BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

Catalysts In Your Future

"Catalysts make the world go around," says Richard Sapienza. "From the clothing you wear, to the shampoo that goes into your hair, to the polish for your shoes ... point to anything, and I can tell you where catalysts were involved in some aspect of its manufacture."

Sapienza's colleague William Slegeir backs up the statement with numbers. In the U.S. over 250 billion pounds of chemicals are produced each year, which breaks down to about two tons of chemicals per family per year. Ninety percent of these chemicals, by value, is catalysis derived.

Chemists Sapienza and Slegeir, with Robert Smol providing laboratory expertise, are the core group doing catalysis work in DEE's Energy Technology Division. They develop new catalysts.

Carbon Monoxide

The group's research strategy centers around the belief that as an alternative to petroleum, carbon monoxide is the resource of the future. Easily produced on a commercial scale from many different domestic sources of carbon, carbon monoxide can be the basic building block for fuels and chemicals. With the proper catalysts, it can be converted to virtually anything, from methane to margarine.

Sapienza and Slegeir use a basic mix of carbon monoxide and hydrogen, called synthesis gas, to which they add different catalysts. Their research is aimed at developing catalysts for the production of chemicals and transportation fuels.

Chemicals

Consider again the quantity of chemicals used each year in the U.S. Although the bulk of these chemicals are catalysis derived from petroleum, new catalysts interacting with synthesis gas can produce the same commodities with more readily available domestic raw materials.

A good example is the work the group is doing on polyethylene, a common plastic of the squeeze bottle variety. Polyethylene is made from petroleum-derived ethylene, which consumes the equivalent of eight percent of U.S. petroleum imports. Alternatively, polyethylene can also be made from any carbon source in the form of synthesis gas. The big obstacle to that, says Slegeir, is cost, since the catalysts used in the synthesis gas reaction are ruthenium-based, and ruthenium is even more rare than gold. He and Sapienza, however, have developed new catalysts, based on a common metal, that might make the synthesis gas route to polyethylene economically feasible.

Another common chemical is ammonia, the largest volume chemical derived from petroleum. Important to the fertilizer, polymer and plastics industries, ammonia is made of nitrogen and hydrogen. Hydrogen is the focus of the group's work in this area, and they have designed improved catalysts for hydrogen production from synthesis gas.

Perhaps the most promising commodity is methanol, a clean and multi-purpose chemical. Already, it is a key in the synthesis of esters, formaldehyde, acetic acid, higher alcohols and MTBE, an additive to increase octane in gasoline. Future uses will be in the production of gasoline, light olefins, glycols, vinyl acetate and polymers.

Doug Humphrey

Robert Smol readies slurry reactor for catalysis run.

Methanol is now made from synthesis gas in reactions that are only effective at high temperatures and pressures. The result is low productivity. Sapienza and Slegeir are developing new catalysts that work at low temperature and low pressure and have high activity. These new catalysts can result in more economical production of methanol.

Transportation Fuels

Methanol is also a potential fuel because of its clean burning qualities, say Sapienza and Slegeir. They add that a recent process has been developed to convert methanol into high octane gasoline.

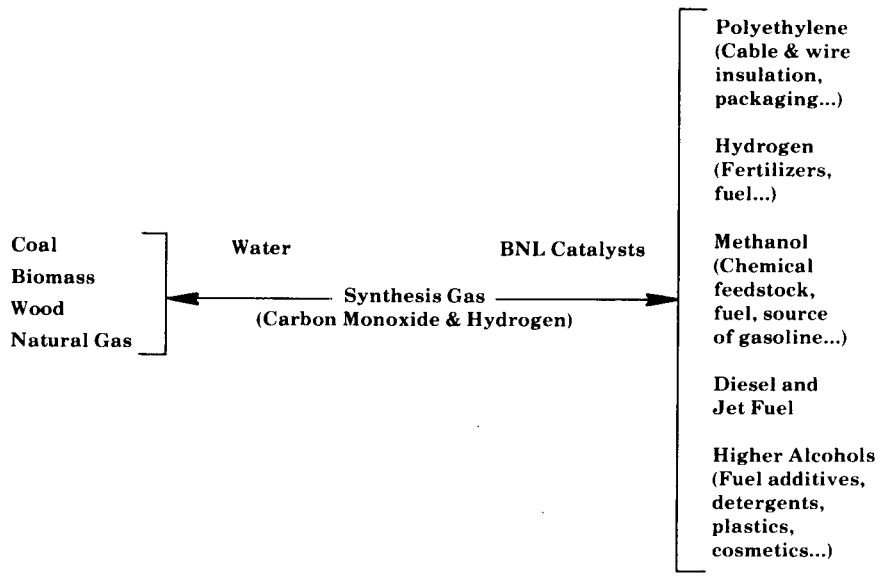
But the transportation sector of this country does not run on just gasoline. Diesel usage is increasing significantly, and already, 7.1 percent of petroleum use is for making jet fuel, according to Sapienza.

Working toward the production of diesel and jet fuels from synthesis gas, the BNL group has designed new catalysts for the old Fischer-Tropsch chemistry originally developed by the Germans. During WWII, Germany had limited supplies of petroleum but lots of coal. Converting coal to carbon monoxide and using a Fischer-Tropsch synthesis with a suitable catalyst, the country was able to make enough diesel and jet fuels to supplement its petroleum supplies, so as to wage war.

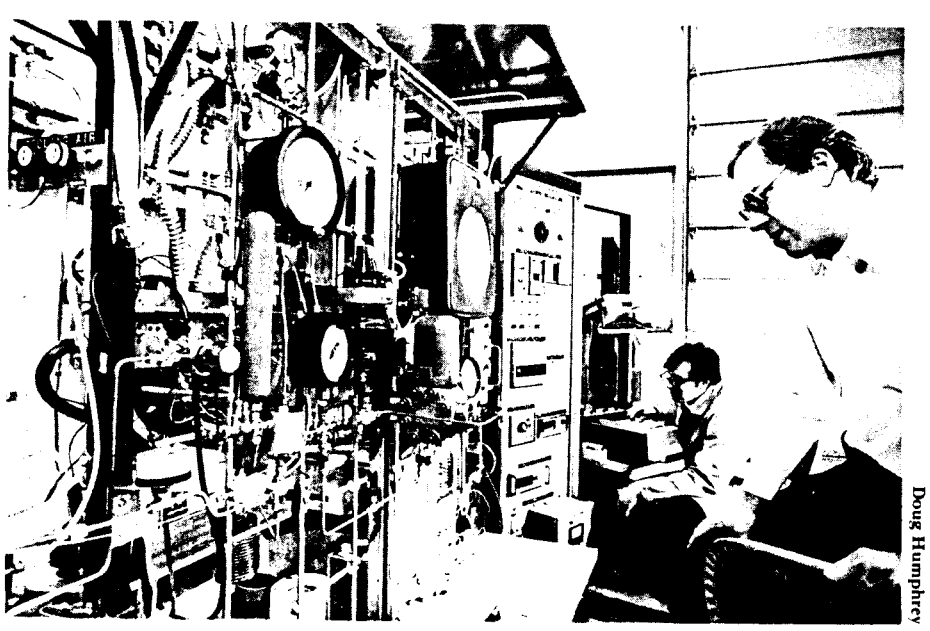
Since then, Fischer-Tropsch synthesis has been neglected because oil and gas made coal non-competitive. Then came the oil crisis in the mid-70's, triggering a revival of interest in Fischer-Tropsch.

