BROOKHAVEN BULLETIN
Vol. 42 - No. 44 November 10, 1988
BROOKHAVEN NATIONAL LABORATORY

# BNL Lecture: Working Against Time

Several times each week, the mini-drama is replayed, as researchers race against the clock to complete the day's studies.

The time-restricted research is known as PET, for positron emission tomography. Because PET relies on detecting the radioactive emissions from short-lived radiotracers, time is always a crucial factor. But it's well worth the rush — a successful PET study can reveal functional information about human organs, such as the brain, that is simply unobtainable by any other method.

How PET studies are conducted and what they can reveal will be discussed by Senior Chemist Joanna Fowler, Chemistry Department, in the 247th Brookhaven Lecture. Her talk on "Working Against Time: Using PET to Probe Human Biochemistry" will take place on Wednesday, November 16, at 4:30 p.m., in Berkner Hall.

Roger Stoutenburgh

**Joanna Fowler**

Since she joined Alfred Wolf's Radiotracer Research Group in 1971, Fowler has been involved with BNL's PET research, which dates back to 1961.

Today, their lab is a Cyclotron-PET center, encompassing three facilities: a cyclotron in Bldg. 901, where short-lived radioisotopes are produced; a chemistry laboratory, also in Bldg. 901, where the radioisotopes are converted to short-lived radiotracers; and the PET machines next door in Bldg. 906, which can produce images showing how organs of interest are functioning, by detecting the decay of the radiotracer injected into living subjects.

Brookhaven now boasts two PET machines: the PETT VI, which has been used for brain studies since 1981, and the new whole-body PET, which began operating in June of this year.

To begin her lecture, Fowler will describe how PET differs from other imaging methods, including CAT (CT) scans, nuclear magnetic resonance (NMR or MRI) and single photon emission computer tomography (SPECT).

The PET process is dependent on radiotracers, and the world's most widely used radiotracer for PET is fluorine-18 fluorodeoxyglucose (FDG) — developed at BNL in 1975, in collaboration with the University of Pennsylvania and the National Institutes of Health.

FDG's advantages reside in its ability to provide a record of glucose metabolism in the brain and other organs, and to track changes produced by diseases, stimulation or drugs. Moreover, the 110-minute half-life of fluorine-18 allows greater scheduling flexibility than is possible with positron emitters having shorter half-lives. As Fowler will explain, this allows researchers to make large batches of FDG at the beginning of a day and do multiple studies.

In these "test-retest" studies, the subject can be his or her own control. Such studies are being used increasingly to identify the binding sites for therapeutic drugs, such as antipsychotic drugs, and for substances of abuse, such as cocaine. For example, in recent PET studies at BNL of carbon-11 labeled cocaine in baboons, researchers observed, for the first time, that the drug concentrates in the striatum, a brain region rich in dopamine, the neurotransmitter that has been implicated in cocaine's behavioral effects.

Fowler will also discuss other basic research programs with PET, as well as how the technique is being used ever more frequently for clinical applications, such as evaluating patients' hearts to see whether they are good candidates for bypass surgery.

Joanna Fowler received her Ph.D. in chemistry from the University of Colorado in 1967. After a year of research at the University of East Anglia in England, she joined the Chemistry Department in 1969 as a chemist and was named Senior Chemist in 1988.

Earlier this year, Fowler and Wolf shared the 1988 Gustavus John Esselen Award for Chemistry in the Public Interest, given by the Northeastern Section of the American Chemical Society.

Fowler has been a special consultant and member of the Diagnostic Radiology Study Section of the National Institutes of Health, as well as a reviewer for the U.S. Department of Energy. She serves on the Committee on Nuclear and Radiochemistry of the National Research Council and is on the Editorial Board of the *Journal of Nuclear Medicine.*

All those interested in getting together with the lecturer are invited to go to a restaurant for dinner. To be part of this group, call Jon Hanson, Ext. 4378.

# Computer Virus Didn't Bug BNL

"Disconnecting from the network first and asking questions later," according to Arnold Peskin, seems to have spared BNL's computers from being infected by a computer virus that affected thousands of computers nationwide, ones connected to the U.S. Department of Defense's unclassified Internet network.

Last Thursday, Peskin, who heads BNL's Computing & Communications Division, received a 9 a.m. phone call from Joseph Weynand, BNL's Computer Security Coordinator in the Safeguards & Security Division, informing him of the viral threat. Weynand had gotten the word from the Department of Energy's Chicago Operation's Office to have BNL disconnect from Internet.

By disconnecting a cable and stopping some software, BNL was freed from the network. Internet normally links as many as 50,000 computers in this country, allowing users to send information among themselves.

"As the day went on, we found out what type of virus it was and what its symptoms were," explains Peskin. Though BNL did not seem to be infected, antidotes to the virus were installed anyway, by midday Friday. Allowing the network time for convalescence, BNL rejoined it on Monday morning.

"Apparently, it was not a virulent bug, but it could have clogged up our machines," says Peskin.

Just as a biological virus invades living cells and causes disease, a computer virus invades data processors and disrupts their normal operations. A computer virus is an unauthorized computer program with instructions to replicate itself and attach these copies onto legitimate programs or messages. Once within a computer, the virus can take control of the operating system, the master program allowing the computer to run other programs, destroying data files and damaging computer hardware in the process.

Again, like its biological counterpart, a computer virus can spread from one host to another, via contaminated disks and infected networks. As Weynand says, infection prevention, by practicing such safe computing measures as only using factory sealed software and not downloading executable programs from bulletin boards, is up to each individual computer user.

If BNL computer users suspect any viral infections, first immediately inform the manager of the system you are using. Then notify Weynand, at Ext. 7955, or contact your Computer Security Representative, listed below.

| Dept./ Div. | Computer Security Rep. | Bldg. | Ext. |
|---|---|---|---|
| AGS | John Gould | 510A | 3951 |
| DAS | Carmen Benkovitz | 51 | 4135 |
| AUI | Brian Boyle | 134A | 5175 |
| Bio. | Keith Thompson | 463 | 3385 |
| Budg. | Antoinette Russo | 460 | 2689 |
| CSD | Margaret Alexoff | 462U | 3356 |
| Chem. | Jonathan Hanson | 555A | 4132 |
| CCD | Leslie Lawrence | 515 | 4107 |
| DC&P | John King | 355 | 4999 |
| DO | Antoinette Russo | 460 | 2689 |
| Fisc. | Vincent Bilms | 134A | 2483 |
| Inst. | Cheryl Williams | 535B | 5061 |
| MIS | George Malcolm | 459 | 7654 |
| Med. | David McChesney | 490 | 7646 |
| NSLS | John P. Smith | 725B | 4734 |
| DNE | Bruce Penn | 197 | 7213 |
| Pers. | Virginia Brown | 185 | 2874 |
| P&GA | William Bottinger | 197B | 2955 |
| Phys. | William Love | 510A | 3996 |
| | Peter Sikinger | 510A | 3960 |
| PE | Edward Byrne | 134C | 2477 |
| Reac. | David Rorer | 750 | 4056 |
| S&SD | Joseph Weynand | 50 | 7955 |
| S&EP | Alan Kuehner | 535A | 4226 |
| SSD | William Webster | 179B | 2525 |
| S&MD | Michael Guacci | 211 | 2976 |
| TID | Arline Willsey | 477A | 3490 |

