation, and maintenance associated with all aspects of cryogenic refrigeration apparatus. Mechanical Engineering Division.

20. TECHNICAL SPECIALISTS - Two positions involving operations at the Scientific Computer Facility. Applied Mathematics Department.

Autos & Auto Supplies

70 FIAT 124 SPORT COUPE - Synchro-mesh 5 spd, disc brakes, Michelin tires, 29 mpg, excel cond. \$1500. Ext. 3591, 265-0501.

71 VW 411 - Auto trans, new steel radials, low mileage, excel cond. Asking \$2100. P. Valli, Ext. 2023.

63 HILLMAN SUPERMINX STATION WAGON - Good cond, new brakes, fuel pump, fan, speedocable, hoses, 4 good tires. \$285. Ext. 4602, 475-9364 after 6.

REESE EQUALIZER HITCH - Custom made, for 71-74 Mopar intermediates, bolt on w/head, mint cond. \$125. B.P. Doran, Ext. 2350.

2 SNOW TIRES - 8.45x15 plus rims, to fit GM cars, plus 68 Pontiac trailer hitch. All for \$30. 744-9832 after 5:30.

TRAILER HITCH - Fits Mercury Montego 1971-72-73. \$20. D. Miller, Ext. 2022, 281-8579.

65 OLDS F-85 WAGON - Dependable transportation, 16 mpg. \$250. 473-7739.

64 CHEVY WAGON - 9 psgr, 283, auto trans, good body, good running. \$250. Vinnie, Ext. 2483.

SNOW TIRE - Firestone Town & Country 13" rim, good cond. R. Munsterman, 744-5871.

69 JEEP WAGONEER - V8, ps/pb, auto trans, mech excel, needs body work. Asking \$1200. HR2-2550.

69 FORD LTD - Air cond, ps/pb, auto trans, very good cond. Asking \$1200. HR2-2550.

HOOVER HEADERS - For '65-70 396-427 full size Chevy, \$40; Holley cast iron intake manifold w/heads (w/o springs) for 396, \$25. Claire, Ext. 2346, 281-8306 after 5:30.

66 OLDS 98 LS - Blue, ps/pb, pwr windows, good cond, reasonable. 281-1422 after 6.

61 AMERICAN RAMBLER - Must sell very soon. \$75. Ext. 4178/3233.

WEIAND ALUM INTAKE - For '64 Plymouth & Dodge, \$30; posi rear for '64 Dodge. Claire, Ext. 2346, 281-8306 after 5:30.

71 SUBARU - 22,000 mi, front w/d, rack & pinion steering, fully reclining bckts, am radio, MacPherson strut susp, excel. \$1850. 289-9295 eves.

71 SUZUKI 90 cc DIRT - \$225. Hank, Ext. 3499, HR2-0553.

64 BUICK SKYLARK - Std shift, eng good, orig owner. \$200 or make offer. Karin, Ext. 4398.

65 CHEVY BISCAYNE - 4 dr, auto trans, ps, am/fm, 6 cyl, orig owner. \$125 or best offer. Arbeit, Ext. 4118, 928-5714.

69 CAMARO - 427 cu in, Carter AFB carb, Weiand man, Crane cam, Hurst shifter, Munsey trans, Thrush side pipes, clearanced & balanced, new G-60 rear tires. \$2000. 795-5248.

SWAP - 2 steel belted radial tires, size 205-14, for 4-4 ply nylon tires, size D78-14 or E78-14, comparable cond. Paul, Ext. 2476.

69 PONTIAC CATALINA WAGON - Ps/pb, air cond, radio, roof rack, new tires. Asking \$1100. Colin, Ext. 3531.

YAMAHA DS-6 - 250cc, 5774 mi, A-1 cond, must be seen, going in service overseas. Asking \$450. 878-1567 after 5.

Boats & Marine Supplies

BOARDING LADDER - "Mayfair" 4-step, brand new. List \$50, asking \$37. B. Bornstein, Ext. 2603.

17' COTTONTAIL SAILBOAT - Fully equipped, excel cond. \$400. P. Schubelin, Ext. 3733/3857.

24' RAVEN SAILBOAT - Fiberglass, w/alum spars, SS rigging, 4 sails, trailer, excel cond. Asking \$3000. 286-2292 after 6.

