

Mini Tour No. 1

Seeing scientists at work in the Safety & Environmental Protection Division (S&EP) will be the highlight of the first tours of the Laboratory this season on Friday, May 6, for high school students and Saturday, May 7, for the general public. Each weekend, for the next six months, the focus will be on a different research area.

Next week, the mini tour of S&EP will include four work stations in the instrument development and repair shop. The public will observe technicians modifying a portable neutron counter, and repairing geiger counters, and carbon monoxide detectors. The emergency instrument kit used in the Radiological Assistance Program (RAP) will also be demonstrated. RAP is a nationwide network of trained personnel who are on call to assist in any emergency radiation incidents.

The groups will then move to the analytical services lab and will see how the atomic absorption spectrophotometer is used in the analysis of heavy metals in environmental samples, particularly in ground and surface water. They will also be shown part of a procedure involving the ion exchange separation of radioactive strontium. This is the same lab where local milk samples were analyzed for radioactive strontium after the Chinese nuclear tests.

The last stop at S&EP will be the counting room where numerous instruments, such as a gamma spectrometer, analyze environmental samples for radioactivity.

The complete tour will take about two-and-one half hours and, besides the look at working laboratories in S&EP, will include a showing of Brookhaven's Quest - a multimedia slide show, a guided bus tour of the site and a prolonged stop at the Exhibit Center. At the Center, visitors may take as much time as they wish to study demonstrations, exhibits and models which describe the research work of the Laboratory.

In keeping with Brookhaven's 1977 tour program, Fridays in May and June will be limited to visiting high school groups, grades 9-12 by appointment only. On Saturdays the public is invited.

The tours are scheduled between 10 a.m. and 4 p.m. but visitors should not arrive after 2:30 p.m. if they wish to participate in the complete program.

In July and August the tours will switch to Saturdays and Sundays and will be for the general public. In September and October, the present time table calls for the tours to revert to Fridays and Saturdays. There will be no tours on holiday weekends, i.e., May 27-28, July 2-3 and September 2-3.

For the benefit of employees' families and friends who may wish to visit the Laboratory on specific weekends, the *Bulletin* will announce the areas to be highlighted well in advance. The next scheduled mini tour will be of Central Shops on May 13 and 14.



Ed Beardsworth, Jim Powell and John Karkheck

Coming In Out Of The Cold

Relief for the energy crunch could leap forward if America would adopt district heating, argue a group of BNL scientists. The system draws on a source of "free" energy, discarded waste heat of industry.

Unlike other energy alternatives, district heating has already been tested and developed through widespread use in Europe over many years. Experience has shown that it is reliable and simple to operate.

More importantly, a recent study published in last month's *Science* magazine by John Karkheck, Jim Powell, and Ed Beardsworth heralds the way. Their analysis showed that district heating is the most economical choice for urban and suburban population clusters.

"District heating offers a way to dramatically reduce the consumption of scarce fossil fuels, like oil and gas," explains Powell. "In this country you can substitute waste heat from electric utilities, steel mills, processing plants, municipal refuse incinerators, low-grade geothermal energy, and a variety of other sources."

Space and water heating currently accounts for 19 percent of the total U.S. energy demand. Recent projections indicate that more than half of the population could be served by district heating with a capital investment of \$180 billion.

The Lab's experts on district heating feel that this investment could pay for itself in 14 years or less if imported crude oil prices rise. This estimate comes primarily from conservation figures on the national level. District heating could reduce foreign imports of crude oil by 55 percent (based on 1975 import levels).

Powell explains: "District heating can make the overall energy supply system more efficient. Usually less than 50 percent

of a fuel's energy is used for intended processes and the rest of the energy is then discarded as waste heat. Now you're using the discarded energy and don't have to tap another fuel supply. Not only do you use the fuel more efficiently, but in power and industrial plants you can use fuels that can't be used in homes. Specifically, these are fuels like coal and uranium, which the U.S. has in much more abundant reserves than oil and gas."

Karkheck, who was primarily responsible for the calculations, points out the economic impact of a partial conversion to district heating. He estimates a \$13 billion per year drop in foreign payments from the U.S., which is a strong incentive for the federal government to take a central role.

From the diverse array of waste heat sources available, nuclear power is the most attractive. It offers a 95 percent overall energy conversion efficiency for the dual mode production of electricity and hot water for district heating.

In fact, the district heating project grew out of the original efforts of Beardsworth in the Fusion Technology Group. The initial work was part of a series of studies on the use of fusion reactors.

"The initial work at BNL for district heating started with the statistics of today's potential market," said Beardsworth. "If we implemented district heating today, we want to know where and how it would be utilized with respect to population density and economics."

This was Brookhaven's prime contribution to the field of district heating... a realistic study based on utilization today, instead of in the model city of tomorrow.

(Continued on page 2)

The Garrison Diversion

The management of water, as well as of energy, has been an object of concern to the Carter Administration. The Garrison Diversion in North Dakota was among the water reclamation projects slated to be cut in President Carter's original list (it has since been partially restored).

Richard Madsen of the National Audubon Society will give an AUI sponsored lab-wide colloquium on the Garrison Diversion at Berkner Hall at 3:30 p.m., Thursday, May 5. Mr. Madsen is the Audubon official charged with watching and opposing the Garrison project. He will discuss the political and environmental aspects of the project, as well as how it interacts with neighboring Canada.

Mr. Madsen will be available for discussion after his lecture. Those interested in talking to him on this or other issues are invited to join him for supper at the Brookhaven Center.

Supper may be purchased at the Center and, weather permitting, will be eaten on the patio.