Traditional catalysts used in this reaction have low activity and produce too many products. The BNL catalysts are up to three times more active than conventional Fischer-Tropsch catalysts. They are referred to as SOSS catalysts, reflecting the

(Continued on page 2)



This chart shows how BNL catalysts fit into the total process of converting any carbon source — coal, biomass, wood, natural gas — into other commodities which are useful in themselves or can, in turn, be converted into a myriad of other products. Practically the full range of petrochemical and oil products can be obtained.



Doug Humphrey

William Slegeir (foreground) and Richard Sapienza with slurry reactor system recently designed and built for long term evaluation of new catalysts.

Morris Perlman Dies At 65

Morris Perlman, a senior chemist, died on June 21 at Mount Sinai Hospital, following a prolonged illness. He was 65 years old.

Perlman had been a member of the BNL Chemistry Department since 1949. During this time he contributed importantly to several areas of research in nuclear chemistry, including the effects of radioactive decay processes on the extranuclear electrons in the decaying atom; the effect of the chemical environment on half lives and on internal conversion probabilities; the relative probabilities of electron capture and positron emission; and the fission of heavy nuclei by protons in the GeV range.

Since the late 1960s his interest in the effect of chemical environment on electron binding energies led him to concentrate his efforts on photoelectron spectroscopy (ESCA). In this area he collaborated with a number of scientists both inside and outside of BNL, and a large number of papers dealing with electronic structure and binding of metals and alloys resulted from these efforts.

Perlman was instrumental in stimulating the effort to build a synchrotron light source at BNL and played a leading role in planning and designing the NSLS and its experimental facilities.

His long time friend, Gerhart Friedlander, former chairman of the Chemistry Department, said that "because of his encyclopedic knowledge of chemical physics, his broad interests in science and his unselfish concern for his colleagues, his advice was frequently sought and always readily given. He will be sorely missed by his many friends and colleagues at the Laboratory and elsewhere."

Morris Perlman was born in Detroit in 1916 and grew up in Baton Rouge. He received his undergraduate education at Louisiana State University and obtained his Ph.D. in physical chemistry at the University of California (Berkeley) in 1940. Before coming to Brookhaven he worked at the U.S. Bureau of Mines in Berkeley (1940-41), at the University of California Radiation Laboratory (1941-43), at the Los Alamos Scientific Laboratory (1943-46), at the General Electric Research Laboratory in Schenectady (1946-48) and taught at the University of Wyoming (1948-49).

Mort Rosen

Morris Perlman

In addition to his scientific contributions which are documented in over seventy papers, Morris Perlman contributed to BNL in many other ways. From 1968 to 1971 he was a member of the Council and he served effectively on various committees throughout his years at the Laboratory.

He is survived by his wife Ilse of Bayport; two sons, David and Daniel, of Boston; his father Samuel of Los Angeles; two sisters, Marion Schnurr and Goldie Presser, both of Los Angeles; a brother David, also of Los Angeles; and a brother Theodore, of Livermore, California.

More Net Pay

In accordance with the Economic Recovery Tax of 1981, new Federal withholding tables have been issued which reflect the 10% reduction in the withholding rates for wages paid on and after July 1, 1982. The reduction will show up in the net pay of weekly employees on July 1, of monthly employees on July 31, and will continue through June 30, 1983.

Spin Symposium Set For September

The 5th International Symposium on High Energy Spin Physics will be held at Brookhaven, September 16-18 and on September 18 will move to the Bath and Tennis Club, Westhampton Beach. This cross-disciplinary biennial symposium will be devoted to the use and study of spin effects in elementary particle physics. The previous meeting in this series was held in September 1980 at Lausanne, Switzerland and earlier meetings were held at Argonne National Laboratory. Gerry Bunce, of the Accelerator Department, is chairing the symposium with the aid of a Local Organizing Committee and an International Committee.

There will be 2-1/2 days set aside for parallel workshop meetings on three topics: Polarized Proton Acceleration Workshop, organized by Y.Y. Lee (BNL) and K. Terwilliger (Michigan); Workshop on Theory of Spin Effects, organized by K. Heller (Minnesota) and J. Soffer (Marseille); and Workshop on Polarized Target and Materials, organized by D.G. Crabb (Michigan) and D. Hill (Argonne). The workshops will begin a day in advance of the symposium, on September 15.

For registration forms or further information, contact Joan Depken, Accelerator Department, Ext. 4697. Since the Bath and Tennis Club Hotel at Westhampton Beach will be staying open past the summer season in order to accommodate the symposium and requires a commitment —go or no go — by July 31, it is requested that response be made prior to July 15.

The logo for the Fifth International Symposium on High Energy Spin Physics was inspired by a photograph of Denise Biellmann, the 1981 World Champion Figure Skater from Switzerland, and rendered by Bobbie Samaritter of Photography & Graphic Arts.

Don't Mow Too Low

What makes a lawn attractive? The Cooperative Extension Association of Suffolk County says it's the evenness of the cut, rather than its closeness. In fact, close cutting neither looks more attractive nor lessens the number of times a lawn must be mowed. Further, close cutting does not permit the lawn to manufacture the food it needs for building strong, deep root systems and a dense sod.

Different lawn grasses require different heights. Some, such as the bentgrasses and Zoysia are well-adapted for close cutting and should be cut at a height of one-half to one inch. On the other hand, for the Kentucky bluegrass-red fescue type lawn, including the Merion Kentucky bluegrass, the mower should be set to cut the grass at a height of one and a half to two and a half inches. The greater height is especially desirable during the summer months.

One For The Books

"Librarians Are Academia Nuts" proclaims a bumper sticker on Sandi Lane's car. And she should know. Lane, now a librarian with DNE's Nuclear Waste Management Division (NWM), was nuts enough about academia to return to school after a ten-year hiatus to pursue a Master's degree in library science.

