BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

DAS and Physics Researchers Work on Four New CRADAs

This past Tuesday, the House Appropriations Committee voted budgetary reductions that might lead to a loss of as much as $16 million in funding from the Lab's budget for fiscal year 1996. Of that, about $11 million would come from such programs as Cooperative Research and Development Agreements, or CRADAs — contracts between BNL and private industry to pursue a line of mutually beneficial research.

Whether these cuts will become reality will take some time to determine as the budget process wends its way through the House and Senate to a final resolution, probably later this summer. At this time, all of the 42 active CRADAs already signed at the Lab are fully funded for the current fiscal year; of these, 24 are multiyear agreements, and their future funding depends on how the budget situation resolves.

The newest CRADAs include four that were recently signed involving two research projects in the Department of Applied Science and another two in the Physics Department. These CRADAs reflect the Lab's wide-ranging expertise in numerous scientific and technical areas. BNL's participation in these CRADAs is funded by the U.S. Department of Energy's Energy Research Laboratory Technology Transfer Program.

• Forrester Environmental Services, Inc., (FESI) Stratham, New Hampshire — Removing toxic metals from municipal incinerator ash.

The Supreme Court recently ruled that incinerator ash must be tested as a hazardous waste under the federal Resource Conservation and Recovery Act. This ruling may prove to be very expensive for municipalities, as it requires them to remove and stabilize contaminants, such as heavy metals, from the ash.

To address this problem, DAS researchers A.J. Francis and Sudipta Chatterjee, in collaboration with Keith Forrester of FESI, are developing a pilot-scale process for removing and recovering the toxic metals lead and cadmium from ash generated by municipal solid-waste incineration.

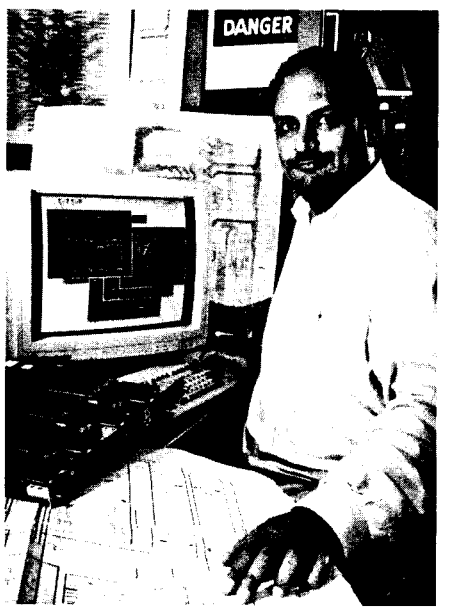
The process uses citric acid, a naturally occurring organic compound, to bind the contaminants for later recovery by bioremediation using microbes. Since the recovered metals may be recycled, this innovative technology minimizes the generation of secondary waste streams and recovers environmentally and economically important metals.

"This is our second CRADA with Forrester Environmental Services," said Francis. "In the initial CRADA, we showed the technical feasibility of the BNL citric-acid process for incinerator ash, which led to the current project. The recovered ash can be used for road fill, and recovered metals can be recycled or disposed of in concentrated form."

• Intermagnetics General Corporation, Latham, New York — Characterizing high-temperature superconducting wires.

Discovered some eight years ago, high-temperature superconducting materials are potentially important to industry for such applications as accelerator magnets, medical imaging devices and electric motor coils. Superconducting wires made from bismuth compounds have proven to be promising materials because they can carry high electrical currents at relatively high temperatures, making them economical.

But before these superconductors can be used commercially, certain manufacturing problems must be solved. Thomas Thurston, Physics Department, is characterizing high-temperature superconducting wires to determine which processing conditions would be best commercially.



Maged Atiya, Physics Department, principal investigator for BNL's new CRADA with LeCroy Research Systems (see page 2), examines the design of a waveform digitizer. On the computer screen is a digitized waveform from AGS Experiment 787, with 500 million samples per second.

Thurston explained, "The superconductors we are investigating have a transition temperature of 110 kelvins (-261°F) — a relatively high temperature, compared to the 23 kelvins or below which conventional superconductors lose electrical resistance. Since the high-temperature superconductors can be cooled using liquid nitrogen, rather than liquid helium, they should eventually be more economical."

In manufacturing bismuth wires, hollow silver tubes are filled with superconductor precursor materials and rolled into long, thin strands. When the wires are heated, high-temperature superconducting material is created.

The CRADA researchers then use an x-ray probe at BNL's National Synchrotron Light Source (NSLS) to characterize the structure of the material under various processing conditions.

(continued on page 2)

Brookhaven Lecture

Radiation Protection: Then and Now

Charles Meinhold

Just 100 years ago this coming November 8, William Röntgen made history discovering the x-ray. The news spread, with stimulating results: Thomas Edison developed a hand-held fluoroscope, Antoine Becquerel discovered radioactivity, and Marie and Pierre Curie found the elements radium and polonium.

Both x-rays and radium were immediately developed for medical and non-medical use. But very quickly, the potential hazards of these materials began to be recognized. An electrotherapist reported the first ulcerating skin lesion within a month of

(continued on page 2)

Haworth Distinguished Scientist Lecture

From Quarks to Black Holes and Back Again

In the 20 years of his remarkable career, Frank Wilczek has become one of physics' most recognized theorists and has reached beyond that field in his work as a professor at the School of Natural Sciences of the Institute for Advanced Study in Princeton, New Jersey.

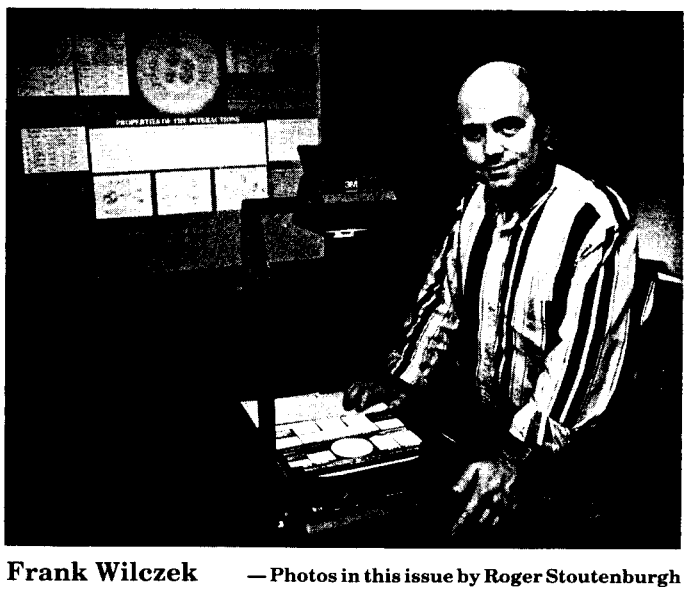
Although he has worked primarily in high energy physics theory, Wilczek's interests span a broad spectrum, encompassing cosmology and condensed matter physics.