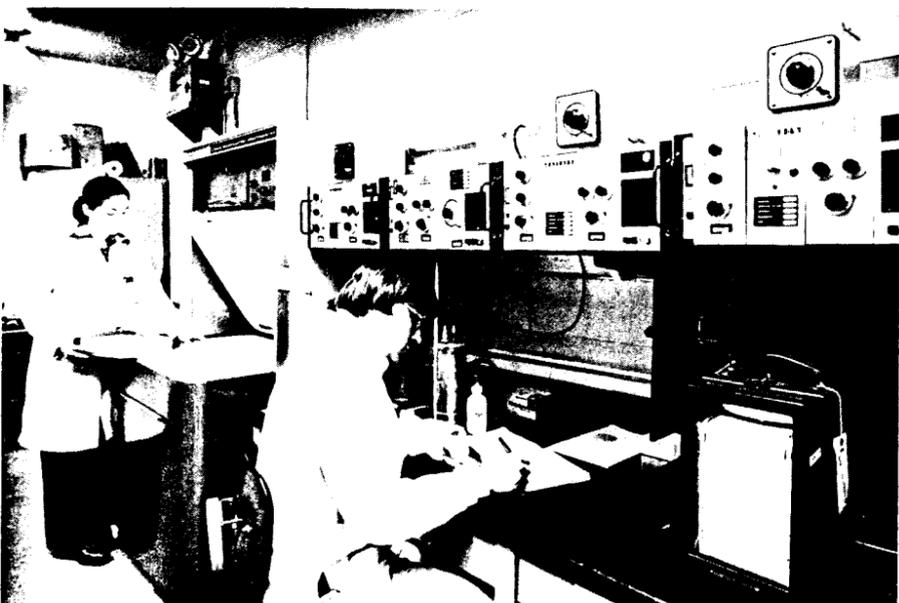
Coping With Disaster

A test to show people how to survive accidents within disasters will be telecast on NBC, Sunday May 1, 1977 from 8:00 - 9:30 p.m. "The National Disaster Survival Test" is particularly timely, according to National Safety Council president Vincent L. Tofany, because of the past severe winter and consequent threat of spring floods, expected earthquakes on the west coast, tornadoes and hurricanes predicted for the year, and the increasing threat of home fires.

The National Safety Council is cooperating in the production of the program which, along with the test, will include documentary films, dramatic re-enactments, interviews with survivors and other TV techniques. The Council is urging the public to participate in the test because, while most major disasters "just happen," they say accidents associated with disasters are often preventable if people just knew what to do.

At Brookhaven, the Safety & Environmental Protection Division has placed posters about the program in every building and has reproduced the official test form which is available with this issue at all *Bulletin* drops.

The first national home-audience participation test was the National Drivers Test in 1965 which was seen by over 70 million viewers.



Chemical analysts Linda Moreno, at the liquid scintillation spectrometer which is used for detecting and counting tritium and carbon 14 in liquids, and Al Wallner at an array of alpha counters used for detecting alpha radiation.

Sun System For Animal Quarters

Another practical project to save fuel at a Laboratory facility is on the drawing board at Plant Engineering. About September 1, construction is expected to start on a solar energy system for the Animal Quarantine facility which will provide 60 - 65% of the building's heating requirements.

The animal quarters were chosen for this project because there is a tremendous use of hot water in the care of the animals. The requirements are currently met by two electric hot water heaters, a propane-fired hot water heater and an oil-fired burner.

In brief, the solar system proposed to replace some of these units is a closed loop system with heat exchangers to charge a 5400-gallon solar storage tank, which will provide hot water for building services and for space heating. A panel of collectors will be mounted on structures located in the large field adjacent to the building. In addition, a small extension to the existing building will be erected to house the solar equipment.

Although greater insulation is generally one of the first steps to be taken in a solar energy project, it is not a factor in this case because of the unique requirements of the research building, where there is 100% outside air at all times to prevent any cross contamination among the animals.

The project represents a bit of a challenge, according to Bob Miles, project engineer, in that work must proceed without disturbing the animals, or the natural environment. It also tests the ingenuity of the planner in working with an existing building which was hardly designed with solar energy in mind. Miles, who is collaborating with a firm of New York consulting engineers on the demonstration project, says that they expect to learn a lot about this relatively new field.

This particular system is one of ERDA's Solar Design Projects and is funded at approximately \$150,000. If all goes as planned, it should be completed by the end of the year.

Energy Hot Line

Many people are now thinking seriously about making home improvements to save fuel, and are looking into solar energy for space heating and cooling. They want to know the efficiency ratings of appliances, the gas mileage ratings of autos and other energy saving tips. But where is the information available?

One source close at hand is the "energy hot line" manned by trained personnel at the New York Institute of Technology at Old Westbury. Under contract with ERDA, New York Tech has been answering the energy questions of homeowners, business persons and public officials since late last fall. The hot line number is (516) 686-7744 and energy information is available Monday through Friday from 10 a.m. to 4 p.m.

Questions that cannot be answered on the phone will be replied to by mail. The hot line also provides immediate access to the NYIT Energy Information Center and to the Energy Referral Service.

The hot line is one of the services maintained by New York Tech's Center for Energy Policy and Research which has been funded by ERDA to operate a regional energy advisory service.

Speakers Bureau May

May 4 - Harvey Thomas (Director's Office), Brooklyn Technical High School, on **Engineering as a Career**.

May 4 - Claire Shellabarger (Medical), United Nations Association, Mid-LI Chapter, on **Experimental Cancer Research at BNL and Around the World**.

May 7 - Harvey Thomas (Director's Office), SUNY at Farmingdale, on **Engineering as a Career**.

May 13 - Meyer Steinberg (DAS), West Hollow JHS in Melville, **Energy and Materials Development**.

May 19 - Gilbert Raynor (DAS), Newfield High School in Selden, on **Our Environment: Its Nature and Problems**.

May 23 - R.C. Anderson (Director's Office), Sudbury Wayland Lions Club in Sudbury, Massachusetts, on **Energy Choices for the Future**.

May 24 - Harvey Thomas (Director's Office), August Martin High School in Queens, on **Engineering as a Career**.

May 24 - Irvin Meyer (Chemistry), Dowling College Science Explorations '77, on **The Art of Glassblowing**.

May 24 - Robert Brown (DAS), Dowling College Science Explorations '77, on **Pollution 1999**.

May 24 - Meyer Steinberg (DAS), Dowling College Science Explorations '77, on **Energy and Materials Development**.

Theater Group

Under the direction of David Dew-Hughes, the program for the next Theater Group meeting on Friday, May 6 will be a hilarious evening of comedy. Selections from an old favorite, "Hay Fever" and the more recent "Hot L Baltimore" will be offered to members and guests in Stage Two. Meeting opens promptly at 8 p.m.

