BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

Brookhaven Signs Five New CRADAs

BNL has recently signed Cooperative Research and Development Agreements (CRADAs) with five separate companies. Reflecting the multidisciplinary nature of the Lab, the five CRADAs encompass collaborative research on a variety of topics, with companies all across the nation.

Established by federal legislation, CRADAs are a technology transfer mechanism that promotes the transfer of scientific expertise and technology from federal laboratories to industry — to improve U.S. competitiveness and create more jobs.

• Forrester Environmental Services, Inc. — Environmental Remediation

Department of Applied Science researcher A.J. Francis has developed a method to extract heavy metals from contaminated soils, sludges and other materials. He will be working with Keith Forrester, president of Forrester Environmental Services, Inc., on field testing the method, which uses citric acid to remove and recover lead and other metals.

Their joint effort will focus on the extraction of lead from ash generated by incinerating municipal solid waste. New Hampshire-based Forrester Environmental Services has several clients that produce in total over two million tons of ash, all of which is disposed of in a landfill.

As a way to comply with increasingly stringent environmental regulations, the BNL method could be used to pretreat ash containing toxic metals so that it could be disposed of safely. Also, removing the toxic metals would improve the end-use market potential of incinerator ash.

• II-VI, Inc. — Radiation Detectors for Research and Industry

BNL and II-VI, Inc., of Pennsylvania, will collaborate on improving the performance of radiation detectors made of cadmium, tellurium and zinc. The joint effort, headed by scientist

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Personnel Exchange — Another Tech Transfer Route

While CRADAs seem to take the spotlight in technology transfer, another effective mechanism for connecting with industry is in the exchange of personnel.

"Because it's a less formal way for industry to work with the Lab, a personnel exchange is a good starting point," says Michael Furey, of BNL's Office of Technology Transfer (OTT). He also points out that, especially for small companies, it's a low-risk way to evaluate any new venture and can often pave the way to a CRADA.

In the past, the Lab has averaged a handful of personnel exchanges every year, with industrial researchers coming to the Lab, as well as BNL staff going the other direction. Furey says OTT is looking forward to initiating significantly more personnel exchanges in the future.

He also says that these arrangements lead to a very good cultural exchange between BNL and industry. Through them, BNL researchers get an in-depth understanding of the commitment that American companies make to research and the caliber of that research, and industrial scientists get a hands-on introduction to the Lab's technical capabilities.

A good example is BNL's involvement with II/VI, Inc., with which the Lab recently signed a CRADA (see accompanying story). In 1992, Kelvin Lynn, a scientist in the Physics Department, began a personnel exchange program with II/VI, which was interested in tapping into the Lab's expertise on materials characterization as applied to detectors. A year later, the CRADA was signed to develop room-temperature, solid state gamma- and x-ray detectors.

According to Lynn, the company had learned about his group's capabilities and asked to work with them on improving the electronics for the detectors. "We started interacting with them more and more, and at some point concluded that the most critical problem was not the electronics, but the detector properties," he recalls. "Then we started developing new methods to characterize the company's crystalline materials that are grown for the detectors," he says. — M.S.R.

Honorary Medical Degree For Setlow

Long a Doctor of Science, Richard Setlow became an honorary Doctor of Medicine in September, when the University of Essen in Germany conferred that degree on him at a workshop entitled "Molecular and Cellular Aspects of Carcinogenesis."

Lauding Setlow, who is BNL's Associate Director for Life Sciences, the citation reads: "In recognition of his

Richard Setlow (left) accepts an honorary medical degree from Wolfgang Fischer, dean of the medical faculty at the University of Essen in Germany.

outstanding achievements in the elucidation of the molecular mechanisms of the repair of exogenous structural damage of cellular DNA, and its implication for understanding the origin

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Magnets by BNL, Test Stand From HERA

Superconducting magnets for the second "full cell" of prototype magnets for BNL's Relativistic Heavy Ion Collider (RHIC) have been tested on a stand designed and constructed at BNL — using components of a test stand on loan from HERA, the proton-electron collider at the German high-energy physics laboratory known as DESY.