11' STARCRAFT ALUM BOAT 1970 - Good shape, oars & anchor. \$125. Don, Ext. 4543.

LUHR'S SKIFF 1956 - 21' LOA, lg cockpit, cabin w/2 bunks, 125 hp Norberg eng, good cond. \$500. WA9-4173 eves & weekends.

15'6" WEST WIND - 1971-50 hp Evirude full elec, trailer, many extras, all good cond. \$1200. 475-2769 after 5.

Miscellaneous

FOLDING COT - \$3; Sears rotary mower, \$25. Ext. 3741.

SHOES - White imported clogs, new were \$16; worn once, sell for \$5; size 8. Ext. 3741.

OFFICE STUDY CENTER - Comb desk, file cab, etc. \$95. Ext. 4727.

BROWN SUEDE HANDBAG - Nice & roomy, used twice. \$10. 286-3742 eves & weekends.

10' TRIPLE PICTURE WINDOW - Compl s/s. 744-5553.

FREE - Puppies, Dachshund-Spaniel mix, 5 females, 3 males. Ext. 4612, 273-7183.

OFFICE MACHINES - Pitney Bowes scale & postage meter, Dejur-Grundig portable tape recorders & access. Ext. 3793.

ORLON YARN - All colors, will deliver to Lab or pick up at my home. \$2.50/lb. Ann, Ext. 3143, 732-9384 after 6.

BRUNSWICK BOWLING BALL - Black Beauty man's w/case, new, never drilled, 16#. \$25. Ann, Ext. 3143.

TRAILER - Single axle flat bed 6'x8', excel cond. \$100. 289-3427 after 6.

CHRISTMAS TREE - 7' spruce, excel cond. Cost \$50, yours for \$10. Ann, Ext. 3143.

SEARS PWR MOWER - Just overhauled, \$25; 1 pr blk bowling shoes, size 11, \$3; 1 pr beige bowling shoes, size 8, \$3. 473-2523 after 6.

NAME CALLER - Dials 38 numbers auto, w/transformer. Cost \$70, sell \$20. Saxon, Ext. 3435.

FREE - 6 wk old puppies, male & female to pick from. C. Nielson, Ext. 4280.

POOL - 16' round, 4' deep, sand filter, etc. \$100 takes all. 277-1284.

BOTTLE GAS RANGE - 40", 2 ovens, Caloric. \$75. 585-8322 after 5:30.

SLACKS - 30W30L, 29W29L, \$3; jackets, sport, sizes 12-20, \$4-5. A. Munsterman, 744-5871.

BUREAU - Birdseye maple w/mirror, antique. \$35. A. Munsterman, 744-5871.

ENGLISH SETTER PUPS - Pure bred, female, only 3 left. Dave, 289-8236.

21" ZENITH CONSOLE COLOR TV - \$75. Frank, Ext. 4688.

UPRIGHT CONSOLE PIANO - Kohler-Campbell, good cond. Ext. 2311, 589-5951.

PROFESSIONAL FOOTBALL SHOES - Size 10 1/2, excel cond. \$10. Ext. 3922.

CAROCHELLE DISHWASHER - Countertop, little use. Was \$29.95, asking \$15. Ext. 4144.

CABINET FOR SEARS SEWING MACHINE - Unused. \$25. Aggus, Ext. 4742, 744-2688.

REGISTERED BAY GELDING - 6 yr old quarter horse, mild mannered, w/w tack. \$675. R. Meyer, Ext. 4615, LT-5757.

SEARS PORTABLE DISHWASHER - Solid maple cutting board top, 6 cycles w/155° sani temp wash. \$80. 281-1422 after 6.

HIDE-A-BED - Chair, 2 desks, telephone chair, coffee table. Ext. 3741.

TV - RCA Victor 20", must sell very soon. \$20. Ext. 4178/3233.

STEAM IRON - Almost new, must sell very soon. \$4. Ext. 4178/3233.

RCA WHIRLPOOL REFRIG - 17 cu ft, coppertone, frostless, auto ice maker. \$100. Jerry, Ext. 3481, 744-8894.

GARRARD CHANGER AT6 - W/base & dust cover. Ron, Ext. 4652.

SAW BUCKS - Dbl & triple support, lap jointed legs. \$9/\$11 ea. Walt K., Ext. 4514, 12-1 pm only.