Arrivals & Departures

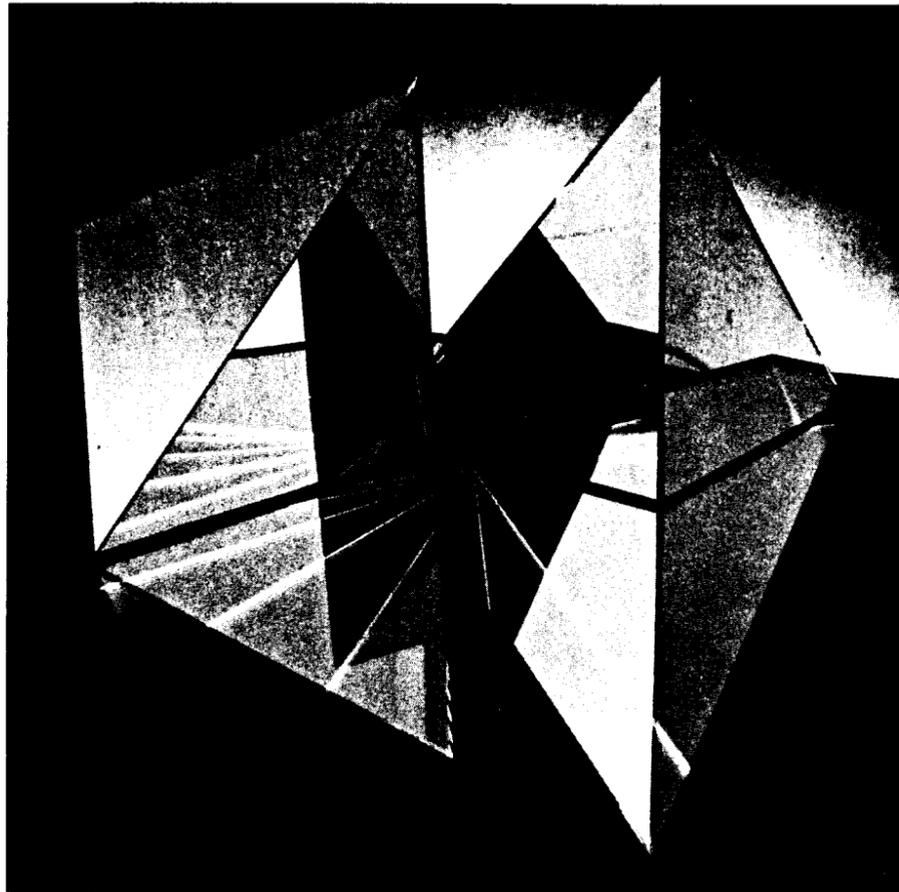
Arrivals

Hsiao-Chaun Hseuh Chemistry
Bonnie J. Biittner Applied Science
Anthony J. Catanese, Jr. Applied Math.
Christopher J. Cyran Accelerator
James L. Durham Ph. & Gr. Arts
Anthony J. Fabiano Central Shops
Dean C. McDonald Physics
Eugene F. O'Hara A.U.I.

Departures

Jong H. Kim Applied Science

Award Winner



With his picture of a Peter Nicholson sculpture, into which he introduced color and arrangement, Mort Rosen won the Court of Honor, the highest award that can be given to a professional photographer in New York. Out of a number of pictures selected for exhibition at the convention of the Professional Photographers Society of New York, Rosen's photograph was chosen for the highest honor. Because of its merit, it will be exhibited at the 86th International Exhibition of Professional Photography in Chicago this summer.

District Heating (Cont'd)

Planning district heating for the future city is the ideal, but doesn't answer the problems now existing.

"Nobody ever looked at the possibility of taking existing urban and suburban areas and laying in hot water pipes to service the heating needs of residences and commercial establishments already in place," said Powell. "That's a fundamental point, because the vast bulk of the U.S. population will continue to live in existing dwellings for many years to come.

Right now, district heating studies have been done by the Fusion Technology Group. But, recent developments indicate the government has "a growing interest" in this research, according to Karkheck, and future programs are being discussed.

"We're looking to get people involved in hardware," said Karkheck, "... putting pipes underneath streets, connecting waste heat sources, and delivering to consumers."

One of the next areas of investigation would consist of finding sites where a prototype district heating system can be applied with the fewest institutional barriers. Karkheck points to potential sites in Philadelphia and a town on Long Island.

"The key is to have a large number of consumers hooked up to one source. The optimum prototype system, to test out district heating in the United States, would service 20,000-100,000 people," explained Karkheck. — Cliff Cockerham

Cafeteria Menu

Week Ending May 6, 1977

Monday, May 2	
Corn Chowder	
Beef liver & 1 veg.	1.15
Scrambled eggs, sausages, fr. fr.	1.15
Hot deli - pastrami	
Tuesday, May 3	
Beef noodle soup	
Knackwurst & sauerkraut	1.10
Sauerbraten & potato pancake	1.35
Hot deli - veal pattie & peppers	
Wednesday, May 4	
Cream of potato soup	
Breast of lamb & 1 veg.	1.15
Hot deli - corned beef	
Davy Jones Fish Fry Special	
pie or ice cream, small beverage	
\$1.87 plus tax	
Thursday, May 5	
Chicken vegetable soup	
Cheese ravioli & 1 veg.	1.05
Roast chicken, stuffing, 1 veg.	1.15
Hot deli - Italian sausage & peppers	
Friday, May 6	
Fish chowder	
Spaghetti & clam sauce	1.05
Breaded pork chop & 1 veg.	1.35
Hot deli - smoked tongue	

Assertiveness Workshops For Family Members

In response to many requests, an assertiveness workshop series conducted by Francine Berger is being made available to BNL family members (husband, wife, children) on a fee basis. The series has been scheduled for Wednesday evenings, May 25, June 1 and June 8, from 7:30 to 9:30 p.m. in Berkner Hall. The charge for the full series is \$15.00 per person.

Participation will be limited to 25 people and enrollment will be made on a first come basis.

Enrollment forms are available at the Personnel Office, reception desk and must be completed by Friday, May 13. For information, call Janet Whitehead on Ext. 2872.

Retiring



George Tucker, a Refrigeration and Air Conditioning Engineer, retires today. He has been with Plant Engineering since March 11, 1968.

Cooking Exchange

Coming, on May 4, the Anything Day!! The Cooking Exchange has a whole meeting of things exotic, things different and things favored: New Zealand Pavlova, Sherried Beef, Stuffed Artichokes, Lemon Meringue Pie and More.

You can always go to the city next week, but can you come to another Cooking Exchange like this one? Remember - that's May 4 at 12:30 p.m. in the Recreation Center. See you all then!

On Car Rentals

Late in 1975 Brookhaven National Laboratory and Avis entered into an agreement providing Brookhaven National Laboratory with a 25% discount on car rentals. During the period of this agreement and because of it, our volume of business with Avis has increased. As a result, effective on May 1, 1977, Avis will allow Brookhaven National Laboratory a 30% discount on all rentals in which Avis pays for gasoline; a 10% discount on prediscounted dry rates, i.e., rates which require the customer to pay for gas; and 10% on almost all special rates.