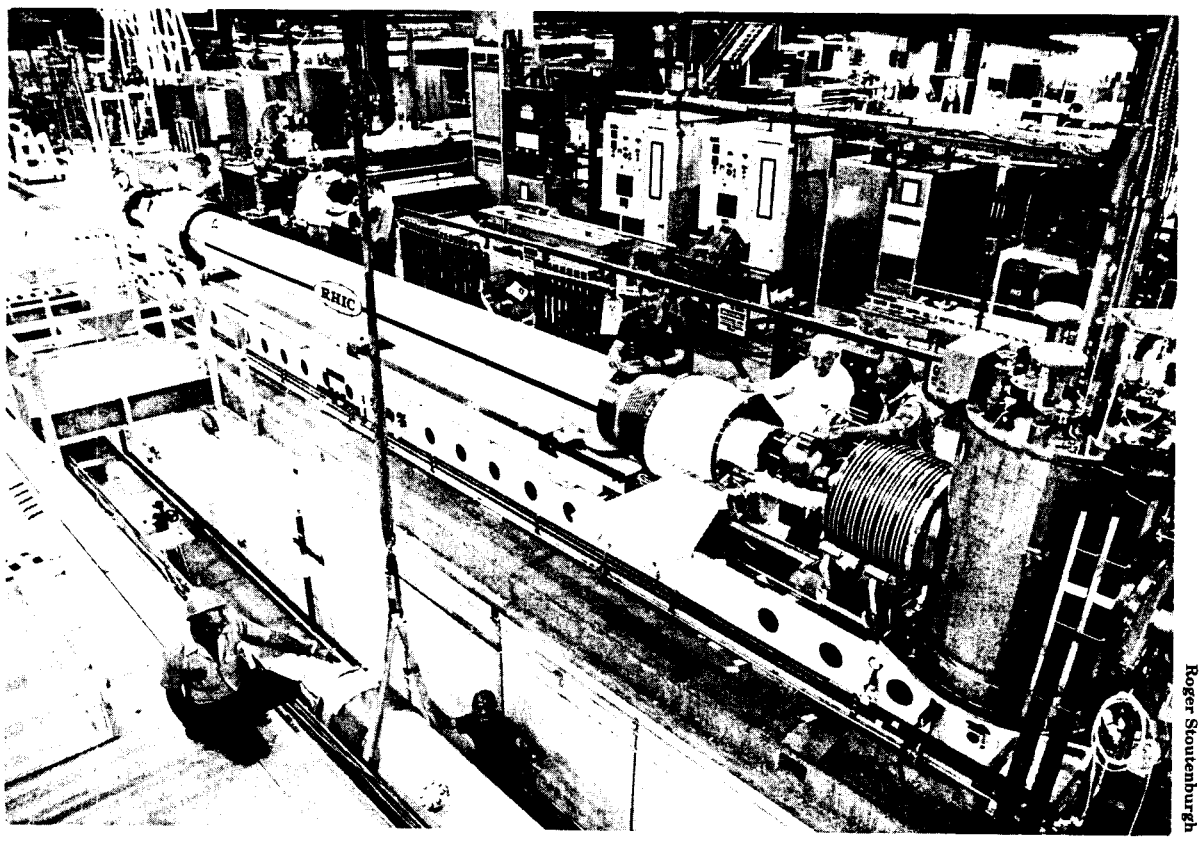
As also intended for RHIC, HERA employs superconducting magnets to bend and focus the beams of particles within the collider. Because tests of production magnets for HERA were completed in 1991, components of the HERA stands were sent to BNL on loan and have been incorporated in three stands used to qualify RHIC production magnets.

A full cell is the smallest string of magnets that can bend a particle beam and focus it both vertically and horizontally. For RHIC, a full cell consists of a dipole or bending magnet, a combination focusing magnet called a corrector quadrupole-sextupole (CQS), another dipole and a second CQS.

In preparation for the upcoming full-cell test in Bldg. 902, two dipoles and one CQS were checked out individually on the BNL-HERA test stand at the very low temperature of 4.5 kelvins. The individual tests verified that each can operate at currents above what is required at RHIC, and that the magnetic field produced by each in its cryostat satisfies design requirements.

The purpose of a full-cell test is to validate the mechanical and electrical interconnections between individual magnets, and to gain information and experience in aligning and operating this group of four magnet units.

During the individual tests, the magnets were first pumped and purged of air, then cooled over 24 hours. They were then operated to determine how much current each could carry before the superconductor quenched, that is, before it made the transition from superconducting to normal resistive state. In addition, the magnetic field quality of each magnet was carefully measured. When placed in the full cell, each magnet will also be operated to currents exceeding its operating current for RHIC.



Roger Stoutenburgh

A dipole is on the BNL-HERA I-beam stand, being readied for testing by: (at left end) Albert Prodell and Robert Hoade, who are standing by what is called the test stand's turnaround can, which contains instrumentation leads; and (at right end) Paul Ribaudo, Charles Muller and Russ Grandinetti, who are standing by the test stand's end can, which contains the electrical leads and helium connections. The dipole on the stand is actually the second to be individually tested: The first is seen being positioned in the trench as first in line for the full cell by (bottom, from left) Ed Hobson and John Sterzenbach.