## *Haworth Distinguished Scientist*

# Yuan Lee to Talk About 'Extending the Senses'

Throughout his illustrious career, Nobel laureate Yuan T. Lee has concentrated on devising apparatus that would, in effect, extend the senses — making it possible to visualize and understand the subatomic world that the five senses cannot examine unaided.

Lee will share the excitement of his work and the world it has uncovered when he comes to Brookhaven next week as a Leland J. Haworth Distinguished Scientist, in the Chemistry Department. His week-long stay at BNL will be a brief departure from his normal duties as Professor of Chemistry at the University of California, Berkeley (UCB), and Principal Investigator in the Materials and Chemical Sciences Division of Lawrence Berkeley Laboratory (LBL).

In a lecture of Lab-wide interest on Thursday, November 17, at 3:30 p.m. in Berkner Hall, Lee will speak about "Molecular Collisions and Chemical Reactions." He will also discuss "Molecular Beam Studies of Primary Photochemical Processes," in a Chemistry Department seminar on Tuesday, November 15, at 11 a.m., in the Hamilton Seminar Room, Bldg. 555.

In his Lab-wide talk, Lee will focus on the development of molecular beam techniques and their application in understanding the dynamics of chemical reactions. In this area, his most spectacular accomplishment has been his successful observation, in 1985, of dynamical resonances in the reactive scattering that occurs when a beam of molecular hydrogen ($H_2$) strikes a target of atomic fluorine (F), yielding hydrogen fluorine (HF) and atomic hydrogen (H).

Lee has been making such significant contributions to fundamental research in chemical dynamics for more than two decades. While a research fellow at Harvard University from 1968-69, he developed one of the first truly universal, crossed molecular beam apparatus, bringing the molecular beam method to a new age.

Through his continuing efforts — first at the University of Chicago from 1968-74, then at UCB and LBL since 1974 — the crossed molecular beams method has become one of the more important tools of chemical research. The apparatus designed in Lee's laboratory has become the

(Continued on page 2)

**Yuan T. Lee**

# Retirement Notes: Setting Sail, Part I

*In June 1986, Robert Louttit retired after 28 years at BNL, and he and his wife Anne moved permanently onto their 37-foot, cutter-rigged sailboat.*

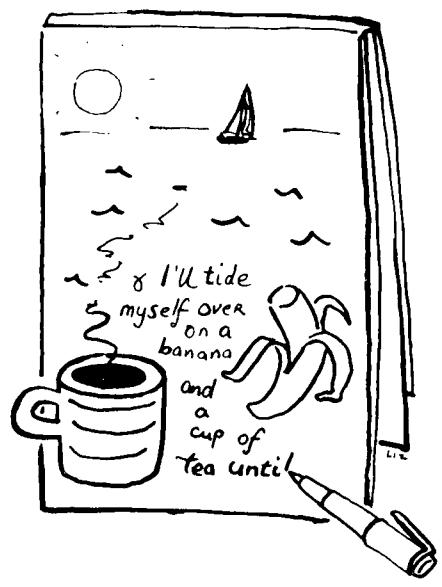
*A Bulletin story described their plans: "They will sail around the northeast region until September, then go south to the Chesapeake. They'll be in North Carolina by mid-October and head for the British Virgin Islands in November, then spend the next two years exploring the Carribean. After that their plans get fuzzy, but they would like to go through the Panama Canal, head for the Galapagos Islands, then to Hawaii, and on to the South Pacific."*

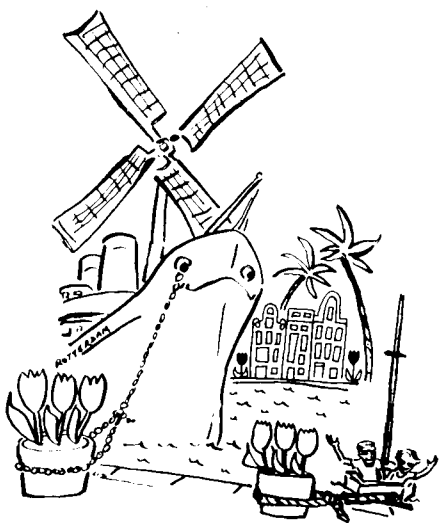
*As shown here, in the first part of a recent letter from Bob Louttit to BNL's Patricia Tuthill, the Louttits' land contact in the U.S., the Louttits were a bit ahead of schedule, arriving in Panama last March — just in time for the beginning of the disruptions caused by the then-questionable status of General Noriega.*

April 19, 1988

As I write this, we are roaring across the South Pacific at high speed — seven knots — about twice as fast as you can walk! We are at about 6° south and 101° west, and there's only a stretch of a couple of thousand miles left to go before we can get this xeroxed and mailed. It is 7 a.m. and Anne has gone back to bed after her watch from midnight to 5:30 a.m. The wind is blowing about 20 knots out of the southeast, just as it is supposed to, and I'll tide myself over on a banana and a cup of tea until Anne gets up in an hour or so. . . . In short, all is well.

After leaving Venezuela in late January, we sailed to Curaçao, stopping at Los Rogues and Las Aves for snorkeling and fishing. In Curaçao, we docked right in the middle of Willemstad at a huge quay, and after we were all secured, the cruise ship *Rotterdam* (big) came in and docked right beside us!



There's no doubt that Willemstad is Dutch; the streets are neat and clean, the buildings all have tiled roofs and gables, and the name of the supermarket where we shopped was "Zuicker-Tuintje."

A couple of days in the city was plenty, and we moved to a beautiful salt-water lake called "Spanish Water," which is where we were when Kimberly [Bob Louttit's daughter] arrived to spend a week with us. . . .

We had a great time with Kimby exploring, mountain climbing, swimming and playing soccer. The latter done in concert with most of the other yachties in the anchorage. There was one Dutch fellow who played who was better than anyone else. After his team had won three times in a row, it came to light that he had played professionally in Holland. (Does that mean I can now claim to have played semi-professionally?)