The Travel Office will continue to make reservations for car rentals in accordance with SPI-4-02. However, an employee may obtain a car at these discounts from Avis computerized Wizard locations. The Brookhaven National Laboratory Identification Card and the Avis AID number are all that is required to obtain the discounts. AID number and stickers which may be affixed to your credit card are available in the Travel Office. It may be helpful to know that Brookhaven National Laboratory is listed as a "National Account" in the "Special Account Section" of the "Avis Counter Quick Reference Guide."

It is not necessary to be on official travel to obtain these discounts; they are available to Brookhaven National Laboratory employees for personal use. In the latter case:

Do not have charges billed to Accounts Payable at BNL as you may for official travel; use a personal charge card or cash.

Make your own decision concerning the Collision Damage Waiver. The fee for this coverage is *not* reimbursable for official travel, but may be a wise investment on a personal basis.

String Quartet

The Concord String Quartet will appear in Berkner Hall on Wednesday, May 4, at 8:30 p.m. The program will consist of the following:

Schubert -
String Quartet No. 9 in G Minor
Bartok -
String Quartet No. 4
Beethoven -
String Quartet No. 13, Opus 130
(including Grosse Fuge)

General Admission	\$4.00
Persons over 65 and students with ID	2.00
Under 18	1.00

Events At BNL

Monday, May 2
High Energy Physics Advisory Panel (2-3)
Tuesday, May 3
Symposium on Neutron Data from 10-40 MeV
Rotary Club Tour
Wednesday, May 4
4-H County Agents Tour
Concert
Thursday, May 5
Physics Visiting Committee
Workshop on High Temperature Solid Oxide Fuel Cells (5-6)
Friday, May 6
Tour for CERN Visitors
Staten Island College Tour

Monday, May 9
ERDA Biophysics Program Review (9-10)

Coronary Risk Clinic

The Suffolk Heart Association in cooperation with Central Suffolk Hospital and New Directions of Riverhead will hold a coronary risk screening clinic on Sunday, May 15 between 9 a.m. and 1 p.m. at Central Suffolk Hospital, Riverhead.

The clinic is open to men between the ages of 25 and 55, and women between 30 and 55, who have no known record of heart disease.

Appointments must be made before May 9 by phoning New Directions weekdays between 10 a.m. and 3 p.m. at 727-7103. A \$5 registration fee is requested to cover the laboratory costs.

BROOKHAVEN BULLETIN

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TUNE IN!

Question:

Because of the importance of quick assistance in the event of a heart attack, I would like to see a CPR course given on site. The objective being to have at least one or more trained people in each building to render assistance.

The course involves only a few hours and could be given on Laboratory time by trained Laboratory people.

Answer:

We appreciate your interest in CPR. A number of other people have also expressed an interest in this. In general, we feel that a high degree of protection has been provided to all employees by the institution of Emergency Medical Assistance by the BNL Fire Group. Each shift has a New York State certified Emergency Medical Technician (EMT) on duty who is available within minutes anywhere on site. This appears preferable to dependence on departmental personnel, who may be unavailable at the critical time (on vacation, sick, at the bank, etc.).

—C. Meinhold

Sports News

Mountain Club

The Mountain Club will hold its next meeting on Friday, May 6, at 7:30 p.m. in the Brookhaven Center. Plans for the upcoming canoe trip and ideas for new trips will be discussed. Refreshments will be served.

Bicycling

The Beginner's Tour scheduled for April 24 was cancelled by rain. No rain date was set because this Sunday, May 1, is the second part of the tour sponsored by the Riverhead Preservation and Landmarks Society.

The historical part of the tour starts at 2:30 p.m. at the intersection of Sound Ave. and Doctors Path, and is a few miles long. For the cycling enthusiasts, however, a group will leave from Berkner parking lot at 12:00 noon. A donation of \$1.00 is asked by the RP&L Society.

Don't fail to register for the TOES before May 1. Fees, including lodging, dinner and breakfast total \$14.00. Registration and sag wagon fee of \$1.50 is included, but add \$1.50 if you register after May 1.

The final event this spring is the BNL 17.5 mile race June 5. Start your training now - the tours will help.

For additional information contact Gerry Morgan, Ext. 4141, Bldg. 815.

Bowling

Red League

While the Old Timers & Sandbaggers were battling it out, the 76'ers took 11 and jumped into first place. J. Dioguardo led the sweep with a 211 (602 scratch) for a club award. He also missed 678 by one pin. J. Connelly helped out with a 200. The Old Timers bowled well and took 8 points from the Sandbaggers leaving them ½ point out of first. W. Reams threw a 203 game, J. Roesler another 203, and R. Adams had a 201. The Bubble Boys had high wood for the night (3020) and took 8 from the Anachems. J. Sauls had a good night with a 200 game and 683 gross pins for a club award. For the Anachems, T. Prach had a 202 and R. Wilson shot a 200. The Designers took 8 with E. Sperry bowling a 210. The Cosmos bowled well and came away with 8 points. In the postponement make up the Cosmos lost all 11 to the Anachems. The Freon Loaders could only muster 3 men but they managed 3 points.



The Composed Majestics - singers and acrobatic dancers who will perform at the BERA-sponsored show at Berkner Hall on May 14.

Direct From The Savoy Manor Ballroom

An out-of-the-ordinary show is coming to Brookhaven. Starting at 9 p.m. on Saturday, May 14, in Berkner Hall, "The Ann Prince Showcase of Future Stars" from New York, will be presented by the Brothers of BNL and sponsored by BERA.

The show-stoppers have all appeared at the Savoy Manor Ballroom in Harlem, where many a young entertainer breaks in to show business. Singers, dancers, a fashion show and the eight-piece City Function Band are on the bill for the evening's entertainment.

As a special added attraction, at the start of the program, Melody Howard (Phys. Rev.), Donna Mason (Reactor) and Carolyn Smith (App. Math.) will compete for the Ms. Savoy title. They were selected in the semi-finals at the Rec Hall on April 16 by judges Olga Vario, Ronnie Rau and Harvey Thomas.

Because the capacity of the Rec Hall is limited and a number of people were disappointed that they were unable to see the

semifinals, the committee has decided to have all the contestants perform the night of May 14. The others who will appear are Sandra Saunders (S&EP), Donna White (DAS), and Sharon Daniels (C&P).