Since the successful first full-cell test was done back in 1990, modifications to the magnets and the interconnect regions of the prototypes have necessitated this second test. RHIC will use 1,740 superconducting magnets, of which some 1,200 are being built by industry. While two sextupoles arrived in August, delivery of the bulk of the magnets is expected to begin early next spring and will take about two years to complete.

— Marsha Belford

Fall 1993 Outreach Series On Psychology at Work

You can't eat for eight hours a day nor drink for eight hours a day nor make love for eight hours a day — all you can do for eight hours is work. Which is the reason why man makes himself and everybody else so miserable and unhappy. — William Faulkner

Most people define work as what they do for the majority of their waking hours to earn a living. For some people, a job is merely a necessary evil, while others define themselves and their self-worth by their work.

Everyone who has been in the work force agrees, however, that work involves one part job competence and one part interpersonal skills. And, while some people take work home with them, others bring whatever is bothering them to work.

To help BNLers better understand themselves as workers and their working relationships, the Employee Assistance Program (EAP) of the Occupational Medicine Clinic is offering employees six lunchtime Outreach workshops on "Psychology at Work." Each will deal with a different aspect of workplace psychology, so employees can make psychology work for them at work.

See future issues of the Bulletin for details on each presentation, or, for general information about the EAP and its Outreach workshop series, call Ext. 4567.

Date	Series & Topic	Speaker
Oct. 19	Home Again: the Workplace as Family Revisited	Joann Fallon, C.S.W.
Oct. 26, Nov. 2	Your Job and You: Creating an Emotionally Healthy Work Environment	Barry Berg, Ph.D. & Mark Serkin, Ph.D.
Nov. 9	Dealing With Difficult People at Work	Diana Richman, Ph.D.
Nov. 16	How BNL Employees Can Achieve Career, Personal & Scientific Goals	Diana Richman, Ph.D.
Nov. 23	Team Building: the First Step to Conflict Resolution	Robert Carrere, Ph.D.

Outreach Workshop

Does Your Boss Remind You of Dad? Do You React to Him Like A Child?

If they had a choice, few people would choose the entire family into which they were born — for there is always a relative or two whom they would prefer not to sit next to at a family dinner, if not downright disavow. One task of growing up, however, is learning how to get along within a family, including one's disagreeable relations — but that task is easier said than done.

Like it or not, everyone gets a second chance — at work.

Joann Fallon

So, if you have ever felt that your boss and coworkers remind you of family, you are right — and the upcoming Outreach workshop in the "Psychology at Work" series is for you. On Tuesday, October 19, from noon to 1 p.m. in Berkner Hall, psychotherapist Joann Fallon will discuss "Home Again: the Workplace as Family Revisted." All are invited.

During her talk, Fallon will explain why some people seem to fit in with their workplace "family" better than others, why one gets along with some bosses and coworkers better than others, why one reacts to authority in the way one does, and why the dynamics of one's work "family" is the way it is.

A popular Outreach presenter, Fallon holds a master's in social work from Adelphi University and recently completed a program in organizational development and consultation at the William Alanson White Institute. In private practice in Riverhead and Southampton, she specializes in treating addictions, and offers individual and group psychotherapy.

To register for this workshop, complete and return the bottom portion of the Outreach flyer recently mailed to all employees to EAP Staff Psychologist Dianne Polowczyk, Bldg. 490, by Monday, October 18.

Suggest an ERC Candidate

This January, two members of the Employee Relations Committee (ERC) will complete their three-year terms — giving the Laboratory Director the opportunity to appoint two new members to this eight-person group.

Selection of individuals for the ERC is a sensitive task because of the nature of issues handled by this committee. It is the charge of the ERC to help non-bargaining, non-scientific employees solve work-related problems that they were unable to resolve with their supervisors. Therefore, new additions to the ERC should be people who are able to hear all sides of an issue objectively and maintain the complete confidentiality under which the ERC operates.

If you would like to suggest a candidate for the ERC or request consideration for yourself, contact your department chairman or division head before October 22.

To bring a problem to the ERC's attention, call its special number, Ext. 4005, or contact one of the current members: Michelle Cummings, Bldg. 459, Ext. 2077; Mark Davis, Bldg. 750, Ext. 2760; Mary Durham, Bldg. 134C, Ext. 7143; Ann Emrick, Bldg. 463, Ext. 5756; Veronica Evans, Bldg. 515, Ext. 2851; Carl Jacobs, Bldg. 510A, Ext. 2244; Dennis Klein, Bldg. 725A, Ext. 2743; or committee chair Mary Anne McGrath, Bldg. 197C, Ext. 2815.

Setlow (cont'd)

and therapy of malignant diseases."