Some of his work, dealing with the strong interaction between quarks and suggesting the existence of gluons, forms the basis for investigations of quark-gluon plasma at BNL's Relativistic Heavy Ion Collider (RHIC). This theorized state of matter, thought to have existed shortly after the Big Bang, is predicted for the high-speed collision of heavy-ion nuclei at RHIC.

Also, Wilczek has delved into the properties of matter at high temperatures, an area pertinent to RHIC phenomena. This research is just one reason Wilczek has been selected as the most recent in the Lab's series of Haworth Distinguished Scientists.

During his first visit to BNL in his two-year term as a Haworth Scientist, Wilczek is spending two weeks, from June 19 to July 1, in the Physics Department discussing his work and events in his fields of interest with BNL staff.

On June 27, Wilczek will share his insights and recent results with a general audience, when he presents a Labwide lecture on "Black Holes and Quantum Mechanics: Trouble on the Horizon?" at 4 p.m. in Berkner Hall.



Frank Wilczek — **Photos in this issue by Roger Stoutenburgh**

The lecture will illustrate

(continued on page 2)

Joint BWIS-Office of Educational Programs Seminar

A Winner's View of Mathematical Olympiads

You've heard bad news about the sorry state of our schools and the rising costs of education. But there's lots of good news out there that you may not have heard about. For example: The U.S. high-school team for the International Mathematical Olympiad (IMO) placed first in the last annual competition, held in July 1994, in Hong Kong. What's more, the six students who made up the team achieved the first perfect score in the 35-year history of the IMO. Teams from 69 countries competed, and the top five finishers were, in order: the U.S., China, Russia, Bulgaria and Hungary.

A deputy leader of the winning USIMO team was Anne Hudson, Professor of Mathematics at Armstrong State College in Savannah, Georgia. She will speak about "The International Mathematical Olympiad — Hong Kong 1994," at a seminar sponsored jointly by Brookhaven Women in Science and the Office of Educational Programs, on Wednesday, June 28, at 2 p.m., in the Hamilton Seminar Room, Chemistry, Bldg. 555.

Hudson's involvement in the IMO got its start in 1989, when she first

(continued on page 2)

Researchers Work on Four New CRADAs (cont'd.)

This is superior to existing laboratory methods of characterization, because the powerful synchrotron x-rays penetrate the silver cladding, allowing nondestructive testing of the superconducting material inside.

• LeCroy Research Systems, Chestnut Ridge, New York — Developing a high-speed waveform digitizer for use in computers and electronics.

A major advance in electronics has been taking place within the last decade — the recording of fast electronic signals in digital form so that they may be easily processed and analyzed by a computer. This capability is performed by a device called a high-speed waveform digitizer, crucial to all electronics and computer technology.

CRADA principal investigator Maged Atiya, Physics, explained that, in 1988, his group designed, built and operated one of the first high-speed, high-density, fast readout waveform digitizer systems. This digitizer is used in the detector for Experiment 787 at the Alternating Gradient Synchrotron, looking for rare kaon decays.

Said Atiya, "A waveform digitizer is a fast camera that can take pictures of electrical signals at the rate of up to one billion per second and transfer them into digital bits so that computers can process and analyze the signals as data."

The CRADA researchers are developing a 10-bit, 500-million-sample/second waveform digitzer that captures signals twice as fast and is four times more precise in recording signals than existing instruments. Data memory and data readout speed will be increased by as much as a hundredfold, while cost is expected to be decreased at least tenfold.

The instrument will have far-ranging applications, including basic research instrumentation in physics, chemistry and biology; defense technology, such as radar, test-ban verification and sonar; medical instrumentation such as sonogram, magnetic resonance imaging, and CAT and PET scanners; and industrial testing, which includes mechanical, stress and aerodynamic tests of sensor signals.

• Power Conversion, Inc., Elmwood Park, New Jersey — Making lithium batteries for electronic applications.

The market for batteries used in backup systems for computers and other electronics applications is expanding rapidly. For these uses, batteries must have significant energy content, be lightweight and leak-proof so that delicate circuit boards are not ruined. The CRADA researchers are developing a battery that is expected to meet these qualifications.

"We are developing a thin-film lithium battery," said James McBreen, DAS. "We are synthesizing polymer electrolytes and additives for improving conductivity of the polymer, and we are using x-ray absorption spectroscopy at the NSLS to test the synthesized materials."

The leak-proof electrolyte, or ion conductor, in the new battery will be made of a lithium salt dissolved in a polymer, polyethylene oxide, to form a thin film. The positive electrode is manganese dioxide, the same as in ordinary flashlight batteries, and the negative electrode is lithium. — Diane Greenberg

Brookhaven Lecture (cont'd.)

the x-ray's discovery. Edison's assistant died in 1904 as a result of excessive exposures. Becquerel was burned from keeping a sample of radioactive material in his waistcoat pocket for six hours.

In about 1915, sets of rules giving advice on avoiding unnecessary exposure were suggested in Germany and England, and the idea of standards for radiation protection was born. By the early '20s, two independent recommendations for dose limits appeared, both virtually identical and containing the concept of a threshold dose commonly found in toxicological studies.

In 1928, the roentgen was defined as a unit of exposure quality by the newly formed International Commission on Radiation Units. And in 1929, the U.S. representative to this commission, Lauriston Taylor, set up and was first to chair what eventually became the National Committee and National Council on Radiation Protection and Measurements (NCRP).

NCRP's third chairman and present president is BNL's Senior Scientist Charles Meinhold, Deputy Head of the Radiological Sciences Division in the Department of Advanced Technology (DAT). To trace the fascinating history of radiation protection and its radical change in concept in the later 1970s, Meinhold will deliver the 307th Brookhaven Lecture, "Radiation Protection: Then and Now." Meinhold, who will begin his talk at 4 p.m. on Wednesday, June 28, in Berkner Hall, will be introduced by Senior Scientist John Baum, DAT.

In his lecture, Meinhold will recall that when he first spoke on radiation protection in a Brookhaven Lecture, in April 1973, the basic regulations for dose limitation had remained unchanged from the early 1920s. Then, in 1977, the International Commission on Radiological Protection (ICRP) published recommendations made from a scientific approach based on risk and assuming a linear model. Meinhold will discuss the development of new risk estimates using data from the Hiroshima and Nagasaki survivors, the story of their effect on current ICRP and NCRP recommendations, and the implications of outstanding issues, such as the importance of new Japanese and Russian data and studies of radiation workers.

Charles Meinhold received his B.S. in physics at Providence College in 1956, and was an Atomic Energy Commission Fellow in radiological physics at the University of Rochester 1956-57. After being certified by the American Board of Health Physics, he joined BNL's Health Physics Division — now the Safety & Environmental Protection (SEP) Division — first as a guest fellow, then as a junior health physicist, rising to senior health physicist in 1974 and receiving tenure in 1983.

From 1972-88, Meinhold was Head of SEP. In 1988, as a senior scientist, he moved to DAT as Head of the Radiological Sciences Division. In 1991, he became President of the NRCP and was named DAT Deputy Division Head. Thus, he began dividing his time between BNL and the NCRP in Bethesda, Maryland.