The gala night will not end with the stage show. An After Theater Buffet will be served and a cash bar will be open.

Ticket prices are attractive. For the show only, admission is \$5 per person. For the show and buffet, the charge is \$10 per person. So get your tickets now from any one of the following:

Helen Keeley	Accelerator (911A)
Louise Akins	Applied Math (515)
Ruth Wright	Biology (463)
Mary German	Chemistry (555B)
Frances Scheffel	DAS (197)
Grace Searles	DAS (703)
Janet Sillas	Director's (460)
Jackie Larrie	Medical (490)
Margaret Fleming	Physics (510A)
Lynn Kalbach	Safety & Envir. Prot. (535)
Grace Fales	Supply & Materiel (211)
Audrey Blake	Tech. Information (477A)

writing the article for that night.

Position night is coming up and the battle for first place in the second half will be between the Power Meds and the Quiet Ones. A big question mark in the match is the effect Handsome Budd will have on the ladies! High games for 4/19 were Dick Skelton 209, Pat Lebitski 165. High gross pots were won by Bill Sells 239 and Pat Lebitski 214.

The Sweeps and buffet for the Black & Blue League will be Wednesday, May 4. All league bowlers and substitutes are eligible and welcome. May 11 will be the roll-offs between first and second half winners. The BNL Championship will be decided on Saturday, May 14, 2 p.m. at the Port Jeff Bowl.

Tournament Winners

It was a fun filled afternoon of bowling for all at the Scotch Doubles Tournament held last Saturday at the Port Jeff Bowl. Congratulations to the following winners:

1st Place	- Kay Conkling & John Ferrero
2nd Place	- Sharon Smith & Harvey Goldman
3rd Place	- Rosemary Mack & Edwin Taylor
4th Place	- Gloria & Robert Brown
5th Place	- Irene Rosati & Norm Schechter
6th Place	- Marie Brenner & Bob Jones
7th Place	- Alice Alberico & Frank Coppola
8th Place	- Mary Grace & Ed Meier
9th Place	- Marge Stoekel & Walt Reams
10th Place	- Irene & Ed Sperry

Pool Schedule

The swimming pool summer season will begin on Sunday, May 1 and extend through Wednesday, August 31. Season tickets are now on sale at the pool, priced at \$10 for individual, and \$20 for family membership.

Pool Hours (until further notice)

Monday through Friday:

11:30 a.m. to 1:30 p.m.	employees only
5:00 p.m. to 9:30 p.m.	employees/families/guests

Saturday and Sunday

1:00 p.m. to 6:00 p.m.	employees/families/guests
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Daily Admissions:

75¢ - employee/family member; \$1.00 - guest

Guest Ruling

Only one guest per adult BERA member may be admitted to the pool at any one time without prior arrangements. Adult BERA members may bring more than one but not more than five guests at any one time by making advance arrangements with the Recreation Representative in the Personnel Office.

Soccer

Stony Brook still sets the pace in the league with the Med-Bio-Chem team still hoping for first place. Stony Brook beat DAS 4-0 and Med-Bio-Chem beat Physics 2-0. AGS was eliminated from the race by Port Jeff 4-0. The final league games are tonight with AGS facing Med-Bio-Chem and Physics meeting Stony Brook. A tie for first place is still possible and a playoff will be held on May 6 at 6:00 p.m., if necessary.

Outdoor pick-up games will be held on Monday evenings at 5:30 p.m. starting on May 2 in preparation for Brookhaven Town League play beginning at the end of June.

League Standing (incl. 4/22)

	W	L	T	Pts
Stony Brook	8	4	2	18
Med-Bio-Chem	7	4	3	17
AGS	6	6	2	14
Physics	5	7	2	12
Port Jeff	5	7	2	12
DAS	3	8	3	9

Rifle & Pistol Club

The Round Robin match went into full swing during the month of April. The first match took place on April 12 and the second on April 19.

There are four classes of shooters consisting of: Marksman - 100 to 239, Sharpshooter - 240 to 254, Expert - 255 to 271 and Master - 272-300.

Beginners' instructions are ably handled by club member, John Mazzeo.

The next two matches will be held on May 3 and May 24, weather permitting. If it should rain on a match night, it will be postponed to the following Tuesday. Those on shift may make up matches.

Runners' Corner

Boston Marathon

Two BNL'ers, Ted Landry and Gus Prince, competed in the recent Boston Marathon. Ted turned in an impressive 2:50 time and Gus Prince bettered his time last year by 13 minutes finishing with 3:15.

This was the largest Boston Marathon ever with close to 3000 starters and more than one million people on the side lines.

At "Heartbreak Hill" the ever present Steve Amoretty and Bill Kropp paced a limping Gus Prince the last five miles, telling jokes designed to ease the pain.

BNL-Rocky Point Meet

This meet has developed into a three-team meet with the inclusion of the Rocky Point High School cross country team. This addition diminishes BNL's chances for victory since the high school kids are not only faster (on the average) at this short distance (3 miles) but are also more familiar with the course. All BERA members are eligible for this run. Starting time is 9 a.m., Sunday, April 30 at the Rocky Point High School.

BNL Marathon Race

Another reminder concerning the BNL 5, 10 and 20 km run to be held on Sunday, May 15, at 10 a.m. here at the Lab. Further details will be in the next issue of the Bulletin.

Classified Advertisements

Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position, with consideration given to candidates in the following order of priority: (1) present employees within the department, with preference to those within the immediate work group; (2) present employees within the Laboratory as a whole; and (3) outside applicants.

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all nonscientific staff positions; second, to give employees an opportunity to request consideration for themselves through Personnel; and, finally, for general recruiting purposes. Because of the priority preference policy stated above, each listing does not necessarily represent an opportunity for all candidates. As a guide to readers, the listings are grouped according to the anticipated area of recruitment, as indicated below. Except when operational needs require otherwise, positions will remain open for one week following publication date.

For further information regarding a placement listing, contact the Personnel Placement Supervisor, Ext. 2874 or 2882.

LABORATORY RECRUITMENT: Opportunity for present Laboratory employees.

157. OFFICE SERVICES ASSISTANT - Competence with Redactron word processing equipment required. Photography & Graphic Arts Division.