"I am pleased to receive this degree not only for the personal honor but because it emphasizes the importance of the interactions among many separate scientific areas. A small, basic research finding had wide application to many unforeseen fields of research and to human health," Setlow said.

Also at the conference, Setlow presented a lecture called "DNA Repair: Its Origins and Its Importance in Carcinogenesis, Cancer Therapy, and Environmental Risk Assessment."

Some 30 years ago, Setlow demonstrated how bacterial cells repair defects in DNA, the substance that is the molecular basis of heredity. He also found that certain DNA defects caused by ultraviolet light lead to biological damage. This groundbreaking research led to a new interest in the field, since certain genetic diseases stem from inherited deficiencies in DNA repair.

Setlow's recent research has focused on the cause of skin cancer. This year, along with Eleanor Grist, Keith Thompson and Avril Woodhead of BNL's Biology Department, Setlow found that the most serious form of skin cancer, known as malignant melanoma, is induced by all wavelengths of the sun's ultraviolet (UV) rays. Based on experiments using tropical fish, which, like humans, develop melanoma from exposure to sunlight, this surprising discovery contradicts the long-held belief that only short UV wavelengths — in the 280 to 320 nanometer-range — are potentially harmful.

Setlow earned his Ph.D. in physics from Yale University in 1947 and received a previous honorary degree — a Doctor of Science — from York University in Canada in 1986. He joined the staff of BNL's Biology Department in 1974, was appointed chairman in 1979, and has served as Associate Director for Life Sciences since 1986. In 1988, he was one of two winners of the Enrico Fermi Award, the highest scientific honor of the U.S. Department of Energy. — Diane Greenberg

Microcomputer Club

The next meeting of the BNL Microcomputer Club will be held on Thursday, October 21, at noon, in the large conference room of the AGS, Bldg. 911B. Ralph Fullwood of BNL's Department of Applied Technology will speak on "Fuzzy Sets, Controllers and Intelligent Vehicle-Highway System."

Fuzzy set theory is the logic of uncertainty; systems are considered to have degrees of membership in qualitative classifications from which an uncertainty distribution may be obtained, "defuzzified," and used for decision making. Fullwood will describe a fuzzy controller for improving traffic flow on Long Island.

CRADAs (cont'd)

Kelvin Lynn, in the Physics Department, and Elgin Eissler, of II-VI, will involve characterizing crystals, which will be used in room-temperature, solid-state gamma and x-ray detectors.

Some of the applications of these detectors include: monitoring air/liquid effluents from power plants, environmental safety and nuclear safeguards, medical imaging, and space research.

• ZerRes, Inc. — High-Temperature Superconductor Current Lead

ZerRes, Inc., located in Massachusetts, has developed a high-temperature superconductor current lead using an yttrium-barium-copper-oxide superconductor encapsulated in epoxy. Superior to all-metal conventional leads, the high-temperature superconductor lead can be used to connect superconducting magnets to a power supply. Superconducting magnets are commonly used in particle accelerators and in medical devices used for a type of imaging known as MRI.

A long-term test of chemical and mechanical stability of this type of conductor is required before the product can be commercially viable. George Zimmerman, head of ZerRes, will work with Meyer Garber, now a guest scientist with the RHIC Project, to test the lead at BNL, where special equipment and expertise are available.

• RhoMed Incorporated — Radiopharmaceutical Development

The CRADA with RhoMed Incorporated draws on Brookhaven's long-standing work with technetium-99m, the radioisotope most widely used in diagnostic nuclear medicine procedures in the U.S. Technetium-99m was developed under the direction of BNL's Powell Richards, now retired.

New Mexico-based RhoMed, headed by Buck Rhodes and Paul Zamora, has developed several types of radiopharmaceuticals that use technetium-99m attached to peptides, which are derived from amino acids. The company is interested in applying these radiopharmaceuticals in the diagnosis of thrombosis, emphysema, fibrosis and inflammation.

Before clinical trials can be considered, RhoMed will work with Medical Department researcher Prantika Som to refine the technique of noninvasive, preclinical imaging with technetium-labeled peptides. Already, BNL and RhoMed have been collaborating for over ten years.

• Digital Instruments, Inc. — Atomic Force Microscopy

Invented in 1986, atomic force microscopy is already being used successfully in industry for manufacturing and quality control. An important feature of the atomic force microscope is that it has no intrinsic limitation in resolution.

Digital Instruments, Inc., of California, is a leader in the development of a stable and sensitive form of the instrument. Virgil Elings, president of Digital, and Paul Hough, a scientist in BNL's Biology Department, will collaborate on extending the instrument's capabilities so that it can be used to examine biological structures, such as DNA. The work will be done at BNL, using an atomic force microscope provided by Digital.