In addition to his service to NCRP since 1980, Meinhold is a long-time member of the ICRP and has been the present vice chairman of the Main Commission since 1993. He has also been vital to several other institutions, serving as president of the Health Physics Society in 1981, and of the International Radiation Protection Association since 1992. In 1994, he received honorary professorships from the China Institute of Atomic Energy and from Suzhou Medical College, also in China.

After the lecture, all are invited to join Meinhold for discussion and refreshments. To have dinner with the speaker at a restaurant off site, call Maria Beckman, Ext. 2301.

Gas Station Gets Getty

Your dimes will now get you more miles, thanks to recent changes at the on-site service station, known as Upton Industries.

As of June 1, the station officially changed its brand of gas from Gulf to Getty. According to station manager Bill Widmer, the move comes as part of an effort to make gas prices more competitive with stations off-site.

Almost a year ago, Widmer complained to his gasoline dealer that prices were too high. During ensuing discussions over a period of seven months, and with the approval of Ron Manning and John Schnell, of the Staff Services Division, Widmer negotiated with Getty for lower gasoline prices.

As of last Tuesday, June 20, Regular Unleaded gasoline at the station costs 1.29^9; Unleaded Plus costs 1.37^9. The Premium Unleaded gasoline will remain at its current price of 1.49^9, until the station has sold its existing stock of Gulf Premium Unleaded gasoline; then the price will come down to reflect lower Getty prices of about $1.44. — Brad Keoun

Haworth Lecture (cont'd.)

the paradox between two of physics' most central paradigms. "The two most profound theories in modern physics are general relativity, which describes gravitation and cosmology, and quantum mechanics, which describes the behavior of matter on atomic and subatomic scales," Wilczek explained. "The concepts used in these theories are very different, and it is not entirely clear that they are consistent."

Black holes are an especially tricky area in this respect, as Wilczek will explain, with apparent contradictions between the way relativity and quantum mechanics predict the behavior of these phenomena.

Wilczek received his bachelor's in mathematics from the University of Chicago in 1970, then went to Princeton University, earning his master's in mathematics and doctorate in physics in 1972 and 1974, respectively.

After rising to the position of professor at Princeton, he went to the University of California, Santa Barbara, in 1981, to become a professor at the Institute for Theoretical Physics, until 1988. During this period, he spent five years as a fellow of the prestigious John and Catherine MacArthur Foundation, and two summers as a Regent's Fellow of the Smithsonian Astrophysical Observatory. In 1989, he joined the Institute for Advanced Study in his current position.

Wilczek's first connection to Brookhaven came in 1978, with his appointment to the Lab's High Energy Advisory Committee, which continued until 1982. From 1986-88, he served on the U.S. Department of Energy's High Energy Physics Advisory Panel.

In April 1986, Wilczek received the American Physical Society's J.J. Sakurai Prize. In 1990, he was elected to the National Academy of Sciences, and in 1993 to the American Academy of Arts and Sciences. Last August, he was awarded the Dirac Medal and Prize by the International Center for Theoretical Physics in Trieste, Italy.

Haworth Distinguished Scientist appointments honor the memory of Leland Haworth, BNL's second director. Haworth scientists reside at BNL for one to three weeks each year, for up to three consecutive years.

During his time at BNL, Wilczek will use Room 2-32 of Bldg. 510 as his office. Anyone interested in speaking with him may call that office at Ext. 3748, or Isabell Harrity, Ext. 2524.

Inside Info

As of June 19, **Theodore Daniels** began serving as Acting Head of the Computing & Communications Division (CCD), while the Laboratory searches for a replacement for former CCD Head **Mark Wiesenberg**, who has left BNL.

"These are important times for CCD and for the Laboratory as a whole," said Deputy Director **Martin Blume** in announcing Daniels's appointment, "and I am grateful to Ted for agreeing to assume this difficult role. He will need the full support of everyone in the Division. He will certainly have that support from the Laboratory Directorate."

Blume also thanked Wiesenberg "for the excellent job that he has done at CCD in the past three and a half years" and invited any CCD staff who may have concerns and/or ideas on the future of the division to discuss them with him.

CCD was created in October 1988 to take over the burgeoning computing and communications functions at the Lab formerly handled by the Applied Mathematics Department (AMD).

Almost 28 years ago, Daniels joined AMD as a technician in September 1967. He rose through the ranks over the years to Technical Specialist in 1970, Senior Technical Supervisor in 1980, and Project Engineer I in 1983. Most recently, he was named CCD's Manager of Distributing Computing Services, in May 1993.

BWIS-OEP Seminar (cont'd.)

became a member of the U.S.A. Mathematical Olympiad Committee which oversees U.S. involvement in the IMO and the U.S.A. Mathematical Olympiad (USAMO) that precedes it. About 100 top-ranking students in the Annual High School Mathematics Competition are invited to participate in the USAMO each year, and the winners make up the IMO team.

Prior to the IMO, the U.S. students participate in a month-long summer program. From 1992 to 1993, Hudson was one of three faculty members for the program held at the U.S. Naval Academy and West Point, and, in 1993, she was Deputy Leader of the U.S. IMO team that competed in Istanbul. She became Director of the Mathematical Olympiad Summer Program at the U.S. Naval Academy in 1994, the year she went to Hong Kong with the winning team.

Anne Hudson earned both her M.S. and Ph.D. in mathematics at Tulane University, in 1958 and 1961, respectively. After postdocs at Tulane and at Tübingen University in Germany she returned to the U.S. in 1963 to join Syracuse University, first as an assistant, then as an associate professor of mathematics. She moved to Armstrong State College as Professor of Mathematics in 1971.

In 1993, Hudson was one of seven educators nationwide to be given the Distinguished College or University Teaching of Mathematics Award by the Mathematical Association of America. That same year, Hollins College recognized her significant contributions to education by awarding her the Hollins Medal.

Hudson's talk will be followed by coffee and tea. To join the speaker for a noon luncheon in the Brookhaven Center before her talk, call Lenore Dudzick, Ext. 2954, or Joyce Tichler, Ext. 3801.

BNL Engineering Master's Graduates Average 3.7 GPA

On June 1, eighteen BNLers celebrated the culmination of two and one-half years' work — they received their master's degrees in mechanical engineering. These degrees were earned in evening courses given at BNL by Manhattan College (MC) as part of the on-site program sponsored by the Personnel Division. Highlighting the group's extraordinary motivation and unique capability was its 3.7 cumulative grade average, one of the highest achieved by a group of MC School of Engineering students.

As 90 percent of this year's MC engineering students were from the Lab, a special commencement ceremony was held by MC at BNL, attended by the graduates, their families and Lab guests. Daniel Haines, MC's Mechanical Engineering Department Chair, opened the ceremony. College Provost Walter Emge then addressed the graduates, who were presented for their degrees by John Patterson, Dean of Engineering.

M. Sue Davis, BNL's Associate Director for Reactor, Safety & Security, addressed the graduates. Also representing BNL were Michael Brooks, Deputy to the Associate Director for Reactor, Safety & Security; Robert D'Angio, Manager, Personnel Division; Lance Junker, Head, Reactor Division; Mary White, Personnel's Manager of Training; and Marilyn Pandorf, Senior Training Specialist, Personnel, who initiated and coordinated the program.