"I was an 11-month wonder," says Lane, who gathered 36 credits in less than one year to graduate in May 1975. "Having three kids to raise is a lot of motivation," she explains.

By specializing in scientific and technological libraries at C.W. Post's Palmer Graduate Library School, Lane was able to fuse two of her major interests into one rewarding field. "I think I've always wanted to be a librarian," she says, "but I've also been pretty interested in science. In undergraduate school I was a math major before I switched to European literature, and I minored in biology and psychology."

In June 1976, Lane came to BNL where she began using her specialized degree as a part-time librarian for the Accelerator Department. Shortly thereafter, her duties expanded to full-time as she added responsibility for three libraries in the Department of Applied Sciences (DAS, now DNE), including Reactor Safety, Nuclear Safeguards (TSO) and the High Temperature Gas Reactor (HTGR). About two months later, a new librarian was hired to assume her Accelerator duties, and two years after that, Lane became full-time librarian for TSO, turning Reactor Safety over to another professional. Then, two years ago, when she started the NWM library, TSO was assumed by yet another librarian. Now, with the help of librarian assistant Mary McGrath, Lane also continues to run the HTGR collection for DNE.

Librarianship at BNL has changed considerably in the six years that Lane has practiced her profession here. Reflecting the fact that computers have largely replaced books as the principal reference tool of research librarians, the terminal in Lane's office is almost constantly in use as she searches various data banks for information for the researchers who use her as a resource person.

Doug Humphrey

Sandi Lane

Because libraries like Lane's are rare — even at BNL — those who run them have joined the Special Libraries Association (SLA). Earlier this month, at the SLA's annual meeting in Detroit, she became chairman of the Nuclear Science Division for a two-year term. In addition to this national position, Lane is also currently a director of the SLA's Long Island Chapter.

Many members of the SLA would like to see the title of librarian replaced by information specialist. Not only do they feel that this title more accurately describes the function of today's librarians, but they also see it as a means of combating stereotypes. While Lane agrees that stereotypes are an irritating and recurrent problem, she hopes she can help change things by educating the public rather than by changing her title. "I've worked this long to be a librarian," she says, "so I'm pretty proud to say I am one."

On a personal level, Lane is very involved with the BNL community. Recently elected to a three-year term on the BERA board, she is frequently in the cast for Theater Group productions. She has been a member of Women In Science since it began, has played volleyball for five years and calls herself "a debutante in softball." Lane also enjoys ocean swimming and French impressionism. And on top of it all, she's the mother of three teen-age sons - Jason, Flint and Seth.

Lane doesn't stop to question whether there's enough time to do all the things she wants to do. She just does them with the dedication and cheerful sense of humor reflected in the motto on the wall behind her desk: "The Book Stops Here."

— Anita Cohen

Catalysts (continued)

initials of the group, including Thomas O'Hare, associate chairman for Energy Technology Programs.

The SOSS catalysts are quite successful at generating diesel and jet fuels. The diesel fuel has high cetane numbers (cetane numbers for diesel engines are analagous to octane numbers for gasoline engines), and both fuels have very low sulfur and nitrogen contents.

With modification, SOSS catalysts can also produce higher alcohols, which could be used in gasohol.

Sapienza says one problem observed so far with the SOSS catalysts is that they are so highly active, "they cook themselves." Simply put, they can overheat and destroy the unique structural features that make them such effective catalysts. The group has recently built a new slurry reactor system designed to accommodate these highly active catalysts so that their commercial feasibility can be tested.

A New Theory For Catalyst Design

SOSS and all the new catalysts developed by the BNL group are based on a theory first proposed by Sapienza in 1977. Called the oxide theory, it is a turnabout from the conventional carbide theory, which emphasizes carbon bonding to the catalyst.

Sapienza's theory is framed around the interaction of a catalyst with the oxygen, not the carbon, in carbon monoxide. He says other researchers in the catalysis field are starting to recognize the oxide theory because it serves well in a predictive sense, as it has for the many successful catalysts the BNL group has already developed.

Armed with the oxide theory, the BNL researchers are exploring other efficient catalysts for the activation of carbon monoxide. Practically the full range of petrochemical and oil products can be obtained from carbon monoxide. If the resource of the future is indeed carbon monoxide, it will be due largely to the development of new catalysts. As Sapienza says, "No matter what, catalysts tie it all together."

— Mona S. Rowe

Bus Stop

From July 7 to July 29, buses will run every Wednesday and Thursday between the bus stop in the apartment area and Port Jefferson Village or Smith Point Park, according to the following schedule:

Trip to Port Jefferson Village
Leave BNL at 10:00 a.m.
Leave Port Jefferson Village at 2:00 p.m.
Arrive at BNL by 3:00 p.m.

Trip to Smith Point Park
Leave BNL at noon.
Leave Smith Point at 3:30 p.m.
Arrive at BNL by 4:00 p.m.

Fares will be $1.50 round trip for adults and $1.00 round trip for children 12 and under. This is a pilot program and will be continued into August if the response is good.

Meet Wm. Floyd

The William Floyd Parkway is a road traveled so often by many BNL employees that they know every pothole, turn and stoplight by heart. But not so many people are familiar with who William Floyd was or what role he played in the birth of our nation. Floyd was one of the signees of the Declaration of Independence and later a member of the first United States House of Representatives. On July 3rd his Long Island estate will be opened to the public for the first time.

William Floyd was born in 1734, in what is today called Mastic Beach. Few records remain of his early life, though his grandson did report that his education was, "Chiefly confined to the useful branches of knowledge." Floyd benefited from his connections with other prominent Long Island families and as the estate prospered he began to take an interest in public affairs. This led to his being chosen to represent New York at the first and second Continental Congresses. After the British won the battle of Long Island, Floyd was forced to flee and did not return till after the war when he restored and expanded his estate and house which the British had occupied for seven years.

Eight generations of Floyds lived in the estate house, the last being Mrs. Cornelia Floyd Nichols who arranged the donation of the property to the National Park Service. Each generation left its mark on the house as time passed and modern conveniences were added, but many of the original furnishings remain in a mixture of the old and the new that serves as an unwritten history of the life of the family. There are no labels on the heirlooms or plaques on the walls in the house. Tours are given by local volunteers who can answer specific questions, but the overall effect on the visitor is designed to be one of a sense of continuity between the past and the present.

The William Floyd Estate is open to the public on Saturdays and Sundays between 10 a.m. and 4 p.m. from July 3 through Labor Day. The estate is located at 20 Washington Avenue in Mastic Beach. To arrive there take exit 68 on the Long Island Expressway and get on the William Floyd Parkway going south until the third traffic light, then turn left on County Road 80 (Montauk Highway). Go 1.4 miles to the first traffic light and turn right on Herkimer Street. Herkimer merges with Mastic Road; continue on Mastic to the first traffic light and turn left on Wavecrest Drive. Go one mile on Wavecrest and make a sharp right on to Washington Avenue. The entrance to the estate is on the left hand side about 50 yards down.