To handle inquiries most efficiently, the Office of Technology Transfer (OTT) has appointed specific points of contact for each Lab department and division. For more information about CRADAs, personnel exchanges and other tech transfer activities, call the appropriate OTT contact listed here:

- **Margaret Bogosian**, Ext. 7338 — Biology and Medical Departments.
- **Michael Furey**, Ext. 2103 — Departments of Advanced Technology and Applied Science.
- **David Langiulli**, Ext. 5217 — Chemistry, National Synchrotron Light Source and Physics Departments; Computing & Communications Division.
- **David Pascarella**, Ext. 4103 — Alternating Gradient Synchrotron Department; RHIC Project; Instrumentation, Reactor and Safety & Environmental Protection Divisions.

– Mona S. Rowe

Dinner-Mystery Theater — A Winner of an Evening

Ed Lessard (left), Alternating Gradient Synchrotron; and Mike Goldman, Director's Office, are the lucky winners of four free tickets in the drawing for the gourmet dinner-mystery theater event plotted by the BERA Special Events Committee. At the dinner, which will be held on Friday, November 12, at the Knights of Columbus Hall, Patchogue, the well-known Murder Mystery Inc. actors will create a spine-chilling murder mystery in which guests join in as potential victims, detectives — or the murderer!

The dinner will include prime ribs or chicken cordon bleu, dessert table, open bar for five hours and after-mystery dancing hosted by deejay Ed Taylor until 1 a.m. At $45 each, tickets are on sale now at the BERA Sales Office in Berkner Hall, Ext. 3347, weekdays, 9 a.m. to 1:30 p.m.

Roger Stoutenburgh

India Earthquake Relief Fund

Following the tragic earthquake in India, which has resulted in an enormous loss of tens of thousands of lives, the BERA Indo-American Association is collecting tax-deductible contributions that will be forwarded to the U.S. Committee for UNICEF. One hundred percent of these targeted contributions go toward medicine, infant formula, and food for mothers and children.

To contribute, send a check payable to: U.S. Committee for UNICEF (India Earthquake Fund), 333 East 38th Street, New York, NY 10016, to Anand Saxena, Bldg. 463, or Ramesh Gupta, Bldg. 902B.

AUI Auctioning Station Wagon

A used station wagon owned by Associated Universities, Inc. (AUI) is being offered for auction to current AUI and BNL employees or retirees, permanent contractor employees with guest numbers or on-site personnel of the U.S. Department of Energy.

The vehicle is a 1988 Chevrolet Caprice 9-passenger station wagon, vehicle identification number 1G1BN81Y4JR202455, with 28,750 miles.

The car may be seen in the parking lot on the northeast corner of Brookhaven Avenue and Center Street, Monday to Friday, October 18-22, from 8:30 a.m. to 5 p.m.

Bidders may not start or drive the vehicle, but it is in good running condition, and its complete maintenance records are in the Transportation Office, Bldg. 179B.

The minimum bid is $4,350 and bids must be submitted to the BNL Cashier, Bldg. 134, by the end of the day on Friday, October 22. The successful high bidder will be notified by Friday, October 29.

Only sealed bids submitted on an official form or photocopy will be considered. For bidding forms, complete auction rules or more information, contact the Transportation Office, Bldg. 179B, Ext. 2535.

Museum Programs Attract 26,553

What do 26,553 people have in common? During the past year, they were all introduced — or in some cases reintroduced — to BNL through one of the many programs handled by the Public Affairs Office's Museum Programs.

Tallying from September 1992 through August 1993, the total of 26,553 — 2,400 more people than last year — is a record number for Museum Programs. For example:

More than 5,800 people gave up a Sunday at the beach this summer to learn about BNL research at the Lab's museum. At the annual model bridge contest held on site, close to 300 teens tested their engineering and design skills. Over 4,100 fifth graders took a break from their normal classroom routines for a hands-on magnetism lesson that's brought to the schools. And nearly 700 college students enjoyed tours of the Lab specially geared to their academic interests.

The Lab's museum, known for years as the Exhibit Center, now has a new name: the BNL Science Museum. According to Janet Tempel, head of Museum Programs, the new name better reflects the fact that the museum presents not only information on BNL research, but also on general science.

"Science is more and more an important part of everyday life," says Tempel. "We want to encourage people to be more receptive to science, and, to do that, we have to get them comfortable with science. We have to teach science."

Hospitality News

Postponed from October 5, Jan Rohrer's demonstration of how to make mop-doll wall hangings has been rescheduled for Tuesday, October 19, at 9:30 a.m., in the lounge of the Recreation Building in the apartment area.

Anyone who hasn't already signed up for this Hospitality Committee workshop but would like to, should call Jan Rohrer, 331-1239. Participants should bring a pair of scissors, a needle to use with regular thread and a ballpoint pen with a cap. Rohrer will provide the other materials.