After the event, Davis said, "I would like to acknowledge and congratulate Marilyn Pandorf on the excellent job she has done in bringing this program on site and making it a successful venture for our employees and for Manhattan College, then capping the success of this program by assisting in organizing the graduation on site."

Among the participants in the on-site program Master's in Mechanical Engineering given by Manhattan College were: (back, from left) Raymond Diaz*, Reactor Division; Daniel Weiss*, Relativistic Heavy Ion Collider (RHIC) Project; Neville Williams*, Alternating Gradient Synchrotron (AGS) Department; Peter Ingrassia*, AGS; Mark Stuart*, Reactor; (center, from left) Paul Lang*, Reactor; Thomas Daniels*, Reactor; Caroline Polanish,* U.S. Department of Energy (DOE); Douglas Warren*, Reactor; John Biemer*, Plant Engineering (PE) Division; Francis Loeb, Physics Department; (front, from left) Joseph Tuozzola*, AGS; Patricia Williams*, PE; George Mahler*, RHIC; and Terri Lacker*, Reactor. Those marked with a star graduated June 1. Other June 1 graduates not present were Bruce Abel, Reactor; Dewey Lederle, Reactor; Mark Linsley, Safety & Environmental Protection (SEP) Division; and Alan MacIntyre, SEP. Other program participants who expect to graduate very shortly are Gail Penny, DOE; and Gary McIntyre, Reactor.

The program was unique in offering a Master's of Mechanical Engineering degree with a concentration in nuclear power/facility restoration and waste management. Students took 33 credits in lockstep, starting and ending together. Said Pandorf, "The admission requirements were stiff, but there was an excellent response." In January 1993, thirty BNL employees who had been accepted to the program started work.

Among the students attending the two classes a week was Terri Lacker of the Reactor Division. "It was so convenient to have classes on site," she said. "Also, it was easier to study in groups — we got a lot of support from each other, all working right here. I know I also speak for all the group in thanking Marilyn and Starr Angelos, also of Personnel, for setting up the program, scheduling classes and coordinating everything."

The camaraderie and the convenience of classes helped students who felt they might otherwise have had much more difficulty in completing courses. Graduate Alan MacIntyre, Safety & Environmental Protection Division, who thought the program particularly good "because it was relevant to the work people do here," became a father for the first time at his first midterm, and for the second time at one of the last exams. "In fact, I couldn't believe it was all over, and I'd made it!" he said.

Graduate Paul Lang, Reactor, spoke highly of the quality and relevance of the courses offered. "Each semester's course work stressed balance between engineering theory and applications. For instance, the course in viscous fluid flow theory was paired with one in radioactive waste management. This allowed the program to cover a large and diverse group of topics."

Pandorf noted that some of the instructors were actually BNL staff, whom MC hired as adjuncts. "It was a successful venture," she said. "It was very satisfying to see so many BNL employees having the opportunity to improve their capabilities and achieving their goals. Two other master's graduate programs sponsored by Personnel are being given on site, due to finish by the end of this year. We hope that they will bring as much satisfaction to the participants and the colleges as this one." —Liz Seubert

Volunteers Needed For Healthfest '95

Healthfest'95 — BNL's third celebration of health, fitness and safety — is scheduled for October 11-14, starting on a Wednesday and ending with a Family Day on Saturday.

The Family Day is intended to be both informative and fun, so the *Healthfest*'95 committee is seeking volunteer face painters, clowns and magicians, as well as suggestions for other children's activities. Contact Mary Wood, Ext. 5923, to volunteer yourself or your ideas.

Equipment Demo

The products and services of Technico will be exhibited in Berkner Hall on Tuesday, June 27, from 10 a.m. to 2 p.m. Technico, which supplies VME hardware products and related services to BNL, will exhibit products ranging from VME modules and real-time operating systems to I/O transition modules, VME pluggable mass storage modules, fan trays, custom device driver software, custom and standard packaging, and system integration.

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The Brookhaven Bulletin is printed on paper containing at least 50 percent recycled materials, with 10 percent post-consumer waste. It can be recycled.

BERA Offers Cruise on *Spirit of New York*

On Saturday, July 29, BERA will host a bus trip to New York City featuring a narrated cruise around Manhattan Island aboard the *Spirit of New York*, which will pass such landmarks as the Statue of Liberty, Ellis Island and South Street. The $59 per person fee includes an on-board luncheon buffet with salads, entrees, side dishes and desserts. After lunch, the servers will shed their aprons and put on a show, and a live band will perform.

After the cruise, BNLers will have two free hours, perhaps to browse Fifth Avenue, see Trump Plaza or visit Central Park or the Central Park Zoo.

The bus will leave the Brookhaven Center at 10 a.m. and return about 7 p.m. Paid reservations are being taken at the BERA Sales Office in Berkner Hall, weekdays, 9 a.m. to 1:30 p.m. For more information, call Andrea Dehler, Ext. 3347, or Kay Dellimore, Ext. 2873.

Atlantic City Trip

The next BERA-sponsored, one-day trip to Atlantic City will be to Bally's Grand Hotel and Casino on the Boardwalk, on Saturday, August 19. The initial cost will be $22, but the hotel-casino will give a $6 coin return. To allow a seven-hour stay in Atlantic City, the bus will leave the Brookhaven Center at promptly at 8 a.m., with an extra pickup at LIE Exit 63, if needed. Return will be about 11:45 p.m.

Buy tickets now at the BERA Sales Office in Berkner Hall, weekdays, 9 a.m. to 1:30 p.m. For more information, call Andrea Dehler, Ext. 3347 or Kay Dellimore, Ext. 2873.

Problem Solvers

The Employee Relations Committee (ERC) is a mechanism for exploring and resolving work-related problems that cannot be resolved through departmental channels. The ERC provides confidential assistance on a one-to-one basis to non-bargaining unit employees.

To bring a problem to the committee, call chairperson Bill McGahern, Ext. 4005, or one of the other members: Mary Durham, Ext. 7143; Ann Emrick, Ext. 5756; Patricia Fox, Ext. 2939; Marie Hicks, Ext. 3802; Carl Jacobs, Ext. 2244; Michael Kelly, Ext. 3476; and Grace Webster, Ext. 3227.

Tennis Players Wanted

The BERA tennis ladder is already under way. Though 32 men have signed up for the men's singles ladder, there's still room for more, so interested players should sign up at the BERA Sales Office, in Berkner Hall. Players of all levels — employees or visitors — are eligible.

From mid-July to the end of October the Tennis Committee would also like to run ladders for women's singles, women's doubles, men's doubles and mixed doubles, if there is enough interest. To play in any of the ladders, contact Joe Carbonaro, Ext. 5139, or Rita Kito, Ext. 3320.

AIX Users Meeting

The next meeting of the AIX Local Users Group will be held on Tuesday, June 27, at 2 p.m., in the seminar room of CCD, Bldg. 515. For more information, contact Ronnie Evans, Ext. 2851.