As soon as Kimby left, we shoved off for the San Blas Islands on the north coast of Panama. It was a boisterous, rolly, downwind sail for five days in 10- to 12-foot seas, and we were happy to arrive in the idyllic San Blas! There are about 300 islands, mostly uninhabited, but many populated by Kuna Indians. They are a shy and reserved but friendly people, and we greatly enjoyed the two weeks we spent there.

There is only one ominous entry in my log — on February 27, the day we arrived, we heard on the Armed Forces Radio news that the U.S. had frozen all Panamanian assets in U.S. banks, and that all Panamanian banks had been closed. But we have AmEx traveller's checks, so everything is going to be all right, right?

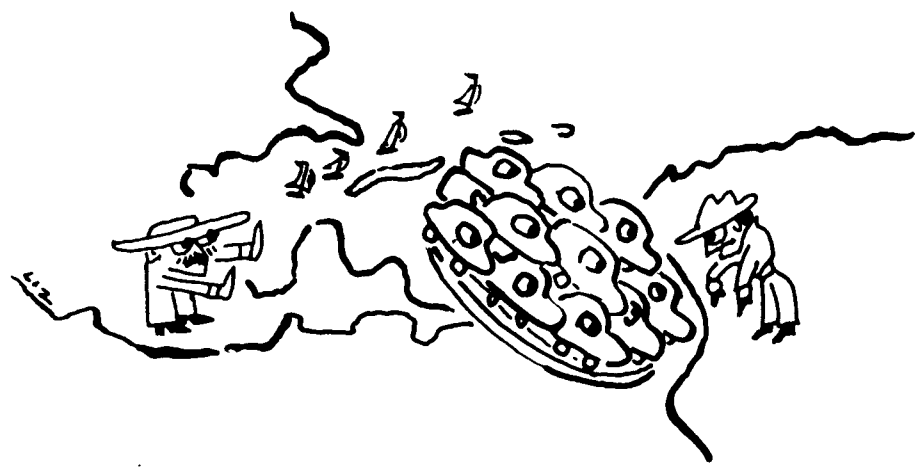
By the time we arrived at the Canal on March 14, it was clear that it was *not* going to be all right. Cash *only*, even for the Canal transit charges. We grubbed through the boat and found just enough dollars for the Canal charges ($115), plus a few groceries, but not for all the food we had planned to buy before setting out across the Pacific.

Then I went to the Canal Office to make transit arrangements. Nasty crowds in the streets. Occasional shots heard. The Canal Offices were protected by huge metal-framed, bullet-proof doors, which were opened electrically from inside, after you had been examined on closed-circuit TV.

Later, we found a Mr. Chen, the chandler, who, for a pretty penny, provided many of the things on our grocery list in return for traveler's checks.

By evening, there was lots of shooting in the streets near the Panama Canal Yacht Club, including machine guns. Many streets were barricaded with burning tires (citizens) or trucks and railroad cars (Noriega's army).

We asked Canal Zone employees how they were doing *their* shopping. Early in the morning, they said, before the riots start. Don't bother with the regular supermarkets, they've all been looted — take a cab to a store out of town. Anne did, with two other women and one man, and got more good stuff while I waited for the boat to measured for transit (as though maybe it wouldn't fit?).



Illustrations by Liz Seubert.

Since each boat must have extra people for line handlers, we agreed to help friends take their boat through first, and then they would come back (by bus) and help us with ours. We were glad to get the experience before taking our own boat through, which we finally did starting March 22. Groups of yachts are scheduled to go through together, without ships in the same lock at the same time. When we got to the first lock, we were delayed for 1½ hours while a huge Toyota car carrier with only 2.2 feet of clearance got stuck in the lock entrance and finally made it in.

There were four yachts in our group, so we made two "rafts" of two each. . . . there were several close calls before we made it through the three "up" locks.

But make it we did, and happily cast off from the other boat as we entered Gatun Lake at about 90 feet above sea level. Here, we were told to anchor for the night before continuing the next day. Our "advisor" (each yacht has its own) told us we could moor to a huge ship-mooring buoy if we wanted to, since the anchorage was 70-feet deep. We did. Then we all went swimming in real *fresh* water. Took the soap with us!

The next day our advisor brought us a huge sack of ice cubes. We thanked him for the present, but I think he was just tired of warm beer.

We started off at 7 a.m., and after a fast passage through the lake and the land cut under full mainsail and motor, we reached the first "down" lock just before noon. Two more hours of close calls . . . and we were free in the Pacific!

We took a mooring at the Balboa Yacht Club for a couple of days while we got our visas for French Polynesia at the French Embassy in Panama City. Neither the Embassy nor the very nervous cab driver would deal in anything but cash, so that used up all the rest of it. And finally, we could bid a relieved farewell to Panama.

*Next week: The Galapagos and beyond.*

## Equipment Demos

Energy-Plus Products of Deer Park will exhibit their line of water-filtration units for laboratory and residential use at Berkner Hall on Tuesday, November 15, from 10 a.m. to 2:30 p.m. These granular activated-carbon filters are the most widely used products for removing water contaminants, such as chlorine, trihalomethanes, detergents, pesticides and industrial solvents. These filters turn tap water into bottled water for less than 2.5¢ per gallon.

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On Thursday, November 17, a presentation on the MicroVAX 3300/3400 Timesharing and VAXServer systems will be held at 9 a.m., in the Computing & Communications Division seminar room, on the second floor of Bldg. 515.

**Note to Employees:**
Attendance at lectures, meetings and other special programs held during normal working hours is subject to supervisory concurrence.

team safety

Big news on the Team Safety* front this week — and all of it is good. As of November 1, we have a new team in the league: The Firefighters are the twenty-sixth team to join the ranks of the safety players, and their first win is slated for January 24, 1989. Rumor has it that the Fire Chief himself has assured a clean-sweep win.

More good news: The Plant Engineering Electric Shop Team is another of our first-time winners. They reached their goal on November 10 after a rough start. Congratulations are in order.

Of special note from the Commissioner's office this week is that, of the 25 teams that started the program back in July, 17 are continuing their lost-time accident-free status. Good job well done!

Keep your mind on the game, and play it safe.

**Twenty-six teams are participating in the Lab's Team Safety Program. As a team reaches its time goal without any lost-time injuries, team members are being rewarded for their safe practices with a luncheon.*

## Yuan Lee (cont'd)

standard in the field of molecular collision dynamics and is the model for equipment found in laboratories worldwide.

Lee first came to UCB in 1962, to pursue his Ph.D., which he received in 1965. Then he remained at UCB and LBL as a postdoctoral fellow, until 1967. This was followed by his research fellowship at Harvard, then by his tenure as Professor of Chemistry at the James Franck Institute and Department of Chemistry at the University of Chicago, and, lastly, by his 1974 return to UCB and LBL.