Spouses of Lab employees and guests are welcome. Bring the children, but please also bring along a toy or two.

Software Demo

IBM representative T.J. Watson will demonstrate the Data Explored software on Thursday, October 21, at 1:30 p.m., in the seminar room of the Computing & Communications Division (CCD), Bldg. 515. Currently available on the CCD compute farm, this second-generation data visualization application helps users understand simulation, observations and models — and combinations of the three.

Coming Up

The Aeolian Chamber Players will appear in concert on Wednesday, October 27, at 8 p.m., in Berkner Hall. Featuring a piano trio and clarinet, this ensemble's program will include works by Bela Bartok, Johannes Brahms, Bruce MacCombie and Darius Milhaud.

Tickets may be purchased at the door for $14, general admission; $9 students and people over 65; $5, those under 18. Buy block tickets, good for any concert in the current BERA series, at the door or the BERA Sales Office, for $10 each, for a minimum of four.

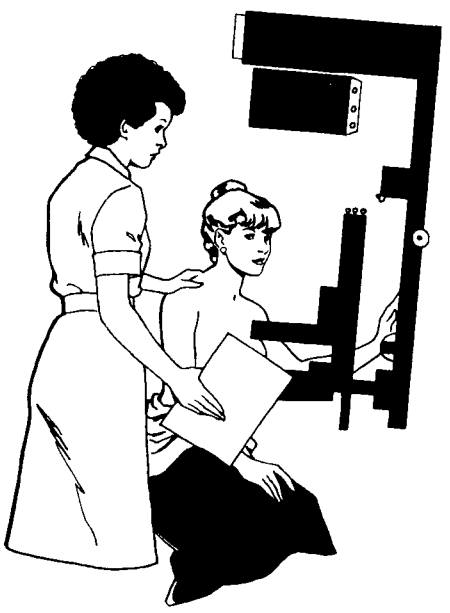
Early Detection: A Key to Beating Breast Cancer

Attention women: Approximately one out of nine women will develop breast cancer by age 85 — but early detection increases a woman's chances of beating the deadly disease.

October is National Breast Cancer Awareness Month. So, says Mary Wood, Health Promotion Specialist with the Occupational Medicine Clinic (OMC), this is a good time to review the following recommendations made by the American Cancer Society — then act on them!

All women should have a screening mammogram by age 40; women 40 to 49 should have a mammogram every two years; women age 50 and over should have a mammogram every year. In addition, a clinical physical breast exam is recommended every three years for women 20 to 40 and every year for those over 40. A good routine health habit for women over 20 years is a monthly breast self-examination.

OMC has a current listing of radiology groups having mammography programs accredited by the American College of Radiology, as well as videotapes and brochures on breast self-examination. For further information, call Mary Wood, Ext. 5923.



WordPerfect Group

The WordPerfect Users' Group will meet on Tuesday, October 19, from 10 to 11 a.m., in the Computing & Communications Division seminar room, Bldg. 515. Topics will be "Calculating in Tables" and "An Introduction to the Macro Command Editor."

Seating is limited, so call group moderator Pat O'Connor, Ext. 7341, by October 18, to confirm attendance.

ANS Meeting

Harry Arman, Director of Corporate Research, Grumman Corporation, will speak on "Critical Technologies for Economic Growth" at the next meeting of the Long Island Section of the American Nuclear Society (LIANS) on Wednesday, October 20, at the Radisson Hotel, Islandia, at 8 p.m.

Following cocktails at 6 p.m. and dinner at 7 p.m., the speaker will be introduced by LIANS president Robert McNair, of BNL's Reactor Division. To make reservations, call Julie Teuber, Ext. 2513.

Volleyball

Volleyball team fees of $90 for the 1993-94 season must be paid to Gary Smith, Bldg. 911C, Ext. 3473, by noon on Monday, October 18.

The Open League and League II will begin on October 18. Leagues I and III will begin on Wednesday, October 20. Captains who have not received schedules should contact Terry Sullivan, Ext. 2840, or Susan Pepper, Ext. 2184.

BERA Plans Trips

Make reservations for the following BERA-sponsored trips now, at the BERA Sales Office, Berkner Hall, weekdays 9 a.m. to 1:30 p.m. For more information, call Andrea Dehler, Ext. 3347, or Kay Dellimore, Ext. 2873.

Take a Walk on the Boardwalk

The next one-day trip to Atlantic City is to the Claridge Hotel and Casino on the Boardwalk, on Saturday, November 13. The initial cost will be $25, but the hotel/casino will give a $5 coin return and a $5 deferred-return voucher. The bus will leave the Brookhaven Center promptly at 9 a.m. with an extra pickup at LIE Exit 63, if necessary.