Book Fair Next Week

BERA will hold a book fair at Berkner Hall next Thursday and Friday, June 29-30, from 10 a.m. to 3 p.m. Some of the hardcover books for sale at 50-75 percent off cover prices will be on display at the BERA Sales Office until the fair begins.

BWIS Cocktail Party

Brookhaven Women in Science (BWIS) will host its 16th Annual Cocktail Party on Wednesday, July 12, from 5:15 to 7 p.m., in a new location — the courtyard of the Physics Department, Bldg. 510, or in the building's lobby in the event of rain. Attendees will enjoy an assortment of light refreshments and beverages, including punch and wine.

This year's Cocktail Party is free, although a small donation will be appreciated.

R.S.V.P. by Wednesday, July 5, to Maria Beckman, Ext. 2301, or Lisa Tranquada, Ext. 7731.

Free English Classes

The Laboratory offers ongoing English as a Second Language (ESL) classes for employees, guests, visitors and their spouses every Thursday evening as follows:

- 6:00 to 7:30 p.m. - ESL for Beginners
- 7:30 to 8:30 p.m. - Pronunciation
- 8:30 to 10:00 p.m.- ESL for Advanced.

All are welcome, and there is no charge for the classes, which are held in the Personnel Training Room at the rear of Bldg. 459.

Those who are new to the program should attend at 6 p.m. for information and a special assessment of their skills. For more information, call Starr Angelos, Ext. 7631, or Marilyn Pandorf, Ext. 5251.

IBEW Meeting

Local 2230, IBEW, will hold its regular monthly meeting on Monday, June 26, at 6 p.m., in the Knights of Columbus Hall, Railroad Avenue, Patchogue. There will also be an afternoon meeting at 2 p.m. for shift workers in the union office at 31 Oak Street, Patchogue. The agenda includes regular business, committee reports and the president's report.

Arrivals & Departures

Arrivals

James H. Jardine.....Biology

Departures

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

Mark S. Wiesenberg.....Comp. & Comm.

Cafeteria Menu

Monday, June 26	
Soup: Cream of tomato	.90/1.20
A la Carte: Sausage & peppers	3.65
Lite: Escalopini turkey in pasta	3.85
Deli: Pastrami sandwich	3.20
Grill: Meatball hero	3.30
Tuesday, June 27	
Soup: Chicken & capellini	.90/1.20
A la Carte: Chicken w/salsa	3.95
Lite: New England boiled dinner	3.95
Deli: BBQ brisket of beef	3.20
Grill: Pastrami & Swiss on pumpernickel	3.30
Wednesday, June 28	
Soup: Beef barley w/mushroom	.90/1.20
Display Cooking: Asian kitchen	4.75
Deli: Turkey w/stuffing	3.20
Grill: Steak w/garlic bread	3.30
Thursday, June 29	
Soup: Vegetarian vegetable	.90/1.20
A la Carte: Stuffed pepper	3.65
Lite: Spinach & feta quiche	3.65
Deli: Leg of lamb w/rosemary	3.20
Grill: BBQ pork	3.30
Friday, June 30	
Soup: Seafood Creole	.90/1.20
A la Carte: Chicken cacciatore	3.85
Lite: Cod w/lemon mushroom glaze	3.95
Deli: Pork loin sandwich	3.20
Grill: French dip	3.30

Classified Advertisements

Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position. Consideration is given to candidates in the following order: (1) present employees within the department/division and/or appropriate bargaining unit, with preference for those within the immediate work group; (2) present employees within the Laboratory; and (3) outside applicants. In keeping with the Affirmative Action plan, selections are made without regard to age, race, color, religion, national origin, sex, handicap or veteran status.

Each week, the Personnel Division lists new placement notices. The purpose of these listings is, first, to give employees an opportunity to request consideration for themselves through Personnel, and second, for general recruiting under open recruitment. Because of the priority policy stated above, each listing does not necessarily represent an opportunity for all people.

Except when operational needs require otherwise, positions will be open for one week after publication.

For more information, contact the Employment Manager, Ext. 2882, or call the JOBLINE, Ext. 7744 (282-7744), for a complete listing of all openings.

Current job openings can also be accessed via the BNL Home Page on the World Wide Web. Outside users should open "http://www.bnl.gov/bnl.html", then select "Scientific Personnel Office" for scientific staff openings or "Employment Opportunities" or "BNL Personnel Office" for all other vacancies.

SCIENTIFIC RECRUITMENT - Doctorate usually required. Candidates may apply directly to the department representative named.

SCIENTIST - With experience in research techniques involving particle detection, and the construction and use of particle detectors such as scintillators, drift chambers and Cerenkov counters. Knowledge of VMS and UNIX operating systems is required. Experience in the application of computer-based analytical techniques, including knowledge of CERN library codes, is desirable. The successful applicant will join a research group engaged in experiments focused on the production of objects incorporating strange quarks in a nuclear medium. Contact: Robert Chrien, Physics Department.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

DD 2079. TECHNICAL POSITION - Requires AAS degree in electronic technology or equivalent experience, and a background in complex electronic and electromechanical equipment. Responsibilities include operating, maintaining and modifying the accelerator and equipment at the Tandem Van de Graaff facility. Specific experience in the operation and maintenance of Van de Graaff accelerators is highly desirable. Physics Department.

RDA 0761. BUDGET OFFICER - Reports to the Associate Director for Administration. Will be responsible for the development of budgetary plans for internal Laboratory control, and preparation of total Laboratory budget and supporting data for annual submission to the Department of Energy and the Nuclear Regulatory Commission. Will perform management assignments of a broad general nature. Requires significant experience in the budgetary and fiscal management of a large organization, including demonstrated innovative and leadership qualities. Substantial experience in the techniques of budgeting processes, computer applications and internal financial planning, and an understanding of Cost Account Standards are also required, as is a bachelor's degree in business administration or equivalent, an advanced degree preferred, and excellent analytical and communications skills. Director's Office. Submit resume to Robert D'Angio, Personnel Division, Building 185.

Motor Vehicles & Supplies

94 KAWASAKI KLR 250 - on/off road, street legal, 600 mi., like new, 2 full face helmets, $3,100. Joe, Ext. 7528 or 475-8183.

93 GEO PRISM - maroon, 4-dr., a/t, dr. side airbag, alarm, 14k mi., like new, 36k mi/3-yr. warr., owner moving. Dileep, 471-6396 after 6 p.m.

92 GEO METRO - 17k mi., 45 mpg, 5-spd., am/fm, 3-yr. warr. 3/98, blue, $4,500 firm. Joe, Ext. 4496.

92 PONTIAC GL - am, 36k mi., white, orig. owner, mint, $10,200. Ext. 7238.

92 MERCURY GRAND MARQUIS LS - 40k mi., fully loaded, gray, alarm, rear air susp., mint cond., $11,900. Carter, Ext. 7599 or 654-8683.