SURF ROD - 9' conventional type, \$12; reel, Penn Leveline 350, like new, w/35 lbs surfline, 15; both go for \$25. 744-2506.

PUMP WATER TANK - 40 gal glass lined. \$10. Frank, Ext. 4581.

GIRL'S BIKE - Ross 3 spd, banana seat, hand brakes, excel cond. \$35. Lou, Ext. 4687.

SOFA BED - Washable slipcover off white, good mattress. Asking \$40. L. Spaulding, 744-4297.

CONTENTS OF HOME FOR SALE - Glassware, furn, antiques, tools. HR2-0509.

FREE PUPS - German Shepherd & Retriever combo, born Aug 10. 475-1453 after 6:30.

60" DBL DRAIN WHITE SINK - New faucets & spray, good cond. \$15. 475-3063 after 5.

BINOCULARS - Jason Commander 10x50, 3 mo old, field of vision: 288' at 1000 yds, protective lense caps, carrying case. \$40. Bob, Ext. 3747, Ext. 3725 after 4.

MOVIE CAMERA - GAF colt zoom 94 & GAF 8 & super 8 mm movie projector w/auto thread; both/ \$50. Bob, Ext. 3747, Ext. 3725 after 4.

CLARINET - Perf tone, very good cond, ebonite. \$75. Ruppert, Ext. 3255.

OLD RADIO - Sell reasonably; elec h/w heater, GE 32 gal, \$20; old (78) phonograph records. O. Booker, Ext. 4719.

BOY'S BICYCLES - Raleigh chopper, 10 speed, like new, \$50; Schwinn, \$15; another, \$7.50. 289-1755

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

CENTER MORICHES - 3 bedrm cape, 2 baths, fam rm w/fireplace, dbl car garage, fenced & landscaped 1/2 acre, near water, low taxes. \$37,000. 878-2864.

MIDDLE ISLAND - 3 bedrm custom colonial, 2 baths, din rm, fam rm w/fireplace, 2.9 acres opp Spring Lake Golf Course, will hold mort, will split prop. \$70,000/\$55,000. Ext. 4278, 288-3535.

PATCHOGUE VILLAGE - Legal 2 fam, 4 1/2 up, w/w, 4 1/2 down, easily converted to 1 fam, excel cond. 289-3427.

HOLBROOK - Colonial, 8 rms, 4 bedrms, 1 1/2 baths, full bsmt, garage, fenced yard, s/s, all appliances incl air cond, Sachem schools, low taxes. \$40,000. 588-5537.

For Rent

E. PATCHOGUE - 3 bedrm ranch, lg bsmt, 0.9 acre treed lot, 2-car garage, avail 10/1 for 1 yr. 286-8521.

SHOREHAM - 3 bedrm ranch, avail 10/1. 744-5553.

PUERTO RICO - Shore-front penthouse, 1 hr from San Juan, 2 bedrms, 2 baths, sleeps 6, take advantage of off-season rates. Ext. 3482.

2 BEDRMS CONDOMINIUM - W/w, central air, all appliances, 5 min from Lab. Ext. 3541, 924-4070.

NEW 2 BEDRM APT - 5 min from Lab, all util. \$250/mo. D. Ierardi, 924-4250 after 4.

Wanted

WOODEN PLAYPEN - Also bicycle w/training wheels or some other conveyance for 4-yr old. 345-3193 after 6.

HOMES - For 3 kittens, mother blue point Siamese, father unknown, white, gray & blk kittens. JoAnna, 286-0315.

THE OLD LAWN MOWER - You are getting ready to throw in the dump - throw it my way. Dale, Ext. 2022, 281-8579.

HOME - For German Shepherd mix, excel watch dog, gentle w/children. Dot, 286-8909 after 5:30.

FOLDING SCREEN - To partition Sunday School classroom. 286-3518.

Classified Ad Policy

Deadline is 12 noon Monday for publication Friday of the same 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.

- Ads not carried because of space restrictions will be held for publication in the next issue.
- Ads are run only once and must be resubmitted if they are to be repeated.
- 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
 Services

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 111, 40 Brookhaven Avenue.

Employee's Signature..... Life No..... Ext.....

Send to: Brookhaven Bulletin, Building 460, 40 Brookhaven Avenue (Ext. 2345).