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Service Awards

The following employees will receive service awards during the month of June:

Thirty-Five Years

Andrew Cendrowski ..... En. & Env.
Richard W. Dodson ..... Chemistry
August P. Francois ..... S&M
John G. Markott ..... Accel.
Joseph A. Perry, Jr. ..... S&M
John Scandizzo ..... Plant Engrg.

Thirty Years

Jerome Hudis ..... Director's Ofc.
Charles H. Waide ..... En. & Env.

Twenty-Five Years

Robert E. Chrien ..... Physics
David W. Potter ..... Instr.

Twenty Years

Martin Blume ..... Director's Ofc.
David P. Dayton ..... Accel.
Russell N. Dietz ..... En. & Env.
John J. Gabusi ..... Accel.
John H. Guthy ..... Physics
Lewis A. Jacobson ..... Plant Engrg.
Stephen A. Kochis ..... Accel.
Frank T. Kulesa ..... En. & Env.
Richard L. Lane ..... Accel.
Roy Marlow ..... Plant Engrg.
Donald W. Marrs ..... Central Shops
Stephen L. Padwa ..... App. Math.
James J. Ryan ..... Central Shops

Ten Years

Mary J. Glynn ..... Staff Serv.
Nancy R. Harris ..... Medical
Donald M. Lawler ..... Biology
Thomas C. Nepsee ..... Nuc. Energy
Robert A. Posage ..... Plant Engrg.

Fellowship Info

The Office of Scientific Personnel has information concerning Senior Fulbright Fellowships which are available in 1983 and 1984. Awards provide for teaching and research assignments in a wide variety of topics in 87 countries. For further information, inquire at OSP, Bldg. 460, or call Ext. 3336.

Arrivals & Departures

Arrivals

Andrew J. McNerney ..... Accelerator
Merrill R. Osheroff ..... Medical
M.A. Wickramaaratchi ..... Chemistry

Departures

This list includes all employees who have terminated from the Laboratory, including retirees:

Arthur J. Buslik ..... Nuclear Energy
Daniela Maurizio ..... Physics
Peter D. Mulready ..... Biology
Arthur J. Dunn, Jr. ..... Accelerator

NYC Train Trip

The Hospitality Committee is planning a group railroad trip to New York City on Wednesday, July 7. Departure will be at 7:55 a.m. from the Patchogue LIRR station. Round-trip fare for adults is $3.50; children under six years ride free.

Reserve a ticket by sending your fare through the U.S. mail to P.O. Box 322, Upton, New York 11973, no later than Thursday, July 1. Please make checks payable to "Brookhaven National Laboratory," and put the date of the trip, your BNL life number and your telephone number on the check. Your tickets will be given to you on the train. Refunds will be made only if cancellations are received by the Monday morning preceding the trip.

Last Week To Buy Tickets

BNL's 35th anniversary celebration, Picnic '82, is planned for Saturday, July 17, on site, from 11 a.m. to 7 p.m. Only 2,500 tickets are available on a first come, first served basis, and ticket sales will end on Friday, July 2. If you haven't yet bought your tickets to Picnic '82, here are 35 good reasons why you should:

1. Only $2.50 per person entitles each picnicker to a complete day of food and fun.
2. Children under three years old come free.
3. **Refreshments all day:**
4. Beer, soda & cotton candy!
5. **Fine food from noon to 4 p.m.:**
6. Hot dogs & hamburgers,
7. Barbequed chicken,
8. Corn-on-the cob & coleslaw,
9. Potato & macaroni Salads,
10. Watermelon!
11. **Exciting entertainment:**
12. A magic show,
13. A disc jockey,
14. A vaudeville show,
15. Face painting,
16. Clowns, starring Bow-Wow
17. A Revolutionary War Artillery Group!
18. **Athletic activities:**
19. Softball, swimming & tennis
20. Volleyball & basketball,
21. A bounce-around moon walk!
22. **Great Games & Contests:**
23. Obstacle runs,
24. Sponge box & balloon races,
25. 3-legged race & dime bombing,
26. Water can race & Simon sez,
27. Egg toss & tie together,
28. Giant tire race & football toss,
29. Tug of war & broom belly,
30. Wagon race & potato picker,
31. Cowboys and Indians,
32. Hoola hooping,
33. Dance conte sts,
34. Ice cream eating contest!
35. **"This One's For You!"** and for all other Laboratory employees and their families to celebrate BNL's important and interesting 35-year history!

Tickets can be purchased from Blanche Laskee, Bldg. 185, Ext. 2873; Betty Pergan, Bldg. 179A, Ext. 2937; Rosalie Piccone, Bldg. 355, Ext. 3160; Marge Stoeckel, Bldg. 134, Ext. 2459; or the BERA Film Service Office. Rain date for Picnic '82 is Sunday, July 18.

Any BERA groups whose members are interested in participating in picnic arrangements, should call Marge Stoeckel or Betty Pergan

Reminders

Great Adventure - A trip to Great Adventure Amusement Park and Safari Park in New Jersey is planned for Saturday, July 31. The $20 charge per person includes transportation both ways in an air-conditioned coach and admission to the amusement park and safari. To reserve a seat, bring your $20 (cash only) to Renee Flack, Room 112, Bldg. 460, Ext. 3316, on or before July 13. The coach will leave from the Brookhaven Center on July 31 at 8 a.m. sharp.

T-shirts - July 1 is the last day to order T-shirts commemorating "Brookhaven National Laboratory - Summer '82." T-shirts cost $5 each and each order must be accompanied by either a cash payment or a money order made payable to "Renee Flack — T-shirts '82." No personal checks please. Bring or mail orders and payment to Renee Flack, Room 112, Bldg. 460, Ext. 3316. The T-shirts will be here in time for Picnic '82 on July 17.