91 MERCURY CAPRI XR2 - conv., red, turbo, loaded, 53k mi., 5 yr./60k warr., excel., $7,800. Ext. 5360 or 477-8117.

91 BUICK LE SABRE - 4-dr., ac, p/w, p/l, t/c, excel. cond., $7,500. 878-8865.

90 TOYOTA COROLLA - white, 4-dr., 5-spd., ac, p/s, p/b, excel. in/out, $5,500 neg. 821-1215.

89 HONDA CRX - 5-spd., silver, ac, excel., $4,800. John, Ext. 7671 or 765-1299.

89 FORD ESCORT LX - dark blue, 85k mi., ac, am/fm w/tape, good cond., $3,500. Sonia, Ext. 5341, leave message.

89 NISSAN SENTRA - white, ac, am/fm, new tires, v.g. cond., $3,900 neg. Robert, Ext. 3736 or 341-1032.

88 BLAZER S-10 - 2-dr., 4wd, a/t, ac, p/w, p/l, trailer hitch, gray, excel. cond., $6,000. 878-8865.

88 HONDA ELITE SCOOTER - 50cc eng., low mi., excel. cond., $750. Dan, Ext. 4220 or 698-7322.

86 HONDA CIVIC - h/b, 5-spd., red, am/fm cass., sunroof, extras, $2,100 neg. Kevin, Ext. 2963 or 744-0871.

88 OLDS FIRENZA - a/t, full power, cruise, ac, 4-dr., 90k mi., excel. cond., $2,500. Arnie, Ext. 2606.

87 SUZUKI SAMURI - 4wd, new top & tires, $1,800. Tim, 821-1839.

86 BUICK SKYHAWK - 95k mi., a/t, must see, must sell, asking $450. Ext. 2741 or 341-1035.

85 RENAULT - tan, m/t, runs well, needs work, $800 neg. Robyn, Ext. 2680.

85 FORD RANGER 4x4 - cap, rebuilt trans., eng. done by A#1, 2.8L, new tires, everything works well, $2,500. Peter, Ext. 5105.

85 YAMAHA BIG WHEEL - 200cc, 4-cycle eng., 2 wheel, very large off-road tires, $1,000. Dan, Ext. 4220 or 698-7322.

85 COUGAR LS - 3.8L, V-6, full power, gray, good cond., $1,500. Frank, Ext. 4220, or Vita, 277-0464.

85 OLDSMOBILE- 4-dr. sedan, black, V-8, a/t, p/sunroof, $800. Ext. 2350 or 475-4382.

84 PONTIAC FIREBIRD TRANS AM - black w/gold trim, gray int., 8-cyl., 5-spd., 5.0 liter eng., orig. owner, $2,400. Rich, 744-4816.

84 TOYOTA CELICA GT - new muffler & tires, runs well, looks good, $1,400. 474-4421.

83 CAMARO - 4-spd., sunroof, rebuilt eng., new struts, clutch, windshield, radiator, exhaust system, radio, asking $1,750. 325-0563.

83 HONDA CIVIC - 98k mi., good cond., asking $1,500. Bernice, 472-1735.

83 CITATION - a/t, 4-cyl., good for station car/parts, $150; '69 Mustang conv., 3-spd., 6-cyl., 86k orig. mi., extras, $3,800. Tirre, Ext. 3288 or 281-0360.

82 OLDS CUTLASS SUPREME - 6-cyl., 25k mi. on new G.M. eng., gray metallic, ac, p/b, p/w. 567-4834.

82 PONTIAC GRAND PRIX - p/w, p/l, p/trunk, T-top, 82k mi., clean, runs well, asking $1,800. Mike, Ext. 3255 or 744-4847 eves.

81 DODGE VAN - Ext. 4729.

77 CHEVY PICKUP - 3-spd., needs little work, runs well, $950 neg. Tracey, Ext. 2285 or 369-4055.

74 FORD ECONOLINE 300 - 302 eng., rebuilt a/t, locking, insulated, heated box, overhead roll-up door, extra wheels, asking $1,000. Pete, Ext. 5105.

72 & 79 FORD F150 & BRONCO PARTS - steering box, master cyl., brake booter, hood dr., '65-'69 Mustang parts. Wayne, Ext. 7238.

RIMS - custom alum. for Jeep; #255 oversized tires, $350/4; Universal 2" ball hitch, $25. 281-4871 after 6 p.m.

TIRES - 2, 185-13 snow tires on rims, $35. Jim, Ext. 7625.

WHEELS & TIRES - 4 American racing, alum., 15"x7", 6-hole w/Goodyear Vector's P235/75R, excel. cond. w/chrome nuts, $100. Phil, 728-0273.

CAP - '85 S10, like new, v.g. cond., $200 or best offer. Jesus Santana, Ext. 4879 or 286-5403 after 4 p.m.

TIRES - 2, Goodyear, P225/75R14, like new, $40 ea.; 1, Firestone, P215/70R14, $20. 698-9274.

Boats & Marine Supplies

33' NAUTALINE HOUSEBOAT - 1969, rebuilt 318 Chrysler i/o, fg, extras, good cond., $9,500 Tirre, Ext. 3288 or 281-0360.

25' CATALINA SAILBOAT - has everything, ready for launching. 286-7127.

19' BOAT - fg, 115-h.p., galv. trailer, $2,100. Jim, Ext. 3372 or 821-0250.

19' O'DAY MARINER - 1979, galv. trailer, good cond., $2,000. 286-1097.

17' O'DAY DAY SAILER II - 5-h.p. o/b, galv. trailer, excel. cond., $2,300. Ed, 581-1509.

17' FOLBOT KAYAK - lots of storage space, great family boat, $400; paddles, floats. Nick, Ext. 2490.

JET SKI - 1991, X2, 650cc, oil inj., trailer, very low hrs., excel. cond., ski tote, $2,700. David, Ext. 5217.

LORAN - Micrologic Voyager, portable, works well, graduated to GPS, $150. Bill, Ext. 2807.

Furnishings & Appliances

BISTRO SET - 3-pc., wrought iron, glossy black; tabletop, 36", glass; chairs, 2, fan back, cushioned, new $580, sacrifice $275. 731-8229.

BUNK BEDS - wood, painted, stained, pickled, stencil or natural color, finished or unfinished, nice & very reasonable. 395-0584.

CHAIRS - 2, like new, high-back executive, gray cloth, chrome, $35; secretarial chair, black, $20. Albert, 727-4884.

CHINA CLOSET - antique, oak, beveled glass, $1,000; dining table, old, round, oak, w/capt. chair & 3 ladder-back chairs, $200; glass top, $30. John, 475-8888.

COUCH - end, snack & night tables, lamps, linens, curtains, perfumes, jewelry, chairs, small rugs, woman's large clothing, Pyrex, gloves, nylons. 286-0376.

DINETTE SET - Colonial, trestle bench & 4 chairs, excel. cond., $80. 924-8558 after 5 p.m.

DINING ROOM SET - oak, hutch, table, 6 chairs, $2,500; set of sofa w/2 recliners, love seat w/2 recliners, swivel recliner, $1,500 neg. Tad, Ext. 5571 or 744-1443.