158. OFFICE SERVICES ASSISTANT - Knowledge of employment office routine required. Personnel Div.

159. MACHINE MAINTENANCE MECHANIC B - Central Shops.

160. LAUNDRY OPERATOR A - Temporary - two positions. Plant Engineering Division.

161. MATERIAL HANDLERS - Temporary - six positions. Supply & Materiel Division.

162. MESSENGER - Temporary. Staff Services Div.

163. LABORER - Temporary - six positions. Plant Engineering Division.

164. RESIDENCE CUSTODIANS - Temporary - four positions. Staff Services Division.

OPEN RECRUITMENT: Opportunity for present Laboratory employees and outside applicants.

165. DEVELOPMENT ENGINEER - BSEE or equivalent with competence in design and fabrication of analog & digital circuits for instrumentation & control of large high voltage particle accelerator beam transport devices. Accelerator Department.

166. TECHNICIAN - AAS or equivalent in electronics with competence in construction, testing & troubleshooting of pulse & analog circuits. Familiarity with high voltage & high power DC power supplies desirable. Accelerator Department.

167. TECHNICIAN - Temporary position. Photography & Graphic Arts Division.

168. TECHNICIAN - Competence in the fabrication of thin film targets. Chemistry and vacuum technology knowledge is desirable. Part-time position. Physics Department.

169. MASTER WELDER - Two positions. Central Shops Division.

170. EXPERIMENTAL MACHINIST - Two positions. Central Shops Division.

171. OFFICE SERVICES ASSISTANT - Experience in payroll processing desirable. Temporary position. Fiscal Division.

Autos & Auto Supplies

75 SUZUKI - 550, excel cond. \$1250. Bob, Ext. 3313.

75 PLYMOUTH DUSTER - At/ps, am/fm, w/w tires, rear defogger, 21,000 mi. \$2450. Joe Dispart, Ext. 3284, 281-8943.

72 OLDS 98 - Fully loaded. \$1500. 979-0635 after 5.

68 PONTIAC - Sta wag, ps/pb/ac/at, needs work. Dick, 698-2713.

TRANSMISSION - From 68 Valiant, good cond. \$50. Ext. 4688, 924-8213 after 5.

71 TRIUMPH BONNEVILLE 650 CC - Low mi, immaculate. \$1200. 878-4614.

72 DATSUN - B110 coupe, new tires, brakes, clean. \$1100. 878-4614.

74 JEEP - 3/4 ton pickup, V8, auto, ps/pb, am/fm, 2 sets tires, cap, low mi, clean. \$3900. 286-3356.

72 AMC AMBASSADOR - 4 dr sedan, V8, auto, ac/pb/ps, radio, 78,000 mi, excel cond. \$1200. Poletti, Ext. 4581, 345-3103 eves.

67 FORD LTD - Ps/am, tape, ac, new snows, good cond. \$350. Winter, Ext. 3354, 924-4208.

70 VISTA - Cruisawagon, 53,000 mi, ac, 9 pass, rebt trans, under warranty. \$1450. Rich, Ext. 2495, 928-4527.

69 KAWASAKI - 350 cc, recently rebt by Campus Motors. \$450. Dick, Ext. 3273.

67 CORVETTE - 327 factory, side pipes, winter & summer tops, 4 new tires, very good cond. \$3600. 473-6333.

71 FIAT - Eng runs but body needs work, interior good, fix yourself or use for parts. \$75. Ext. 3755, 261-2719.

65 MOTORCYCLE - Allstate (Puch), good 250 cc eng, needs clutch work & new tire. \$75 or best offer. J. Olson, Ext. 3382, 289-8629.

70 MAVERICK - 6 cyl std, 77,000 mi, new exhaust & brakes, good trans. \$500. 289-7382.

66 BUICK SPORTSWAGON - Fully equipped, ac/ps/pb, radio, excel cond. \$450. 588-4311.

SNOW TIRE - 650-13, w/out rim. \$12. Ext. 3609.

SNOW TIRES - 735-15, pair, like new, \$35; nap on tool box, large, like new, \$100. 589-9103.

76 SPRITE FIREBIRD - 350, bronze/tan, ac/at/pw/pb/ps, radials. 16,500 mi. \$4250. 584-5307.

13" RIM - 4-hole, \$3. Ext. 4784, 744-6767.

74 VEGA HATCHBACK - Auto trans, am/fm, ac, 21,000 mi. \$1800. Fusao, Ext. 4382.

68 PONTIAC - 75,000 mi, eng needs work, best offer. Ext. 3541.

68 VW FASTBACK - Radial tires, recently rebt eng. \$350. Arnold, Ext. 4043, 929-4526.

70 CHRYSLER - 2 dr, ps/pw/ps/pb, excel cond in & out, very good tires & snows. Ext. 3319, 751-7140.

66 VW SQUAREBACK - Dealer rebt, good tires, excel cond. Ext. 3319, 751-7140.

63 OLDS SUPER 88 - Holiday, 4 dr hdtp, orig owner, garaged, new paint, tires, muffler system. \$500. 475-8330.

73 VEGA HATCHBACK - Auto, good running, green, \$700 or best offer. Saxon, 929-4701.

VW PARTS - 12V starter, \$5; 12V generator, \$5; 12V regulator, \$3; Solex carb, \$4; backup lights, \$5; other misc. Sanchez, Ext. 4489.

68 VW - Good cond, new rebt eng, new radials, bushings, pins, gen, reg, 2 spare rims, seat cover, needs minor work. \$550. Sanchez, Ext. 4489.

74 PONTIAC VENTURA - Excel cond. Ext. 4715, 941-4820.

76 DODGE RAM CHARGER - 4x4, auto, ps/pb/ac, plow beach tires. \$5900. 744-3709.

STEEL RADIAL TIRE - JR70-15 on Ford rim, excel cond. \$20. Sue Norton, Ext. 2907, 475-5834 after 5.

68 CHEVY IMPALA - Convertible, blue, ps/pb, new muffler, battery & snows. Ext. 2874, 281-2004 after 5:30.

Boats & Marine Supplies

17' THOMPSON - \$40. For information call Ext. 2935 or 473-8995.

15' GLASPAR - 1972, sport runabout, 50 hp, Merc, accessories & skis, immac. \$850. 878-0814, 727-5827.

16' OUTBOARD SEA SKIFF - W/40 hp, elec & trailer, extras. \$525. 581-0932.

23' VENTURE CUTTER - 1975, fiberglass, Merc, outboard, sleeps 5, galley, trailer, complete. \$4850. George, Ext. 4592, 473-9139.

15' ELTRO - W/40 hp Evinrude & trailer, good cond. \$400. 979-0635 after 5.

COMPASS - Danforth, Corsair, bracket mount. \$25. Ext. 4767, 363-6985.