Yuan Lee has been recognized extensively for his contributions to physical chemistry, including the 1986 Nobel Prize in Chemistry, the 1986 National Medal of Science and the 1981 Ernest O. Lawrence Award. He has also received numerous honorary degrees and honorary professorships.

In a telephone interview, Lee said, "I am looking forward to coming back to BNL, where I have many friends and respect many fine scientists." Among the numerous times Lee has been at the Laboratory was the period when he was a member of the Chemistry Department's Visiting Committee, from 1977-80.

The Haworth Distinguished Scientist appointments were established in 1984 to honor the memory of Leland J. Haworth, BNL's second Director, who died in 1979. Recipients are expected to spend from one to three weeks per year, for three consecutive years, in residence at Brookhaven, holding scientific discussions with the staff and presenting seminars or colloquia, including at least one of Lab-wide interest. Yuan Lee is the Lab's fifth Haworth Distinguished Scientist and the second in the Chemistry Department.

# Calliope: A Renaissance Band To Perform at Berkner

The Renaissance is said to have concluded in the seventeenth century, but Calliope, a twentieth century band, carries on its tradition. Played on the instruments for which it was originally intended, Calliope's revived Renaissance music can be enjoyed at the next concert in the 1988-89 BERA series.

The program will begin on Thursday, November 17, at 8:30 p.m., in Berkner Hall and is open to the public. Tickets can be purchased at the door the night of the performance. Prices are $9 for general admission, $6 for students and those over age 65, and $5 for those under 18.

Calliope: A Renaissance Band, as the ensemble is formally called, is in demand across America for performances of the music that enhanced one of the richest cultural periods of history. The group is named for the chief of the Greek Muses.

The musicians of Calliope, Lucy Bardo, Lawrence Benz, Allan Dean and Ben Harms, are noted for the freshness and vitality with which they perform early music. The ensemble brings to the stage an imposing array of instruments — over 40 at last count — though not all are played in the same concert. Each instrument used in a performance is shown and explained to the audience, then played with virtuosity, whether it be a lute, a krummhorn or a sackbut.

The November 17 concert will begin with the fourteenth-century piece, *Chominciamento di gioia*. There follows a group of pieces from the late fifteenth century, the "Burgundian" period, characterized by music written usually for two or three instruments. The Attaingnant dances, which close the first half, are typical of the mid-sixteenth century, probably intended for entertainment at a banquet or upper-class festivity.

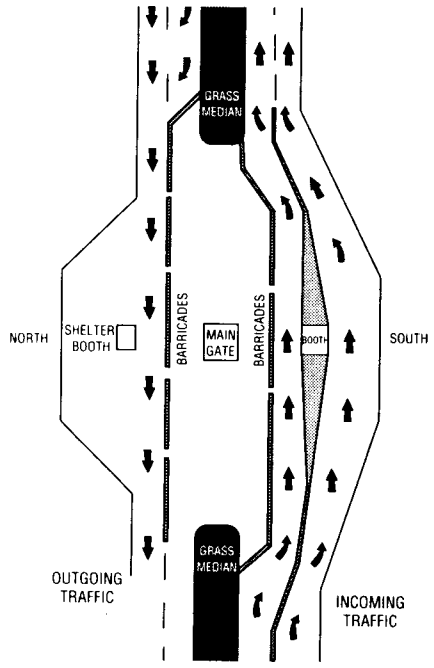
After an intermission will come *Bestiary*, a music-theater piece commissioned by Calliope. Composed by Peter Schickele and divided into sections such as "The Hedgehog" and "The Unicorn," the work makes use of both the visual and aural characteristics of some of the Renaissance instruments. It involves the members of the band as singers and mimes, as well as instrumentalists.

Calliope: A Renaissance Band

## Construction Coming To Main Gate

There will be a change in traffic patterns at the main gate, beginning on or about Monday, November 14, and continuing for about two weeks. The change is necessitated by construction of planters that are being built before and after the center guard's booth to act as guardrails and offer protection in a manner that is both efficient and aesthetic.

As shown in the accompanying drawing, during this period, both incoming and outgoing traffic will be diverted around the center booth. Incoming traffic will be two lanes during peak times, 8-9 a.m., and will be reduced to one lane at all other times. Outgoing traffic will be reduced to one lane from 7 a.m. to 4 p.m., with two lanes at all other times.




## BWIS Meeting

"Acid Rain Studies in the Laboratory" will be the topic at the next Brookhaven Women in Science (BWIS) meeting, on Thursday, November 17, at noon, in Berkner Hall, Room B. Please bring your lunch.

The speaker will be Judy Lloyd, an associate professor of chemistry at the State University of New York (SUNY) at Old Westbury. She is currently on sabbatical from Old Westbury and working with Stephen Schwartz in the Environmental Chemistry Division of the Department of Applied Science, looking at hydrogen peroxide in cloud water.

Lloyd received her B.A. in chemistry from SUNY at Binghamton and her Ph.D. in Radiation Chemistry from Ohio State University. She did her postdoctoral research on superoxide radical chemistry in BNL's Chemistry Department, under the direction of Benon Bielski.

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## To Your Health

Don't give up if you want to give up smoking. Instead, go to Berkner Hall lobby on Thursday, November 17, between 11 a.m. and 2 p.m. That's the day of the Great American Smokeout, an annual event sponsored by the American Cancer Society (ACS). At that time, an ACS representative will hand out literature that encourages smokers to stop smoking — for that day, and, maybe, forever.

## ANS Meeting

James Powell, Senior Nuclear Engineer in BNL's Department of Nuclear Energy (DNE), will speak on "Particle Bed Reactor and Orbital Transfer Applications" at the November dinner meeting of the Long Island Section of the American Nuclear Section (ANS).

Powell, who is head of DNE's Reactor Systems Division and an expert on advanced nuclear reactor systems, will explain how compact particle bed reactors, which are designed to power rockets for space exploration and provide power in space, may make possible space missions that were previously considered impossible.

Powell's talk will take place on Tuesday, November 15, at 8 p.m., at the Bavarian Inn, Lake Ronkonkoma. Starting at 6 p.m., cocktails and a buffet dinner will precede Powell's talk. To make reservations, at $15 per person for ANS members and $16.50 for others, call Lydia Ryan, Ext. 2380.

# BERA News

## Gym & Pool Schedule

The gym and pool will be closed on Veterans' Day, Friday, November 11, but will reopen for the weekend of November 12 and 13.

The complex will close again for the Thanksgiving holiday, from Thursday, November 24, through Sunday, November 27. Normal hours will resume on Monday, November 28.