DINING TABLE - w/leaf, blond wood, China closet, buffet, 6 chairs, $100, you pick up. Ed, 929-4898.

DISHWASHER - Maytag, 6-yrs. old, v.g. cond., $90. Rich, 744-4816.

DISHWASHER - Westinghouse, heavy-duty, deluxe potscrubber, w/black reversible panels, good cond., $130. Frank, Ext. 4220, or Vita, 277-0464.

FREEZER - G.E., 18 cu. ft., upright w/lock, must sell, $250. Ext. 5740 or 744-8386.

FURNITURE - cushions, yellow/green, 2 chairs, 1 lounge, $50; sofa & love seat, good cond., $90; living room chairs, 2, $50/both. 924-0960.

FURNITURE - new sofa, chair, 3 built-in recliners, $1,200; end & coffee table, oak, $250. Margaret, Ext. 2529 or 588-7989 eves.

REFRIGERATOR - Kenmore, 2-dr., 17 cu. ft., $50; washer, Kenmore, $50; dryer, Kenmore, $50, nook table w/6 chairs, $30. Ext. 4849 or 744-0537.

Tools, House & Garden

AWNING - Grover, alum., 10'x10', white, replacing w/larger one. Margaret, Ext. 2529 or 588-7989 eves.

COUNTERTOP - 75", butcher-block Formica, stainless sink, 21", Delta faucet w/sprayer, range hood w/fan, 30", beige, excel. cond., $90/all. Hans, Ext. 4584.

DOORS - custom-made, screens plus double-layered storms, for double wide entry, best offer. Dick, Ext. 4337 or 874-2380.

EDGE CUTTER - Black & Decker, like new, $30. Ext. 4849 or 744-0537.

FLOOR POLISHER - general maint., 1-h.p., 115V, 20" diameter, heavy-duty, commercial, $250; antenna, color, Krytownes w/UHF, new, still in box. 924-0960.

LAWN MOWERS - Craftsman, rear bag, 20" cut, $75; Caldor, 3½-h.p., 22" cut rotary, $75/ Dan, Ext. 4220 or 698-7322.

STORM DOOR - 36", white alum., crossbuck w/screen, $25. Sue, Ext. 7235 or 399-7997.

TREES - Japanese maples, $10-$45+. 265-6542.

Sports, Hobbies & Pets

BIKE - 20" Freestyle GT Dyno Air, chrome, metal pedals, pegs, good cond., $150. Richard, 727-6959.

BIKES - two men's 12-spds., 27" wheels and 26" wheels, must sell. Ext. 5740 or 744-8386.

CB - Radio Shack TRC-465, 40 ch. w/SSB and Antron 99 antenna, 2.5 V power supply, and Radio Shack TRC-479, $230 or best offer. Joe, 924-4070.

EXERCISE BIKE - Vitamaster, digital readout, hardly used, $50. Nancy, Ext. 7976.

EXERCISE MACHINE - bench, leg & butterfly attachments, stair stepper, works by rubber bands, $140 neg. Brian, 878-4356.

STAIRMASTER - Lifestyle 300, electronic monitor, like new, you pick up, $50. Tracy, Ext. 4422.

PIANO - Steinway, grand, Model A-243913, ebony finish., Chris, 744-6874.

SPA MEMBERSHIP - Jack LaLanne Lifetime Gold, 2 for $700. Steve, Ext. 3230.

SURFBOARD - Matt Ketchel, ankle strap, good cond., $50; Lacrosse stick, Brine MX series, excel. cond., $50. Roy, 727-6959.

Audio, Video & Computers

COMPUTER - Amiga 500, lots of software w/color monitor, mouse, $200 or best offer. Joe, 924-4070.

COMPUTER - Macintosh Performa 636, 250 meg HD, 4 meg RAM, 12" mon., Word/Excel/Powerpoint/Sys. 7.0, Stylewriter printer, ask. $2,100 neg. Robyn, 286-8195.

COMPUTER - Macintosh SE30/5/40, includes spreadsheet and word processor, $550. Peter, Ext. 4272.

FLOPPY DRIVE - 3½"/1.44 MB, $40; SVGA card w/1MB ram, $40; 16-bit I/O card, $30; 16-bit network adapter, $30. Ext. 3207.

PHONE ANSWERING MACHINE - elec. typewriter, used, good cond., best offer. 286-3742 eves. & wknds.

RECORDS - 33&45 rpm, pop. titles/albums, Sinatra, Garland, Como, Doris Day, Beatles, excel. cond., make offer. Frank, Ext. 4220, or Vita, 277-0464.

STEREO RACK SYSTEM - Sansui 200W amp, tuner, cassette, peak equalizer, CD player, $200, w/tower speakers, $300. Ed, Ext. 2697.

STEREO RACK SYSTEM - Pioneer 125 watts per channel, 6-disc CD player, EQ, dual cassette, huge speakers, 16" woofers, $650. Nancy, Ext. 7976.

STEREO RECEIVER - Lafayette LR-200A, 35 watts, w/cabinet, Criterion 333 speakers w/stands, excel. cond., best offer. Sue, Ext. 4931.

TV - Magnavox b&w 12" screen, $25. Pete, 399-2813 after 5 p.m.

TV - Mitsubishi 26" console, remote, 11 yrs. old, excel., $200. Margaret, Ext. 2529 or 588-7989.

TV - JVC 13", rarely used, new remote, on screen, warranty, $180. Sonia, Ext. 5341 leave message.

VIDEO TUTOR - Windows NT Beginning, new $25. Susan, Ext. 7647.

Miscellaneous

DOUBLE STROLLER - Baby Trend, 2 yrs. old, reclining seats, basket, front to back, excel. cond., $70. Diane, 924-4879.

JEANS - Sears, brand-new, 36/32, $15 ea. or 3/$40; Botany shirt, long sleeve, 16-33/34, $12, new. Susan, Ext. 7647.

TICKETS - 2, *Swan Lake* performed by Kirov Ballet at NY Met Opera House, 2 p.m. on 7/1, orchestra seats, $80 ea. Mike, Ext. 4061.

TRUNK - w/drawer, 17x31x15; twin x-long sheets, mattress pad for college dorms, good cond., reasonable. S. Spark, Ext. 4111.

Free

GUINEA PIG - and cage, warm and loving, 1 yr. old. Mike, Ext. 2052.

TOILET - American Standard, white, excel. cond. James, Ext. 5400.

Yard & Garage Sales

FLANDERS - 6/24-25, 10 a.m.-6 p.m., 2-family, furniture, clothes, knickknacks, etc., rain or shine, 86 Priscilla Ave.

MILLER PLACE - Sat.-Sun., 6/24-25, 9 a.m.-4 p.m., furniture, housewares, baby & boy's clothes, 5 Levon Lane.

Car Pools

LIE EXIT 36 - fourth needed. John, Ext. 5181.

EAST SETAUKET - van pool starting up, save on gas, save the environment. Bob, Ext. 2270.

ELWOOD/E. NORTHPORT/COMMACK - looking for additional drivers, 8:30-5. Paul, Ext. 4156.