The Christmas Show at Radio City

Seats are still available for the Christmas Show at Radio City Music Hall on Sunday, November 28. A $40 deposit is required to hold each seat, and the price of $88 per person includes:

- Round-trip bus transportation, leaving BNL at 10:30 a.m.
- Time to see the tree at Rockefeller Center, do Christmas shopping along Fifth Avenue or visit points of interest.
- Early full-course dinner at The Cafe 44 Restaurant in the theater district, with choices of steak, seafood, pasta and more.
- Orchestra/front mezzanine seats for the 6 p.m. show, arriving back at BNL by 9 p.m.
- All taxes and tips.

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Arrivals & Departures

Arrivals

Gordana D. Adzic ..... App. Science
Guillermo E. Castilla ..... Physics
Linda D. Cavaliere ..... Medical
Theresa M. Legualt ... Adv. Technology
Robert L. McGraw ..... App. Science
Bonnie M.H. Tamminga ..... AGS

Departures

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

Woodrow J. Most ..... Plant Eng.
John C. Rothmann .... Adv. Technology

Cafeteria Menu

Monday, October 18	
Soup: Chicken noodle	80/1.10
A la Carte: Chicken fajitas	3.45
Fitness: Pasta w/marinara sauce	3.20
Deli: Pastrami sandwich	2.95
Grill: Reuben platter	2.95
Fitness Salad: Pineapple boat	
Tuesday, October 19	
Soup: Cream of mushroom	.80/1.10
A la Carte: Spaghetti w/meatballs	3.45
Fitness: Fish w/lemon & tomato	3.55
Deli: Hot roast beef sandwich au jus	2.95
Grill: Western omelet w/French fries	2.35
Fitness Salad: Chef's seafood bowl	
Wednesday, October 20	
Soup: Bavarian lentil	.80/1.10
A la Carte: Knockwurst & sauerkraut	3.55
Fitness: Tomato/broccoli casserole	3.25
Deli: Baked Virginia ham sandwich	2.95
Grill: Italian cheesesteak w/fries	2.95
Fitness Salad: Fresh fruit	
Thursday, October 21	
Soup: Cream of spinach	80/1.10
A la Carte: Italian steak pizziola	3.75
Fitness: Tarragon lime chicken	3.50
Deli: Corned beef sandwich	2.95
Grill: Ham & broccoli cheese melt	2.75
Fitness Salad: Cantaloupe bowl	
Friday, October 22	
Soup: New England clam chowder	80/1.10
A la Carte: New Orleans Cajun catfish	3.65
Fitness Fare: Exhibition cooking	
Deli: Roast turkey sandwich w/gravy	2.95
Grill: Fried shrimp boat	3.25
Fitness Salad: Chef's salad	

Burger, Taster's Bar & other specials daily.

UNIX Training

The Computing & Communications Division (CCD) has scheduled UNIX training classes to meet in the CCD seminar room, Bldg. 515, next month as follows:

- **Introduction to UNIX,** $300
  Mon.-Thu., 11/15-18, 9 a.m. to noon
  Fri., 11/19, 9 a.m. to 5 p.m.
- **C Shell Programming,** $200
  Mon.-Thu., 11/15-18, 1 to 5 p.m.
- **Advanced C++ Programming,** $700
  3 full days, dates to be announced
  prerequisite: 6 months C++ programming

To register, send an ILR for the correct amount to Pam Mansfield, Bldg. 515, before November 5. For more information, contact Mansfield, Ext. 7286.

Bowling

Red/Green League

E. Larsen bowled a 254/218/633 scratch series, R. Jansson 242, R. Prwivo 226, R. Wiseman 226, R. MacKinnon 225/213/619 scratch, R. Larsen 224, E. Sperry IV 222, H. Arnesen 221/205, S. DiMaiuta 215/209/608 scratch, W. Powell 212, K. Asselta 211/210/604 scratch, R. Raynis 206, A. Warkentien 205, E. Beadle 202.

Purple League

Fred Schaefer bowled a 226/266/235/727 scratch series, Manny Dador 211, Debbie Keating 193, Kay Conkling 182, Maryann Reynolds 176, Fran Brown 171.

White League

Tom Romano bowled a 249, Jeanne Penoyar 237, Mike Meier 227, Bob Geib 218, Jim Goode 212, Kevin Carney 211, Gerrie Riker 205, Caryl MacDougall 202, Pat Manzella 196, Mickey Haller 187. Lorraine Roecklein converted the 4/7/9 split, Lorraine Petro the 4/5/7, and John Niemczyk the 6/7.

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.