## Volleyball

**Standings - Weeks of October 31**

| League I | | League II | |
|---|---|---|---|
| Xrayted | 9-0 | Nuts & Bolts | 9-0 |
| Upfagrabs | 8-1 | Krush | 7-2 |
| Dinkers | 7-2 | Set-Ups | 7-2 |
| Phoubars | 2-7 | Fossils | 4-5 |
| Cannonballs | 1-8 | Slammers | 4-5 |
| Netminders | 0-9 | Ziegfield Vollies | 4-5 |
| | | Chunga's Revenge | 1-8 |
| | | Upton-Ups | 0-9 |
| **League III** | | **Open League** | |
| Frazzled | 9-0 | Dig Your Lips | 7-2 |
| High Volley'em | 5-4 | Tom's Mutants | 7-2 |
| MISfits | 5-4 | Magnum | 6-0 |
| Sourcerers | 5-4 | Phoenix | 6-3 |
| Printouts | 4-5 | Vollies | 5-4 |
| Renegades | 3-6 | Meriem's Team | 4-2 |
| Spikes | 3-6 | Pi Chu | 1-5 |
| Good Timers | 2-7 | Constables | 0-9 |
| | | Rowdy Radicals | 0-9 |

## Microcomputer Club

Computer language is the topic of the next Microcomputer Club meeting, on Thursday, November 17, at noon, in the conference room of Bldg. 475. The speaker, David Stampf of the Computing & Communications Division, will discuss Pascal and C languages for microcomputers. For more information, contact Frank Salzano, Ext. 4458.

## Theater Group

The Theater Group will hold a regular meeting on Wednesday, November 16, at 8 p.m. in the lobby of Berkner Hall. A surprise program has been produced by Karl Swyler for this occasion.

## Bowling

**Red/Green League**

H. Marshall rolled a 255, L. Jacobson 232/208/631 scratch, K. Asselta 239, M. Guacci 227, T. Prach 213, A. Warkentien 213, B. Sick 202, R. Mulderig 201.

**Pink League**

M. Reynolds had games of 229/ 182/566 scratch, D. Cunningham 184, D. McCambridge 172.

## TID-Bits

### STN International

The Research Library of the Technical Information Division (TID) has access to STN International, a scientific and technical information network providing access to some of the world's best on-line scientific and technical files. Anyone wishing to learn about the network is invited to visit the Library, Bldg. 477, on Wednesday, November 16, from 2-4 p.m., when a STN representative will be on hand.

STN International is offered cooperatively by the American Chemical Society, Fachinformationszentrum Energie, Physik, Mathematik GmbH (F12 Karlsruhe) and the Japan Information Center of Science and Technology (JICST)

### Attention: Researchers

TID's editorial staff will edit journal articles, reports and any other written work *free of charge*, for grammar and readability. The staff works closely and cooperatively with authors in turning out polished manuscripts. To have material edited, send it to the Editor, Bldg. 477B, or call the editorial staff at Ext. 3482 or 3486.

## New Treatments For Old Recipes

If you'd like to learn to prepare favorite family recipes in new, more healthful ways, Cornell Cooperative Extension can show you how. The fact sheet "Revitalize Your Recipes" explains the functions of various ingredients and illustrates how fat, calories, cholesterol, sugar and salt may easily be adjusted. Recipe modifications and ideas for alternate choices are included, as are tips on ways to increase fiber.

For a free copy, send a stamped, self-addressed, legal-sized envelope to: "Revitalize Your Recipes," Cornell Cooperative Extension, Home Economics Program, 246 Griffing Avenue, Riverhead, New York 11901.

# Arrivals & Departures

### Arrivals

**Elisabeth M. Deazley** ..... Cent. Shops
**Maria Gatz** ..... Computing & Comm.
**Thomas F. Godzieba** ..... Cent. Shops
**Lyn M. Goode** ..... Plant Eng.
**Robert Ramirez** ..... DAS
**Francis X. Skidmore** ..... Accel. Dev.
**Debbie L. Sobotka** ..... Personnel

### Departures

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

**Heikki Huomo** ..... Physics


# Cafeteria Menu

## Week of November 14

### Luncheons

**Monday, November 14**

| | | |
|---|---|---|
| Soup: French onion | (cup) | .75 |
| | (bowl) | .95 |
| Spaghetti & meatballs w/garlic bread | | 3.10 |
| Cheese & mushroom strata w/veg. | | 2.95 |
| Lite-line: Boneless chicken breast w/lemon sauce & veg. | | 3.10 |
| Hot deli: Pastrami | (bread or roll) | 2.85 |
| | (hero) | 2.95 |

**Tuesday, November 15**

| | | |
|---|---|---|
| Soup: Garden vegetable | (cup) | .75 |
| | (bowl) | .95 |
| BBQ chicken w/veg. | | 3.00 |
| Beef Wellington w/veg. | | 3.10 |
| Lite-line: Broiled chicken w/veg. | | 3.00 |
| Hot deli: Ham & Swiss cheese croissant | | 2.85 |

**Wednesday, November 16**

| | | |
|---|---|---|
| Soup: Cheddar broccoli chowder | (cup) | .75 |
| | (bowl) | .95 |
| Baked stuffed pork chop w/veg. | | 3.10 |
| Pasta & seafood au gratin | | 2.95 |
| Chicken wing bonanza | (per ounce) | .22 |
| Lite-line: Broiled pork chop w/veg. | | 3.10 |
| Hot deli: Sloppy Joe sandwich | | 2.85 |

**Thursday, November 17**

| | | |
|---|---|---|
| Soup: Lentil | (cup) | .75 |
| | (bowl) | .95 |
| Tomato & cheese meatloaf w/veg. | | 3.00 |
| Breaded turkey cutlet w/supreme sauce & veg. | | 3.10 |
| Lite-line: Roast turkey w/veg. | | 3.10 |
| Hot deli: Roast beef | (bread or roll) | 2.85 |
| | (hero) | 2.95 |

**Friday, November 11 — Veterans' Day**

| | | |
|---|---|---|
| Soup: Manhattan clam chowder | (cup) | .75 |
| | (bowl) | .95 |
| Swordfish stir-fry over rice | | 3.10 |
| Ziti w/ meat sauce & garlic bread | | 2.95 |
| Lite-line: Broiled fillet w/veg. | | 3.00 |
| Hot deli: Assorted pizzas | (cheese) | 1.25 |
| | (deluxe) | 1.50 |

### Breakfast Specials

| | | |
|---|---|---|
| Monday: | Scrambled eggs & ham | 1.15 |
| Tuesday: | Beef hash & egg | 1.50 |
| Wednesday: | Pancakes & sausage | 1.10 |
| Thursday: | Cheese omelet & toast | 1.45 |
| Friday: | Bacon & egg on roll | 1.00 |

# Holiday Hams

Let the Cafeteria cook and garnish your holiday ham for Thanksgiving. At $2.15 per pound, plus tax, these smoked, in-bone hams average 14 to 19 pounds. To reserve your holiday ham, call the Cafeteria at Ext. 3541.