Cafeteria Menu

Week Ending July 2, 1982

Monday, June 28		
Cream of tomato soup	(cup)	.65
	(bowl)	.75
Cheese omelet & 1 veg.		1.75
Turkey chow mein on rice		1.80
Hot Deli: Grilled Reuben		1.85
Tuesday, June 29		
French onion soup	(cup).	.60
	(bowl)	.70
Meatcakes & onions w/1 veg.		1.80
Chicken cacciatore & 1 veg.		1.90
Hot Deli: BBQ top round of beef	(bread)	1.90
	(roll)	2.00
Wednesday, June 30		
Turkey gumbo soup	(cup)	.60
	(bowl)	.70
Roasted fresh ham & 1 veg.		1.90
Seafood platter		2.15
Hot Deli: Breaded chicken pattie Parmesan hero		1.95
Thursday, July 1		
Chicken vegetable soup	(cup)	.60
	(bowl)	.70

Fourth of July Special
Top round of beef, sliced to order with
Baked potato (sour cream available)
Fresh broccoli
Mushroom gravy
Sliced holiday cake
$2.30

Hot Deli: Pastrami	(bread)	1.80
	(roll)	1.90
Friday, July 2		
New England clam chowder	(cup)	.65
	(bowl)	.75
Swedish meatballs over egg noodles		1.80
Beef & bean bake & 1 veg.		1.75
Hot Deli: Breaded fish filet hero		1.90

Sunday Tours

10 a.m. - 3 p.m.

Through September 26

(except July 4 & Sept. 5)

Motorcycle Club

There will be a club ride on June 28, meeting at the cafeteria parking lot at 5:15 p.m. Plans are to ride on the North Fork to a dinner destination, weather permitting.

Softball

Games from week of 6/14/82

Leagues I and II

Phoubars 12 - Ice Pops 4

For the Phoubars, John Ingoglia was 4 for 4 and Jack Brennen was 3 for 4.

Six Pax 31 - Roga 10

Heavy hitting for the Six Pax. E . Meier was 5 for 5 with a home run; W. Reams was 5 for 5; J. Usher was 5 for 6; Ralph Brown was 4 for 5 with 2 homers; C. Erick was 4 for 5 with a homer; W. Rambo was 4 for 5.

Ravens 25 - Moles 10

For the Ravens, newcomer Pat Ross was 4 for 4, Jim Garrison was 4 for 6, Harold Bolling was 3 for 5.

Big Sticks 10 - Blue Jays 8

Leagues III and IV

AMD 21 - Random Errors 3
Lights Out 21 - Dirty Sox 6
Electric Co. 11 - Magnuts 4
Medical 12 - Titans 6

League V

Survivors 8 - Nads 3
E-Z Riders 6 - TNT 3
Turkeys 7 - No Names 1

League VI

Moles-Esters 10 - Random Sample 9

Victory came to the Mole-esters thanks to a terrific play by Lisa Kistner.

The Source 9 - Mudville Sluggers 6
Who Cares vs. Underalls
Who's On First vs. No Feedback

Games cancelled due to wet field conditions.

Makeup game:
Random Sample 17 - The Source 9

Doug Humphrey

Enjoying the solar energy in the greenhouse area of the Brookhaven House are award-winners from the eighth annual Student Exposition on Energy Resources (SEER8), sponsored by the National Energy Foundation. Junior and senior high school students from the entire New York City school system submitted over 300 energy-related exhibitions for consideration at SEER8. The awards included visits to installations involved in energy projects. At BNL, the winning entrants toured the Brookhaven House and the Exhibit Center, witnessed an electric car demonstration and spoke to researchers about photovoltaics, superconducting transmission of power and flash hydropyrolisis of coal.

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. In keeping with the Affirmative Action plan, selection decisions are made without regard to age, race, color, religion, national origin, sex, handicap or veteran status.

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all non-scientific 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.

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. 2882.

The vacancies listed below have been exempted by the Director's Office from the current freeze on open requisitions.

LABORATORY RECRUITMENT: Opportunities for present Laboratory employees.

1712. HELPER A (temporary) - Central Shops Division.

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

1713. PROJECT ENGINEER - Requires a BSEE or equivalent and a minimum of 5 years experience in the design of high power radio frequency systems for particle accelerator applications. Knowledge of analog servo systems in accelerator applications is also required. National Synchrotron Light Source Division.

1714. AFFIRMATIVE ACTION OFFICER - Responsible to the Director for the management of all phases of the Affirmative Action Program at the Laboratory. Requires a minimum of a bachelor's degree or equivalent plus substantial experience in the administration/management of one or more aspects of affirmative action programming. Requires excellent communication and interpersonal skills. For further information please contact Janet Whitehead on extension 2872.

1715. COMPUTER OPERATIONS POSITION - AAS degree in data processing or successful completion of computer operations training program or equivalent experience assisting in the operation of a large electronic digital computer. Rotating Shifts. Applied Mathematics Department.

1716. TECHNICAL POSITION - Requires AAS or equivalent experience and an extensive background in high and ultra-high vacuum equipment and systems. National Synchrotron Light Source Division.

Autos & Auto Supplies

76 TOYOTA COROLLA - 4 cyl., 4 spd., 2 dr, am radio, good cond., $1,800. Ext. 4976 or 878-8241.

SNOW TIRES - (2) F78-14, Firestone Town and Country, 2 yrs. old, $20 ea. Ext. 4584 after 6 p.m.

68 OLDS - rebuilt carburetor, starter, alternator, new battery, very good tires, $300. Lee, Ext. 7629 or 929-3023.

65 YAMAHA MOTORCYCLE - 250cc, extra engine & misc. parts, $175. Lee, Ext. 7629 or 929-3023.

74 DATSUN 260Z - 4 spd., a/c, am/fm, good cond., no rust, $2,995. 878-0288.

71 FORD TORINO - station wagon, must sell, rebuilt heads, carburetor, new water pump, exhaust, $850. Ext. 4321.

TIRES - (2) E78x14, belted whitewalls, mounted on Pontiac rims, $20 for both. 732-5829.

72 DODGE VAN - mechanic's special, engine, transmission ready for installation, needs body work, $1,000. 286-3906 after 6 p.m.

79 CHRYSLER LE BARON - 2 dr., black w/gold interior, vinyl roof, loaded, low mileage, one owner, excellent, $4,500. 348-7884.

77 CHEVY NOVA - 6 cyl., standard shift, excel. cond., $2,700. 234-3644.

72 DATSUN L521 PICK-UP - good running cond., little rust, new front end, $900. Steve, 286-0534.

79 PLYMOUTH VOLARE - 6 cyl., standard, mint, $3,400. Ext. 4490 or 286-2155.

TIRE - Shellride, 8.25x14, 4 ply, $20. 473-4471.

CHEVY MANIFOLDS - small block intake, 4 bbl. and 2 bbl. w/carburetor, make offer. Richie, Ext. 2175 or 734-7342.

79 CAPRI RS-302 - 4 spd., p/s, p/b, TRX package, low miles, $6,200. 473-7919 after 5.

81 PONTIAC T-1000 - (Chevette), 4 dr., auto, 7,000 mi., $4,900. for delivery after July 15. Ext. 3985 or 265-3612.

69 CADILLAC - 66,000 orig. mi., climate control, am/fm stereo, $700. 281-7820.

BATTERY CHARGER - heavy duty, 50 amps., volt and amp. gauges, dimensions 15"x 2', $65. Dan, Ext. 4987.