18' THOMPSON - In/outboard, 4 cyl, Chevy 120 hp, Cox tandem trailer w/elec winch, excel cond. 727-5912.

15' CENTURY WOOD BOAT - 25 hp Elgin elec start, trailer, ideal bay runabout, excel cond. \$400. 928-2803 after 6.

19' THOMPSON - Cuddy cabin, twin 40 hp Evinrudes, extras, needs some work, good family boat. \$600. 653-4647.

17' MFG RUNABOUT - 60 hp Johnson, elec start, tilt trailer & bilge pump. \$950. Ext. 2876, 878-1895.

17' BOAT - Clamming or fishing, trailer, brand new, extras. \$1200. 286-8582 after 5.

23' VENTURE CUTTER - 1975, fiberglass, Merc ob, sleeps 5, galley, trailer, complete. \$4850. George, Ext. 4592, 473-9139.

HOBIE 16 - 4 yr old w/excel racing record. Campbell, Ext. 4168.

15' SAILBOAT - Fiberglass over wood, cuddy roller furling jib, center board, good cond. \$495. 286-0315 after 4.

WINDMILL - High perf 16' sail dinghy, 2 suits sails, trailer. Campbell, Ext. 4168.

20' FIBERGLASS - Deep vee, runabout, i/o, 165 hp interceptor, fw, 2 bunks, fighting chairs, valve job 1976. 286-0237 after 6.

17' THOMPSON - 65 hp Merc & tilt trailer, beautiful cond, new canvas tops & many extras. Asking \$1500. 728-0338.

DEPTH FINDER - Dual range, 0-60, 0-120. \$75. John, Ext. 3354.

OPTIMUS PRAM - 8' plywood dinghy w/sail & oars. \$125. Glenn Price, Ext. 3336, 472-1419.

15' FIBERGLASS DORY - Good fishing boat, no motor. \$100. 734-5061 after 6.

18' MFG - 1975 galv trailer, 35 Johnson, new canopy top, extinguisher, oars, etc, immaculate. \$1300. 744-4086.

18' LYMAN SKIFF - 4 cyl gray marine eng, seats 8, winter cover, excel on gas. \$700. Tom, 325-1524.

38' HUBERT JOHNSON - Sportfisherman, fb, fwc, 100 hrs, dbl planked, needs paint. Sacrifice \$3300. 654-0875 after 6.

Miscellaneous

19" B&W TV - Admiral, portable, \$80; Christmas tree, \$15; 2 lawn chairs, \$8 ea; clock, \$5; steam iron, \$5. Marion, 345-3187.

26" ATTIC FAN - W/vent. \$75. Gail, 3653, 878-4664.

MINOLTA SLR CAMERA - 1.7 lens & case, 85-210 zoom lens & compartment case. \$225. 475-9395.

YARD SALE - Sat & Sun, Apr 30 - May 1, tools, hand & power, household, 10-4, Cedar Rd, Wildwood Hills, Wading River.

GARAGE SALE - Sat, Apr 30 & Sun, May 1, 10-3, wood grain table & chairs, misc furn, appliances, toys, books, curtains, lots of etc, 25 Strongs Neck Rd, Setauket. Lynn, Ext. 4218.

TRUMPET & CASE - Like new, Howie Bell, 732-1097.

FLATWARE - Mediterranean stainless steel, serves 12 incl 7 serving pieces & 12 tall drink spoons, unused. Nancy, Ext. 3366, 475-3816 after 5.

WOOD LATHE - Walker turner, 10" swing over gap bed, 28" between centers, face plate, centers, etc. \$95. Carl, Ext. 3507.

TAPE DECK - 8 track, Longines, used 1 yr. \$30; 18 cassette tapes, \$15. 281-7763.

LG DOG HOUSE - Approx 4x6x5, shingled sides & roof. \$55. 473-9180 after 1:30.

BAR - 2 stools & tea cart, all matching, wood, wicker & wrought iron. \$75 firm. 473-9180 after 1:30.

POOL FILTER - 1/2 hp, sand, used for 28' pool. \$35. Ext. 2309.

TENT TRAILER - 1970 Krown hdtp tent trailer, stove, heater, toilet, 12 V/110 V, 8x10 awning, plastic windows, fully equipped. 363-6940.

SCOTT SPREADER - Model 75, 24", good cond. \$7. Ext. 4701, 281-2877.

WESTERN SADDLE - Very good cond, extra incl. 286-0443.

COX CAMPER - 1972, heater, ice box, stove, sink, sleeps 6. \$700. W. Lundgren, Ext. 3800, 585-3794.

LAWNMOWER - Sunbeam elec, excel cond, used 1 season. \$45. 286-1775 after 3.

LAWN MOWER - Eclipse, 20" reel type, self-propelled. \$50. 653-5989.

GIRL SCOUT UNIFORM - Size 8, used, \$2; cadette jumper, used twice, size 10, \$8. Joan, 744-9423.

ROOM DIVIDER - Fischer stereo am/fm, phono & cabinets, all in 1 unit, 5'x3'x3' custom made distressed oak w/formica top insert, 6 cabinets, beautiful cond, cost \$1700, asking \$750. Howard, Ext. 3179.

CHILDREN'S FURN - Table chair set, \$4.50; crib & mattress, \$12; brand new car seat, \$9; rocking chair, \$1.50; upright vacuum, \$5. Ext. 3566, 744-6767 eves.

RIDE ON MOWER - Sentry 25" 5 hp Briggs & Stratton eng. \$150. Tom, 325-1524.

GRASS EDGER - Trimmer & trencher, elec, Sears best. \$20. Dee, Ext. 3675, 286-8909 after 5:30.

COLLECTOR RECORDS - For 40's buffs, orig recordings by Ink Spots, Peggy Lee, Crosby, others, 2 albums of 17 singles. \$20. 286-1688.

TV - Bradford console, 24" b&w, blt-in antenna, works well. \$30. Cookie, 286-1688.

FIREWOOD - For fireplace or wood burning stove, over 1 cord. \$45. 475-4394.

35 MM SLIDE PROJECTOR - Revere, non-automatic, excel cond. \$30. C. Nauman, Ext. 3412, 286-3764 eves.

GIBSON GUITAR - 56 Les Paul Jr, all orig, very good shape. Asking \$350. Ed, 727-3608.

PING PONG TABLE - \$12; rocking chair, B&W set, bunk beds, dining rm table, other. 286-8305 eves.

BICYCLES - 20", 2 girls, 2 boys, excel cond. \$15 each or best offer. 744-9596.