# 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 and/or appropriate bargaining unit, 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 Employment Manager, Ext. 2882.

**OPEN RECRUITMENT** - Opportunities for Laboratory employees and outside applicants.

3017. REFRIGERATION AND A/C ENGINEER - Requires substantial experience troubleshooting, repairing, installing and operating commercial and industrial air-conditioning and refrigeration equipment, including steam absorption, centrifugal and helical screw refrigeration machines. Successful completion of refrigeration and A/C apprenticeship program or related course work is highly desirable. Must be available to work shifts as required. Plant Engineering Division.

### Motor Vehicles & Supplies

88 SUZUKI - hard & soft tops, 2k mi., $7,500. Andy, Ext. 2907 or 289-1755

87 SUZUKI SAMAURI - convertible, 35k mi., well maint., extras, best offer over $6,000. 689-9234.

86 CAMARO - loaded, T-tops, alarm system, 28k mi., V-6, a/t, p/s, p/b, red w/gray interior, $8,900. Ext. 4962.

86 HONDA GYRO SCOOTER - $500; 6-cyl. Plymouth Duster trans., $125; slant 6 eng., $250; rims, 15", $20 ea. 585-6518.

85 FORD ESCORT - 5-spd., 62k mi., excel. cond., $2,250. Dave, Ext. 4612 or 286-1074.

85 PLYMOUNT RELIANT WAGON - 30k mi., excel. cond., $3,900. Ext. 5031 or 286-3791 eves.

84 PONTIAC TRANS AM - 305 H.O., 5-spd., T-tops, tinted glass, excel. cond., $7,800. 928-9109.

83 JEEP CJ7 - new 33" AT tires, $6,000 neg.; '70 Pontiac Firebird, 350 eng., worked, great cond., $3,000 neg. Steve, 744-8087.

83 PLYMOUTH RELIANT WAGON - good trans., a/c, p/b, p/s, am/fm cass., slight damage on right side, $1,500. 289-5216 after 5 p.m.

83 NISSAN PULSAR - h/b, blue, 4-dr., 4-cyl., a/t, a/c, p/s, p/b, cruise, good cond., asking $1,800. Ext. 5141 or 325-8023.

82 CHRYSLER Le BARON - a/t, p/s, p/b, 4-dr., a/c, new tires, excel. cond., $3,200. Ext. 2876 or 878-2702.

82 PLYMOUTH RELIANT - rebuilt motor, 8k mi., new tires, clean body, asking $2,500. 281-7115, 4-7 p.m.

82 HONDA CIVIC - gray, 116k mi., good cond., $900. Tom, Ext. 4440.

82 DATSUN 310 - h/b, 4-dr., 76k mi., a/t, am/fm, good cond., $1,800. Ext. 4004 or 286-0934.

81 SUZUKI RS-175 DIRT BIKE - asking $299; '81 Camaro Berlinetta, blue, V-6, full power, Blaupunkt cass. stereo, $2,000. 286-1348.

81 FORD F-150 - black beauty, new block trans., new converter, tires & rims, extra wheels & tires, $4,600. 399-6729 after 7 p.m.

81 PLYMOUTH RELIANT - 93k mi., new clutch, battery, axial, exhaust, 2-yr. trans., body damaged, $400; '80 Citation, 90k mi., $400. Ext. 4486.

81 MERCURY ZEPHYR - a/t, p/s, p/b, good running cond., best offer. Ext. 7148 or 785-0374.

81 PONTIAC LeMANS - 68k mi., new tires, rods, struts, rear brakes, a/c, am/fm, good cond. 874-3437.

80 BUICK SKYLARK - new trans. & tires, 76k mi., good cond., $1,300 neg. Ext. 3851.

80 FORD MUSTANG - 4-cyl., 4-spd., new trans., clutch, paint, struts, battery, steering, $1,100 neg. Brenda, 366-1860.

80 CHEVY MALIBU WAGON - 6-cyl., good body, runs well, $700 neg. 821-3086.

80 MERCURY ZEPHYR - a/t, cass., good tires, $650 neg. Alison, Ext. 4410/4514 or Chris, Ext. 4149/5611.

80 SUBARU - 4-dr., DL, 93k mi., many new parts, $600. Ext. 2518 or 744-8894.

80 OLDS OMEGA - 4-cyl., 2-dr., s/t, a/c, p/s, p/b, am/fm cass., runs well, excel. cond., $1,500. Franz, Ext. 7103.

79 OLDSMOBILE CUTLASS - a/c, p/s, p/w, $750. Ext. 5035.

79 OLDSMOBILE STARFIRE - 4-spd., am/fm stereo, 25 mpg, very good cond., $600. 751-3666.

78 DATSUN 280Z - lt. blue, 5-spd., am/fm cass., a/c, sunroof, new eng., 4 tires & battery, mint cond., $4,000. Ext. 4931.

78 OLDSMOBILE CUTLASS - velour int., p/s, 350 V-8, new battery, tires, w/w, needs work, asking $800. 289-3434 between 8 a.m.-5 p.m.

78 TOYOTA TRUCK - long bed, w/ cap, running engine, good tires, rusted, needs major body work, make an offer. 744-9475 after 5:30 p.m.

77 BUICK REGAL - a/t, p/b, a/c, new tires, 80k mi., some rust, $500; '76 Capri Ghia, a/t, 4-cyl., new tires, p/b, am/fm, 92k mi., asking $800. 929-8912.

77 OLDSMOBILE WAGON - V-8, 403 CID, new carb., a/t, runs well, $275. Jerry, Ext. 2198 or 744-4662.

74 JEEP J-10 - cap, 7' plow, new Meyers electro-touch unit, extras, asking $1,000. Pete, 399-2813 after 5 p.m.

73 DODGE DART - 6-cyl., 2-dr., a/t, p/s, runs, body good, $400. 363-6753 after 6 p.m.

71 PLYMOUTH FURY - 383 eng., trans. & tires good. John, 924-3492.

70 DODGE DART - 4-dr., 53k orig. mi., good cond., $400. John B., Ext. 4028.

66 PLYMOUTH BELVEDEER - 6-cyl., a/t, restorable parts, runs, best offer. Tony, 924-5248 after 6:30 p.m. or wknds.

54 STUDEBAKER PICKUP TRUCK - rebuilt engine, restorable, driveable, $675. Kevin, 281-8031.

46 & 47 WILLYS JEEPS - 1 partially restored, runs; 1 parts new, CJ5 brakes, $1,500 or best offer. Tony, 924-5248 after 6:30 p.m. or wknds.