76 HONDA - 750, low mi., show room cond., garaged, extras. 265-4715 after 6.

JACK STAND - auto mechanic's, 5'to 7', screw type for support while under lift, $50. Dan, Ext. 4987.

63 CHEVY II - 70,000 mi., rebuilt engine, $300. George Hrabak, Ext. 3536.

MOTORCYCLE FAIRING - fits most bikes, hardware included, black, $45. George, Ext. 7672 or 878-4383.

80 YAMAHA - XS850, shaft drive, full fairing, 2,000 mi., garaged, mint cond., $2,395. John, Ext. 4255 or 929-4450.

80 KAWASAKI - KX-125, low time, excel. cond. 477-0264 after 5:30.

75 HONDA - 750cc, mint, extras, must sell, $1,495. 698-5088.

80 TRIUMPH TR7 - white convertible, extras, 17,000 mi., $6,900. J. Klein, Ext. 2294 or 298-8805.

79 HONDA - CM400T, 2,000 mi., garaged, must sell, $1,100. 981-0181.

76 CHEVY - Malibu wagon, 350 V8, a/t, stereo radio, tape deck. Ext. 3600 or 289-8182.

SNOW TIRES - (2) new w/rims, Sears Road Handler, P165/80R13, w/w, steel-belted radial. Ext. 5200.

SHOCKS - rear spring loaded levellers for GM intermediates prior to 1978. Ext. 3919.

1979 MGB CONVERTIBLE - 2 tops & hood cover, 31,000 mi., new tires, brakes, complete tune up, am/fm, 8-track stereo, undercoating, 5 yr. rustproofing, good cond. 878-0516.

76 VW DASHER - 4 dr., auto., $2,400. Marj, Ext. 3396.

73 VW - convertible. 475-4199.

71 HONDA - 175cc, good cond., runs good, reliable transportation, $250. Ext. 2051 or 281-7240.

FORD PARTS - 351c, heads, intake, carburator, header, mufflers, 3-sp. trans., excel. cond. 744-9802 after 5:30 p.m.

74 SUBARU DL - 2 dr. sedan, 80K mi., just inspected, new brakes, 30 mpg, like new interior, front wheel drive, $1,000 firm. Roger, Ext. 3578.

81 HONDA - 650 custom, plexifaring, extras, 3,000 mi., super mint, $2,150. 281-8274.

72 VW SQUAREBACK - sedan, a/t, am/fm stereo, tape deck, 27 mpg. Ext. 3600 or 289-8182.

80 SUZUKI - 450L, leftover, purchased late 1981, excel cond., 600 mi., just serviced, extras, orig. cost $2,000, asking $1,600. 325-1024.

69 FORD - very good running cond., very clean, $600. 289-2367.

76 PLYMOUTH - Volare, 4 dr., slant 6, std. trans., 57K, $1,200. Ext. 4035 or 727-7515.

73 VOLVO 164 - a/c, am/fm, dependable, $2,100. 286-0422 after 6 p.m.

67 CHEVY PICKUP - 8' wood bed, cap, new carb & alt., $950. Rick, 724-2886 after 7 p.m.

62 CHEVY - front & rear windshield, bumpers, many other parts. Joe, Ext. 2556.

TAILGATE - for Chevy pickup, $30. Jim, Ext. 4040 or 289-0876.

72 CHEVY - Nova, clean, 2 dr., V8, standard shift, good mpg, all new tires, $975. Ext. 2384.

76 AUDI 100LS - 4 dr., a/t, p/b, p/s, radio, $2,200. Carol, Ext. 4398.

80 CITATION - 2 dr., 4 cyl., 4 sp., am/fm, low miles. J. Medina, Ext. 7636 or 924-6971.

68 CHARGER BODY - good cond., $300. 473-5890 after 5 p.m.

66 VW SQUAREBACK - 7,000 mi. on rebuilt eng., clutch plate, brake, cheap. 744-6910 after 6 p.m.

78 TRANS AM - 6.6 LT, gold, beige int., p/s, p/b, d/e, new brakes & exhaust, am/fm, 8 track, t-top, 4 sp. Roy, Ext. 4664 or 744-8779.

74 JEEP - CJ5, metal top. 281-6325 after 5 p.m.

76 F250 RANGER - 4x4, chrome spokes, 12x16.5 Ford cap, am/fm stereo, CB. 281-6325 after 5 p.m.

68 CAMPER - 11 ft. slide on, sleeps 4, stove, refrig., elect., head, $1,200. 281-6325 after 5 p.m.

73 JEEP - CJ5, 6 cyl., 3 sp., 11x15 tires w/white spoke rims, new master cyl., battery, alternator, good mpg., great on beach, real clean, must see, $3,300. Toni, Ext. 2907.

DUNE BUGGY - VW Sandrail, completely rebuilt, less motor, $1,300. 744-8749.

TRIUMPH MOTORCYCLE PARTS - 650cc, 16" wheels, 10" over forks. 325-1759 after 6 p.m.

WHEELS - chrome slots for Chevy, rusted w/tires, $15 ea. Augie, Ext. 2419.

Boats & Marine Supplies

25' CHRIS CRAFT - 1960, rebuilt engine, still under guarantee, galley, stand-up head, sleeps 6, in good cond., asking $1,700, can demonstrate. 281-0360 after 6.

BOAT STEERING WHEEL - with cables, $15. 473-4471.

18' CHRIS CRAFT - 1978, Laptrake, mahogany customized, 85 HP Evinrude, alum. trailer, ready to go. 588-7260.

22' GARVEY - $200, 40 hp Johnson engine, $500. 588-7224 or 585-4456.

19' ODAY MARINER - 1968, 4 hp Evinrude, trailer, $6,500. Olson, 289-8629 after 7 p.m.

12' ALUMINUM BOAT - 9 hp Evinrude motor, galvanized trailer, $1,100. 924-0638 eves.

Free

COLOR TV'S - RCA 19", Zenith 19", both need work. Richie, Ext. 2175 or 734-7342.

TOASTER - clean cond., needs one side repair. Ext. 2460.

HUSKY/SHEPHERD - for adoption into good home, 1 yr. old, loving, gentle, loves children. Joe, 399-0864.

Yard Sales

CONTENTS OF HOUSE - 46 Twilight, Rocky Point, June 26-27, 8:30-12:30 a.m. 928-1339 after 4 p.m.

YARD SALE - June 26 & 27, 10 a.m. to 4 p.m., 37 N. Paquatuck Ave., E. Moriches. Ext. 2384 or 878-0074.