Real Estate

Real Estate advertised for sale or rent is available without regard for the race, color, religion, sex, age, national origin, disability or veteran status of the applicant.

For Rent

CALVERTON - 2-bdrm. townhouse, l/r, d/r, 1½ baths, deck, patio, cac, all appl., close to LIE, no pets, $900/mo. + util., sec., refs. Mike, Ext. 7772 or 369-3307 eves./wknds.

MEDFORD - 1-bdrm. apt., full bath, LIE Exit 64, non-smoker pref., lg. closet bdrm., sep. from kit., $650/mo. all, sec., refs., immed. occup. Harry, 475-8637.

RONKONKOMA - 1-bdrm. apt., l/r, full bath, eik, LIE Exit 59, $500/mo., no sec. 471-6416.

ROCKY POINT - 1-bdrm. apt., l/r, kit., full bath, sep. ent., $600/mo. incl. util., + deposit. Terry, Ext. 3188.

ROCKY POINT - 1 bdrm., l/r-d/r, kitchenette, full bath, carpeting, patio, parking, walk to beach, no pets, $600/all, refs. rquired. 821-6698.

ROCKY POINT - 4-rm. apt., wood stove, near beach, priv. ent., suitable for single or couple, no pets, $575/mo. + util. Claire, 744-5282.

KEY WEST, FL - oceanfront studio timeshare, 5-star Coconut Beach Resort, sleeps 2, refrig., microwave, ac, TV, pool, Jacuzzi, fish, swim, nightlife, week of July 29-August 5. Pat, Ext. 2539 or 929-3586.

HILTON HEAD, SC - 2-bdrm. condo, sleeps 6, fully furn., 2 baths, pool, beach, golf nearby, April-Sept. $475/wk. for BNLers. Guy, Ext. 3147 or 689-5378.

For Sale

BROOKHAVEN HAMLET - 3 bdrm., 1½ baths, eik/w skylights, lg. l/r, d/r, bsmt., 2-car gar., OHWH, prof. landscaped, lot 35'x195' adjacent to preserve, $169,000. Larry, 286-1231.

BROOKHAVEN - spacious 2-story, 4-bdrm. cedar Colonial, l/r, d/r, den w/fp, 2½ baths, screened porch, full bsmt., on cul-de-sac, south of South Country Rd., $219,000. 878-3741.

FLANDERS - scenic, wooded, 1± acre lots, greenbelted country lane, near water, golf, county park, trails, easy access to major roads, starting $44,900, cul-de-sac, $49,900. 369-2889.

MASTIC - 3-bdrm. ranch, assume mortgage 7.9% fixed, all appl., pool, decking, new oil burner, fp, excel. cond., $85,000. 281-1953.

MASTIC BEACH - 4 bdrm., 2 baths, fin. bsmt., gar., agp w/deck, dead-end rd., low taxes, city water, $102,000. 281-0360 eves.

MEDFORD - 3-bdrm. condo, 1½ baths, den w/fp, l/r, d/r, cac, clubhouse, pool, all new windows, alarm, much more, $120,000. 696-5469.

PATCHOGUE - 4/5 bdrm. ranch, exec. area, cul-de-sac, 2½ baths, fin. bsmt., 2-car gar., 18 min. to Lab, now only $170,000. Marge or Faith, 475-6234 eves.

PORT JEFFERSON VILLAGE - custom-built 4-bdrm., 3½ baths, fin. daylight bsmt. w/outside ent., wooded lot, quiet area, walk to village. 331-4768.

RIVERHEAD - classic 4-bdrm. Dutch Colonial, 2 baths, fp, mod. kit., all appl., many extras, low taxes, brochure avail. Albert, 727-4884.

ROCKY POINT - custom 3-bdrm. ranch, corner plot, landscaped, eik, custom kit. cabinets, 4 appl., OHWH, w/w, city water, $80,000. Donald, 473-6570 after 7.

SHIRLEY - 3 bdrm. ranch, d/r, bsmt., gar., new kit., dead-end street, extras, fixed 8% assumable 20-year mortage, $92,000. Jim, Ext. 4150 or 281-0489.

SHIRLEY - 4-bdrm. L-shape ranch, eik, l/r, den, fp, bsmt., ac, all appl., OHWH, freshly painted, fibre/stone, many new items, ½ acre, Wm. Floyd schools, taxes, $2,700, $79,900. Joe, 281-7683.

SHOREHAM - 4-bdrm. Colonial, 2½ baths, ⅓ acre, taxes $3,300, SWR schools, excel. cond., immed. occup., $169,000. Ralph or Joyce, 744-8782 after 6 p.m.

SMITHTOWN PINES - immac., lg. 5-bdrm. high-ranch, 2.5 baths, 0.7 acre, scenic, 25 mi. from Lab, 50 mi. from NYC, move-in cond., new cac, floors, windows, poss. M/D, low taxes, ask. $247,000. Ext. 2830 or 543-0487.

SOUND BEACH - mint 3-bdrm. ranch, 2 baths, MPSD, l/r, d/r, eik, fin. bsmt., agp, cedar decks, new roof, boiler, Andersen windows, oak floors, landscaped, must see, ask. $139,500. 744-7107.

WADING RIVER - 3-bdrm. Colonial, 2½ baths, 2-car gar., custom kit., Jennair, gazebo, shed, igs, igp, deck, steam bath, satellite dish, SWRSD, 1.1 acre, $189,900. 929-8323.

YAPHANK - large 2-bdrm. ranch, front porch, private 1 acre, fenced w/small barn, new workshop/gar., $122,000, taxes, $2,700. Ted, 924-0705.

WASHINGTON, NC - 1.13 wooded acres, waterfront community, pool, clubhouse, marina, 35' boat slip on Pamlico River off Intercoastal Waterway. Ken, 281-5565.

PORT CHARLOTTE, FL - ¼-acre bldg. lot, developed neighborhood, ready to build, $9,000. 929-8323.

Wanted

APARTMENT OR HOUSE - to rent, 2-3 bdrm., SWRSD, by Aug. 1. Don, Ext. 7237.

BELLPORT RETIREE - who wanted Hostas. 689-9234.

HOMES FOR BNL VISITORS/GUESTS - furn. apt., condos or homes short-term rentals. Marie, Ext. 4489.

HOUSE/CAR - near Lab, exchange for house/car, London, U.K., 2-4 weeks in Aug. Sue, Ext. 5601.

MARINE TOILETS - Pete, Ext. 3297.

SCUBA GEAR - good cond., size M/L. Pat, Ext. 2836.

SETTEE - no back, antique or modern, in decent cond. Donna, Ext. 3319.

SHOP MANUAL - for 1983 Maxima 4-dr. sedan. Chris, 744-6874.

SPEEDBOAT - 14-15', no motor. 363-3138.

WHEELCHAIR CARRIER RACK - for rear bumper of car. Joe, Ext. 2898.

In Appreciation

Thanks to the passerby and all police and fire personnel who helped my wife and son during the car fire.

— Tirre Farmer

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