TIRES - 2 ea., 175x13 radial snow tires, 9k mi., $75/pr. Ext. 5611 or 281-2002 eves.

SUZUKI QUADRUNNER - perfect cond., like new, many extras. 878-6074 eves.

UTILITY TRAILER - 8'x4' tilt body, aluminum, $300. Ext. 5235 or 821-6821.

PENNSTYLE UTILITY TRAILER - 1987, w/utility plastic box, GUWR, 1,900 lbs., $950. Ext. 4986.

FORD BRONCO RIMS - hub caps & lug nuts, 4 for $40. Dave, Ext. 4612 or 286-1074.

TIRE - new 721 Firestone, 235/75R15, Eldo rim, $75 neg. Ernie, 588-4987.

SNOW PLOW - Meyers 7½' power angle, w/all hardware, $800, $1,200 installed. Bob, Ext. 2957 or 878-4556 after 5 p.m.

FORD 302 MOTOR - for sale, low miles, $400 neg. Wayne Cummings, Ext. 3499.

TIRES - Firestone Supreme, all-season radials, P175/80R13, 2 excel., $15 ea.; 1 good, $5. 286-8119.

ROOF RACK - for car. 929-3987 eves.

### Boats & Marine Supplies

31' CORVETTE SLOOP - keel, cb, sloop, classic beauty, excel. cond., $18,000. Ext. 2053 or 363-2796.

20' STINGRAY - 1987, 190 h.p. I/O, fwc, large cuddy cabin, Mercruiser, 8' beam, moving, must sell, $16,500. Tony, 924-5248 after 6:30 p.m.

17' SPORTCRAFT BOWRIDER - 1981, deep V, 470 Mercruiser I/O, full canvas, trailer, life jackets, anchor, good cond., $5,000. 878-1580 after 6 p.m.

MAKO 238 - walkaround cuddy, twin 115-h.p. Evinrudes, VHF, cb, Loran recorder, loaded, in water. 924-5329.

SINGLE LEVER CONTROL & CABLES - for Morse twin engine, $65 neg. Ernie, 588-4987.

### Miscellaneous

ROLL TOP DESK - brand-new, oak, 55" long, 47" tall, 20½" deep, $500. Ext. 5235 or 821-6821.

TABLE - 48", maple, w/2 leaves, $55; 21", 12-spd. Centurion bicycle, $115; 10-spd. Ross bicycle; 6x9 Oriental rug. 929-3987 eves.

PERSIAN RUGS - 2, new, 9x12, blue w/beige, $200 ea. Charlie, Ext. 3897.

DRESSER - w/mirror, hardwood, good cond., $100. Scott, Ext. 3369 or 758-7114.

EASY CHAIR - traditional style, subdued multicolor plaid, good cond., $50. 345-3170 eves. & wknds.

TEA TABLE - antique, mahogany, $50; oak dining table, $300; Franklin stove w/brass grate & stove pipe and ¼ cord split oak, $75. 924-3082.

COUCH - tan, pull-out, $50. Dennis, Ext. 4028 or 734-5884.

COMFORTER - king-size; pillows & bed ruffle, like new; 2 twin-size thermal blankets; women's coats, 1 leather, 1 cordory, size 15/16. 689-9234.

HOT AIR BURNER - w/Becket heads, 2-yrs.-old, must sell, ready to go, $375. 588-4703 after 5 p.m.

COFFEEMAKER - Toshiba, grind, brews, digital clock, auto brew start, retails $200, asking $75. 585-6518, 8 a.m.-5 p.m., M-F.

CUISINART - large capacity DLC-75P, used once, sells for $250, asking $100. Ext. 2352 or 473-9016.

PIZZA OVEN - commercial, electric, 24x18, excel. cond., asking $50. Tony, Ext. 9274.

METERS - HP400L ACVTVM HP415P SWR Shallcross milliohn meter, 670A w/documentation, $20 ea. Rich, Ext. 4172.

MASON JARS - 20/$5; wood frame screens, $3 ea.; transformer, 110-240V, $10. Ext. 2590 or 924-7077.

TOPSOIL - fine screened, $13 per yd. delivered, also peat moss, sand, gravel, blend. 924-9427.

POINSETTIAS - Dec. 1 deadline, red & white, various sizes, M. Kelley, Ext. 4230.

CHRISTMAS TREES - artificial, 7', $50; 5', $25, both excel. cond. 475-3407.

SNOW THROWER - Toro, 8 h.p., electric & manual start, excel. cond., $525. 475-7366.

STEREO - Sharp rack system, 100 W/ch, dual cass., equalizer, 3-way speakers, new, never used, $500 neg. 331-2136.

PC MONITOR - monochrome Tandy VM2, excel. cond., asking $60. John, Ext. 3292 or 286-1348.

STEREO COMPONENT RACK - $25; couch, $5. Ext. 5400 or 878-6098.

PHOTOCOPIER - model T347, new $1,300; now $600. 226-1828 after 5 p.m.

VIDEO CAMERA - G.E. Camcorder, VHS, w/portable VCR, have 2 like new, will demo, $400. 924-4733.

MONOCHROME DISPLAY - Amdek 310A w/driver card, $100; clock/calendar card for PC/XT, $15. Ext. 3458 or 369-2504.

BICYCLE - Fuji, 27", for 4'-5½' tall riders, $125. 585-6518, 8 a.m.-5 p.m., M-F.

RUNNING SHOES - women's Tiger GEL 101, size 9, fits 8½-9, worn once, $60, asking $40. Elaine, Ext. 5329.

CAMERA - 35 mm Mamiya SLR auto, leather case, cost $350, new, used 3 times, sell $155. Ext. 3699.

PEKINGESE PUPS - m/f, 6-wks.-old, AKC, health guarantee. 654-1731.

OPERA TICKETS - for Tues., Nov. 15, 1 pair, family circle. Ext. 2396 or 5202.

OPERA TICKETS - MET, BERA seats, Carmen, Fri., Dec. 9, 8 p.m., $17 ea. Ext. 2617 or 751-1149.

BASEBALL CARDS - O. Booker, Ext. 3082 or 727-5912.

BOTTLE COLLECTIONS - Avon, 100 pieces, $100; 30 Jim Beam, $100; dresser & chest of drawers, 1920's, $125. 878-6637.

BRACELET - women's 14K gold heavy-weight, beautiful design, new $550, asking $250, must see. Linda, Ext. 7745.