Miscellaneous

PORTABLE TYPEWRITER - Royal, excel. cond., $25. Ext. 3514.

HIKING BOOTS - Stephan from France, size 34 (women's sz. 4), used for 1 week, $25. Julie, Ext. 3393.

DRAPES - 2 pair, custom made, gold meissen striped, floor length, fully lined for 36" windows, colonial wooden rods included. Walt, Ext. 4852.

SINCLAIR ZX81 COMPUTER - with 16K module, instruction, and cables, originally $225, asking $175. 421-0488 after 6 p.m.

FISH TANKS - 20 gal., 5 gal., hoods, filters, and many other access., $50. Rick, Ext. 3051.

WASHER & DRYER - G.E., 22" black & white Zenith TV, w/stand, all work well; kitchen table and 4 chairs, $25 each. Ext. 4131 or 5163.

ELECTRONIC MEDICAL THERMOMETERS - brand new $10 each. Charlie, Ext. 3935 or 325-0968.

NATIONAL GEOGRAPHIC - back isues, 1967 through 1981, clean full set, maps included; Briggs & Straton 4 hp gas engine, clean, needs work $35. 281-5532 eves.

KITCHEN TABLE - 4 mustard chairs, swivel, (some rips), table is wood grain formica, w/leaf, octagon, good cond., $60. 475-6981.

STEREO - custom made, solid wood console, Harmon-Kardon receiver, Garrard turntable, Electrovoice speakers. Ext. 3636 or 369-2151.

SOFA - convertible, queen size, off-white, 2 yrs. old., asking $280; secretarial desk, L-shaped, with 5 drawers, black metal with walnut finish, formica top, asking $60. 281-0804 eves or weekends.

DRAPES - 4 pair, each 48x84", insulated back, br/orange print on white background, $6 pair; sheers, 2 panels, new, $3.50 each; children's phonograph, portable, G.E., 2 speed, like new, $20; LP gas furnace, 49,000 BTU, recess in floor or freestand, like new, $100; Susan, Ext. 7235 or 399-1736 after 5.

DINING ROOM - table, chairs, china closet, buffet, oldie but good cond., Ext. 3392 or 475-8330.

WESTERN BOOTS - square toe, men's size 9, excel. cond., $40. Kathy, Ext. 3652.

GLIDING WINDOW - Andersen wood, each section 26"x62-3/4", $75; Fuji 10 speed bike, model #SJ-10, $70. 473-4471.

CAMERA - Minolta SRT102, 35mm SLR, 50mm 1:17 lens w/filter, shutter 0-1000, in good cond., $100 firm. 281-0360 after 6.

HORSEBACK RIDING BOOTS - French, lady's sz. 8, $25. Ext. 3887 or 286-0353.

BIKE - 10 speed, Columbia, good cond., $50. Ext. 2497 or 286-2203 after 6.

COUCH - black vinyl, convertible, $25; twin bed headboard, $5. Ext. 3158.

PERSIAN RUGS - Turkomen, Tribal, 9'x12', $1,200 each, others all primarily wine red, handmade; Mideast art, decorator panels, (2) hand-painted split doors, (2) panels, each 18"x72", scenes, flowers, animals, unique, $575 ea. 348-7884.

POOL FILTER - to 4,000 gallons, used one season, $20. Joe, Ext. 4660.

BIKE - 3 wheel, adult size, excel. cond., $75. 265-1072.

COLONIAL COUCH - w/slipcover, $40. Judith, 698-3150.

HEDGE SHEARS - rechargable, new, $13; upright boat compass, Pioneer type, $25; Leica IIIG w/four lenses, $1,400. Ext. 4058 or 286-0436.

ELECTRIC ORGAN - Baldwin, 20 yrs. old, asking $400. 289-7658.

STEREO SYSTEM - am/fm radio, cassette recorder, twin table speakers, almost new; exercise bicycle, $35; full mattress set, $15. Ext. 3102.

POOL LADDER - 2" tubular s/s for above or inground pools, new $95, asking $35; thru-the-wall skimmer, $15. Jim, Ext. 4040 or 284-0876.

METAL DETECTOR - White Coinmaster 6000D, w/NiCad batteries, charger, headphones. Al, Ext. 3354 or 727-3731.

DINING SET - solid oak wood w/table mat, 2 leaf extensions, chair cushions & covers, excel. cond., $200. Ext. 3742 or 821-9423.

BICYCLES - Raleigh, 3 sp., 1 men's & 1 women's, good cond., $60 ea. Peter, Ext. 3695 or 732-0257.

MODULAR FURNITURE - grey quilt covered foam, 5 pieces, 4 seats convert to beds, $40/pc. or $150/set. Peter, Ext. 3695 or 732-0257.

SLIDING GLASS DOORS - double pane w/frame & screen, best offer. 369-2414.

GIBSON FREEZER - 16 cu. ft., 560 lb. capacity, very good cond., $200. 585-7780.

KEROSENE HEATER - Corona, 22,000 BTU w/accessories, $200. Gene, Ext. 4393 or 924-3419 after 6 p.m.

ATARI VIDEO SYSTEM - plus Pac Man and Missle Command, $130; coal stove, used one season, best offer; (2) lawn mowers in need of tune up or repairs, best offer. 286-0422 after 6 p.m.

19" B&W TV - excel. cond., $50; 8 track tape player for home, best offer; lawn mower, gas, needs some work, not major, best offer. Joe, Ext. 2556 or 2012.

GO-KART - 3.5 hp eng., good cond., $150. Joe, Ext. 4630 or 751-2117.

BUNNY RABBITS - $3. Ext. 3675.

MANUAL TYPEWRITER - Olympia, heavy duty office model-SG4, excel. cond., $60. 581-6432.

SLIDE PROJECTOR CAROUSELS - for Airquipt, $2.50 ea. or 3 for $6.50. Joe, Ext. 4069 or 261-7825.

SONY BETAMAX - TV-VTR Combo, TV fine, tape recorder needs work, includes tape stacker. 281-6070.

CARPET - w/pad, 100% nylon, beige, 12'x14', $150. 286-0466.

ANTIQUE CASH REGISTER - large, brass, $375. 589-9103 eves.

Ads left out of this issue due to lack of space need not be re-submitted to appear in next week's issue. Please note that ads may not be more than 15 words long and must be received in the Bulletin office by 4:30 p.m. Friday, for inclusion in the following week's Bulletin.

Real Estate

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

BROOKHAVEN VILLAGE - 4 bdrm., split level, 2 car garage, excel. cond., many desirable features on large private acre; $136,000. Paul, Ext. 4058 or 286-0436.