STEREO - Am/fm 4 channel Pioneer, QX 646, brand new, in box w/guarantee. \$325. 744-2725.

TRAILER HITCH - Fit most all Ford & Merc models. \$12. Ext. 3593.

GOLF CLUBS - Wilson, complete set of irons, bag & cart, excel cond. \$75. 744-2725.

COT - Folding metal, \$5; white baby's crib, \$5; infant's dressing table, \$10. 744-6362.

KEROSENE SPACE HEATER - \$25; elec water heater, \$20; bobsled, \$10. 744-6362.

TAPE RECORDER - Concertone stereo, playback, 6 heads, reveromatic, sound on sound, excel cond. \$200. Ext. 4701, 281-2877.

INTERCOM - 2-way, hardly used. \$30. Leslie, Ext. 4148, 473-4938.

SPREADER - Cyclone seed & fertilizer, like new. \$10. Bob, Ext. 3080.

TRAVEL TRAILER - 70 holiday rambler, 31', many extras, excel cond. \$6500. 472-0086 after 4.

GAS KILN - High firing, 7.5 cu ft, incl shelves & furn, \$300, must sell. 878-1958.

YARD SALE - Whole household must go. Saturday, Apr 30, 10-4. 21 Academy La, Bellport.

YARD SALE - Apr 30, 10-4, rain date, May 2, household items, aircraft sheet metal, tools, etc. 14 Maple St, Blue Point. 363-6341.

CHILD'S TABLE - W/2 capt's chairs. \$10. 744-3744.

RIDE ON MOWER - Sentry, 5 hp Briggs eng, excel running cond. \$100. Tom, 325-1524.

24" COLOR TV - Magnavox, am/fm stereo, radio & turntable, Mediterranean cabinet, excel cond. \$300. 281-6551, 281-5535.

STUDENT DESK - Wall hung. \$25. Ext. 2041.

COCKTAIL TABLE - W/2 matching end tables, used less than 6 months. \$45. 286-8517 after 5:30.

LAWNMOWER - Jacobsen, works ok but needs ring job. \$10. Ext. 3623, 286-0428.

GARBAGE DISPOSAL - Kitchenaid, deluxe model, used 4 yrs, good for repair parts. \$10 or best offer. Ext. 3623, 286-0428.

YARD SALE - 3 families, April 30 & May 1, tools, motors, lawn mowers, bikes, furn, many other items. Woodville Rd, Middle Island. H. Rhodus, Ext. 3284, 924-3522.

75 COX CAMPER - Excel cond. \$900 firm. 727-1617.

Ads left out of this issue because of lack of space need not be re-submitted in order to run in next week's issue.

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

ROCKY POINT - Briar wood terrace ranch, 4 bedrm, 2 bath, fin basement w/bar, cent ac, patio, in-ground pool. \$65,000. 744-2626.

MEDFORD PINES - Mother/daughter, priv entrances, 4 bedrms, 2 baths, 7 appl. \$5000 over mortgage. David, 924-7516.

MOBILE HOME - 12x50, 2 bedrms, carpeted, unfurn, awning, skirting, excel cond, Peconic River Park. Ext. 4550, 727-1464 after 6.

N SHIRLEY - 2 bedrm ranch, fp, paneling, oil hot water heat, treed 1/2 acre w/fence, 5 min to Lab. Ext. 2970, 399-0836 after 5:30.

BELLPORT VILLAGE - 6 rm house, walk to village, stores, ferry to beach, 1 1/2 baths, 12 min to Lab. \$39,999. 286-8945, 286-1097.

WADING RIVER - 3-4 bedrm cape, 3/4 treed acre, landscaped, fp, w/w carpet, full bsmt w/patio doors. \$54,000. 929-8313 after 5:30.

STONY BROOK - 4 bedrm colonial, encl patio w/sun roof, 2 1/2 baths, 1/2 acre w/trees, quiet court. \$58,000. Walk to Univ. Ext. 3864.

BELLPORT - 3 bedrm ranch, 2 yrs old, 1/2 acre, landscaped & partly wooded, full bsmt, 5 appl, assumable mortgage. \$32,000. 286-1440 eves.

ROCKY POINT - 4 bedrm colonial, 2 1/2 baths, fp, finished bsmt, cent ac, 2-car garage, wooded, assumable mortgage. \$46,500. Ext. 4362, 744-7667.

WADING RIVER - 3 bedrm, 2 bath, all appl, fp, landscaped 3/4 acre, water view, walk to beach. \$64,000. Carolyn, Ext. 2446, 929-6172.

BELLPORT - Must sell 3 bedrm, 2 story colonial style, cedar shakes, wooded lot, fp, 1 1/2 baths, 2 yrs old. \$38,000. 286-2247 after 6.

STONY BROOK - Prestig S-section, colonial, 3 bedrms, 2 1/2 baths, w/w, slate foyer, garage, must see. \$52,000. 751-5479.

For Rent

CENTER MORICHES - 3 rm house, secluded. \$200/mo incl elec. 878-2743.

FURN RM - Port Jeff Sta, \$25/wk. 929-6179.

STRATHMORE EAST - Furn house, June 1 - July 15, 3 bedrm, \$350/mo incl util. Ext. 3791, 928-5124 after 6.

VERMONT VACATION - Reasonable. 732-6499 after 6.

NEAR CERN - 3 bedrm furn apt in France, nr schools, shops, view of Alps, avail Aug 1, approx \$320/mo. Ext. 3944.

VT CHALET - Week, month & season rates. 757-5599 after 4.

PATCHOGUE - Studio apt in priv house, facing garden, priv entrance, cent ac & util incl. \$200/mo, walking distance to RR. Ext. 4786.

APT - 1-2 yr lease, 1 bedrm, fp, carp, dishwasher, tennis, pool, golf at country club. 878-4794, 286-3333.

Wanted

RECOMMENDATIONS - For a square dance caller. Linda Miller, 878-4878.

HOUSE - Ranch or Dutch colonial, 3-4 bedrms, small lot ok, \$32,000-\$34,000. Sanchez, Ext. 4489, 698-3145.

HOMES - For black lab/german shepherd mix puppies, some black, some spotted, free. Charlie, Ext. 4758.

AUTO LITERATURE - Books, literature, manuals or any other material related to autos older than 1960, guaranteed not for resale. Harold Sauter, Ext. 3783.

2 RIMS - For VW bug, 15", 4-hole. Bhatt, Ext.