CABOOSE - Pennsy-N5, Lewing-Wuonset Pt., R.I., steel, new paint, Amtrac compatible, $6,500. Fred, Ext. 4407/4435 or 499-1214 after 6 p.m.

COATS - leather, full-length, size 12, $25; red winter coat, $15. Susan, Ext. 7716.

JACKET - lambsuede, sporty, new, lined, zippered, front tan color, size 40, paid $149, asking $95. Ext. 3589.

### Free

KITTENS - long hair, adorable, 10-weeks-old, 2 females, 1 male w/shots, to good homes. Ext. 3506 or 281-2002 eves.

CARDBOARD MOVING BOXES - sturdy. Ext. 5227 or 696-4354.

SIAMESE CAT - gentle, neutered male, purebred, 4-yr.-old, child allergic, needs loving home. 751-0023, days or eves.

KITTENS - found 5 who need a home. Ewa, Ext. 4369 or 3110.

### Lost & Found

FOUND - CCR music book. Brigeta, Ext. 3426.

### Yard Sales

BELLPORT - house contents, Sunday, 11/13, 10 a.m.-3 p.m., 8 Fairway Drive. Ext. 3155.

MIDDLE ISLAND - Holiday Craft Fair, Sunday, 11/13, 12-6 p.m., Clubhouse, Fairview at Artist Lake Condos. Ext. 2876.

SHIRLEY - to benefit Boy Scouts, 11/11-13, 410 River Road, by Southaven Park. Ext. 4243.

### Real Estate

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

### For Rent

EAST PATCHOGUE - 2-bdrm. ranch, l/r, d/r, eik, bath, play room, $800 + ½ util. Andy, Ext. 2907 or 289-1755.

JAMESPORT - 1-bdrm. cottage, l/r, eik, porch, bath, part-furn., near beach, 25 min. to Lab, suitable for couple, no pets, $475/mo. + util. Walt, Ext. 2907 or 698-0576.

LAKE PANAMOKA - 2-bdrm., eik, d/r, l/r w/fp, all appliances incl. w/d, full bsmt., private beach rights, 5 min. from Lab. $800 mo. + util. 929-3407.

MASTIC BEACH - 3-rm. apt. w/bath, new kitchen, priv. ent., single or couple, $750. all incl. Ext. 2951 or 399-3415.

MOUNT SINAI - 1-bdrm. apt., water view w/private deck, avail. immediately, $800/mo. incl. util. 473-1761.

PORT JEFFERSON - 3-bdrm. house, 1 bath, fireplace, walk to shopping & RR, $800 plus. 929-8806.

SETAUKET - 3-bdrm. Victorian Colonial, Old Field South area, ⅔ acre yard, partial bsmt., all appliances, $1,100 plus utilities. 751-9096.

SOUND BEACH - 2-bdrm. cottage, newly renovated, new oil heat, hardwood floors, some carpeting, bsmt., fenced yard, walk to beach. $700/mo. + util. Don or Sue, 473-6570 after 7 p.m.

WADING RIVER - 3-rm. apt., eik, bath, no pets, non-smoker, avail. Jan. '89, $450 covers all, references. Janet, Ext. 2345 or 929-3910.

WADING RIVER - legal 2½-bdrm. apt., l/r, eik, enclosed porch, quiet neighborhood, steps to beach, $700 + incl. heat. 929-8806.

CATSKILLS - 3-bdrm. chalet w/sleeping loft, fully furnished, near Hunter and Windham Mts., great for hunting and skiing. Kay, Ext. 4501 or Bea, Ext. 3642.

HILTON HEAD, SC - 2-bdrm. condo, sleeps 6, tennis, golf, beach, pool, Oct. & Nov. $350/wk. 585-9149.

### For Sale

MANORVILLE - 4 bdrm. on 1½ + acres, new kitchen, 2½ baths, family room w/wood stove, detached garage, 200 amp electric, large assumable mtg., close to Lab, $180,000. 878-8875 eves.

RIDGE - new high ranch, 5 bdrms., 3 baths, l/r, d/r, den, play room, 1-car gar., poss. m/d, 5 min. from Lab. Ext. 5076 or 744-4615.

RIDGE - 2-bdrm. townhouse, central a/c, appl., 5 min. from Lab, avail. 1/1/89, $97,000. Ext. 4676.

ROCKY POINT - 2 bdrms., 1 bath, l/r, eik, full bsmt, encl. porch, ¼ acre, low taxes, $135,000. Mark, Ext. 2034.

SETAUKET - 3-bdrm. L-ranch, 2 baths, eik, l/r, d/r, rec. room, wood floors, patio, full bsmt, attic, 2-car gar., a/c, ⅓ acre, landscaped, 3V Schools, $230,000. Thomas Nolan, Ext. 5265 or 584-8339 after 6 p.m.

SHOREHAM - large, 8-room Colonial w/4 bdrms., 2½ baths, S-W schools, low taxes and monthly bills, $170,000 neg. Barbara, 744-0960.

ADIRONDACKS - 5 acres, 290' waterfront property, swimming, boating, fishing, terms avail. 288-5576.

PALM COAST, FL - ¼ acre lot, 80'x125', 5 mi. to Atlantic Ocean, 24 mi. n. of Daytona Beach, water drainage & sewage, utilities in, $1,995 & assume loan. Thomas Nolan, Ext. 5265.

ROCKLEDGE, FL - 2-bdrm. house, 2 baths, 2-car garage, fam. rm., porch, w/w carpet, shades, some drapes, appliances, $64,500. 407-631-2840.

HILTON HEAD, SC - 3 bdrm. condo, sleeps 8, 2 baths, washer/dryer, wet bar, 6 tennis courts, 3 pools, whirlpool, golf, ocean view, asking $89,000, or will rent. 929-8912.

### Wanted

LEATHER SEWING MACHINE - and leather working tools. Bob, 281-2875 after 5 p.m.

REFRIGERATOR - table-top, John, Ext. 7671.

BABYSITTER - to care for 5 mo.-old baby, near the Lab or on-site preferred, must be mature, responsible and caring. Ext. 5060 or 281-5076 eves.

FRENCH TUTOR - for junior high student, fees negotiable. Ext. 4138 or 751-9096.

YARD SALE ITEMS - for Boy Scouts' benefit, can be picked up. John, Ext. 4243 or 924-3492.

RADIAL ARM SAW - Stephen, Ext. 4477.

TRAINS - Lionel, American Flyer, accessories, any cond., brings good price. Carole, Ext. 7100 or 924-4097 eves.

RECORDS - 45 rpm & some LPs of the 50's and 60's era. Frank, Ext. 3120.

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