SHOREHAM/WADING RIVER - 4 bdrm. colonial on acre, Axeman-Anderson boiler, 12" insulation, full basement, deck, quiet location, mortgage assumable at 10%. Lee, Ext. 7629 or 929-3023.

MIDDLE ISLAND - 1 bdrm. condo., l/r, d/r, w/w, central air, 5 appliances, balcony, pool, tennis, 10 min. to Lab, $18,000 mortgage, $26,500. Ext. 3734 or 924-0035.

SMITHTOWN/ST. JAMES - 3 bdrm. cedar ranch, full basement, gas heat, $380/mo. pays all, mint, assumable 8-1/2% mortgage, $66,000. 584-7206 after 6 p.m. weekends.

MASTIC BEACH - 4 bdrm. cape, large l/r, d/r, eik, util. room, gas hot water & cooking, full porch, low taxes, near stores & bay, Farmer's 8-1/2% mortgage, 80x100 prop., (adjacent 80x100 avail., reasonable), $24,000. 281-0360 after 6 p.m.

WADING RIVER - custom built 4 bdrm. colonial, 2 baths, d/r, den, f/r, 2 car garage, full basement, private beach, Ext. 7727 or 929-4631.

CONDO - Birchwood at Blue Ridge, 15 min. from Lab, 3 bdrms., many extras, facing golf course, low $60's. 698-7213.

BAYPORT SOUTH - 1851 landmark, fully modern, 3 bdrms., study, studio, eik, l/r, f/p, d/r, 1-1/2 baths, city gas/water, barn/loft, excel. cond., treed, prime area, near bay, bus, village, schools, 2/3 acre. Owner, 472-1397.

POCONOS - prime time-sharing vacation condo, sleeps 8, full amenities, golf, racquet club, skiing, stables, canoes, playhouse, indoor/outdoor pools, clubrooms, gourmet dining, world wide trading. Mark, 265-3513.

WADING RIVER - property north of 25A, exclusive area, lovely wooded bldg. plot, slightly under 2 acres, asking $24,500. Owner, 928-0158.

For Rent

RIDGE - modern 2 bdrm., single floor apt., d/w, w/d, a/c, w/w, childsafe country setting, $395 + util., avail. July. 617-647-0777 collect after 5 p.m.

PORT JEFFERSON STATION - 2-1/2 room, large bdrm., living room/kitchen, w/w, paneled, carpeted, $375 incl. util. Ext. 2309 or 473-9180 after 4 p.m.

MARCO ISLAND - new luxurious condo., 2 bdrm., 2 baths, balcony on Gulf beach, facing beautiful sunset, facilities, 10 Hartru tennis courts, large pool. 473-6432 eves.

SELDEN - bdrm., kitchen, l/r, full bath, all furnished, all utilities. Ext. 2419.

BELLPORT - 4 bdrm. contemporary house on 2 wooded acres, central air, furnished, available September '82-Aug. '83. 286-1444.

E. PATCHOGUE - 3 bdrm. house, study, sunporch, furnished or unfurnished, avail. in October. J. Olson, 289-8629 after 7 p.m.

PORT JEFF VILLAGE - 1 bdrm. apt., sublet July 15 to August 31 or portion, $500 negotiable. Anand, Ext. 2117 or 928-5529 eves.

BERKSHIRES CHALET - 3 hrs. from NYC, 3 bdrms., 2 baths, fully equipped kitchen, electric heat, deck with spectacular view, near lake, hiking trails, avail. weekly or weekends. 929-6946 after 6 p.m.

S. JAMESPORT - enjoy country living, cozy 3 bdrm. home, liv. rm., dining rm., kitchen, porch, utility rm., walk to beach, 30 min. from Lab, avail. Sept. 1, $300/mo. plus util. Walt, Ext. 2907 or 698-0576.

Car Pools

STONY BROOK - near train station. Jay, Ext. 4994.

NYC - ride needed very day, will share expenses. Rad, Ext. 3769 or 2832.

STONY BROOK/STRATHMORE VICINITY - established car pool needs rider/driver. Morris, Ext. 4192.

ELWOOD/EXIT 52 LIE - summer student would like to joint car pool. Lisa, Ext. 3900.

Lost & Found

FOUND - 10 speed bicycle. Ron, Ext. 3887.

LOST - Rival Crock Pot cover at Cooking Exchange Intl. Dinner on June 4. 289-7658.

Wanted

SAILBOAT - for rental. Dan, Ext. 3867 or 698-6120 eves.

CANOE - any length, pref. alum., in good cond. Paige, Ext. 3263.

CAROUSEL SLIDE PROJECTOR - inexpensive. Janet, Ext. 4049.

GOOD HOME - for beautiful Burmese female spayed cat, healthy, shots, owner ill, 589-5126 after 5 p.m.

GOOD HOMES - for shy adorable kittens, two Calico, one Tabby. Pepper, 499-1532.

CAMPBELL'S SOUP LABELS - send to F. Chandler, Bldg. T89 (for St. Mary School, East Islip).

GLEN'S OR MOTOR MANUAL - 1971 to 1975. George Hrabak, Ext. 3536.

APARTMENT - 1 bdrm., Setauket/Port Jefferson/Mt. Sinai area, need beginning of July. Nick, 928-9000.

TIRES - C78-13, 650-13 or 700-13, good to fair cond. Susan, Ext. 4267.

HOME - for Welsh pony, 12 hands, beautiful, under certain conditions only. Lois, Ext. 4904 or 929-4753.

WOMAN - to care for 6 month old boy starting Sept., Miller Place. 744-5256.

HOUSE OR APT - July 1-20 or part, will take care of pets & plants. Dick, Ext. 2030.

LADDER BRACKETS - a pair, for hanging scaffolding from ladders. Michael, Ext. 2081.

Services

Services are listed as a courtesy to BNL employees. They are neither screened nor recommended by the Bulletin.

HOME IMPROVEMENTS - vinyl and alum. siding, alum. trim, roofing, gutters and leaders, custom carpentry, free estimates. Charlie, 744-3160.

HOUSE PAINTING - interior/exterior, professional, quality materials, insured. Bob, 289-7657 after 6 p.m.

FIRESIDE CHIMNEY SWEEPS - fireplaces, wood, coal & oil flues, last week of $10 discount, fully insured. Bill, 584-6425.

RESUMES PREPARED - typed, printed, cover letters. Bill Polvent, 821-9081.

HOME SECURITY SYSTEMS - burglary, fire, medical, affordable prices, discount. Tony, 286-8330.

MOTHER'S HELPER - experienced 16 yr. old looking for work during summer months. Kim, 286-8807.

Classified Ad Policy Deadline is 4:30 p.m. Friday for publication Friday of the next week.