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

SCIENTIST - With Ph.D. degree in nuclear, high energy, or accelerator physics and several years' experience including system integration of storage ring subsystems (such as surveying, mechanical and electrical) into accelerator-control systems. An extensive software background both in the construction of large codes and in the use, design, construction and administration of SYBASE databases is also required. Position is in the RHIC Control System Section. Contact: Donald Barton, RHIC Project.

SCIENTIST - With Ph.D. degree and several years' experience in accelerator physics, preferably with storage ring operation, including both routine and commissioning activities. An extensive software background both in the development of high-level accelerator control software and in accelerator physics modeling is also required. Primary area of responsibility will be software development. Contact: Stephen Peggs, RHIC Project.

LABORATORY RECRUITMENT - Opportunities for Laboratory employees

DD 5533. ADMINISTRATIVE POSITION - Requires a bachelor's degree in business administration or equivalent work experience and familiarity with Laboratory accounting procedures, as well as IPAP, JCARS and JV systems. Will maintain and reconcile commitment data, assist in budget/expense control activities, procurement/contract management and property management. Familiarity with computer database applications and the use of personal computers in administrative processing is desirable. Computing & Communications Division.

Motor Vehicles & Supplies

91 MERCURY TRACER LTS - 4-dr., a/t, ac, 12k mi., alloy wheels, cruise, cass. stereo, excel. cond., $8,500. Eric, Ext. 5875.

90 HONDA ACCORD - 4-dr., a/t, Alpine CD player, new tires, excel. cond. Tom, Ext. 7805.

90 TOYOTA COROLLA DX - 4-dr., 5-spd., white, ac, stereo, new tires, excel. cond., $6,295. Tom, Ext. 4037.

88 CHEVY CORSICA - 4-cyl., a/t, p/s, p/b, ac, am/fm, 98k hwy. mi., good cond., $2,950 neg. Judith, Ext. 2963/7445.

88 ISUZU TROOPER II - fully loaded, 36k mi., 4wd, 5-spd. m/t, p/s, ac, 4-dr., childproof, am/fm, excel. cond., $9,500. Ray, Ext. 4710.

88 FLEETWOOD MOTOR HOME - 27', Class C, 33k mi., clean, many extras, $21,995. J. Davis, 473-0495.

87 NOMAD TRAVEL TRAILER - 19', sleeps 5-6, fully self-contained, loaded kitchen, full tub, heated, Reese hitch, new tires, mint, $5,100. 929-8105 eves.

87 GMC SAFARI LUXURY MINI VAN - mpg range, 500 mi./tankful, asking $9,000. E. Edwards, Ext. 4308.

87 VW GOLF - ac, new tires, shocks, muffler, $1,975. 821-0686.

86 NISSAN STANZA WAGON - blue, 5-spd., new tires, no rust, reliable, 92k mi., asking $2,800. Peter, 821-9513.

86 NISSAN SENTRA - 48k mi., p/s, p/b, ac, am/fm, 2-dr. h/b, one owner, excel., $3,000. George, Ext. 2296.

85 OLDS CUTLASS SUPREME - 2-dr., V-6, 104k mi., excel. cond., must sell by Oct. 26, asking $2,400. Horst, Ext. 7179 or 286-4234.

84 DELTA 88 OLDS - V-8, a/t, ac, 2-dr., all power, tape am/fm, $1,450. Tom, 744-8338.

83 NISSAN SENTRA - 5-spd., cass., runs well, asking $900. Ext. 7857 or 924-6712.

83 CHEVY MALIBU WAGON - ac, p/s, p/b, am/fm cass., 3.8 V-6, runs well, orig. owner, new tires, radiator, alternator, asking $1,600. Greg, Ext. 3263.

82 HONDA CIVIC - 113k mi., 4-dr., 5-spd., burns some oil but runs very well, $400. Marty, Ext. 3749 or 286-5897, leave message.

82 NISSAN MAXIMA WAGON - 2 new tires, P175/R14 & other, 84k mi., needs brake work, good for parts, $350 neg. Y. Zhu, Ext. 3983.

82 PROWLER CAMPER - 19', stove, sink, heater, refrig., hot water, awning, levelers, sleeps 4-6, extras, asking $5,000. Helen, 744-5578.

81 MUSTANG - 6-cyl., a/t, p/s, p/b, am/fm, blue/black, 138k mi., good cond., asking $1,200 neg. Janko, Ext. 2707 or 821-6916.

81 DODGE VAN - new tires, brakes, paint, $1,700 neg.; '83 Cavalier, new tires, clutch, F-struts, shocks, springs, brakes, 4-spd., $1,100 neg. Brett, Ext. 4672.

80 BLAZER K5 - all new parts, '84 250 6-cyl. eng., p/s, p/b, ac, stereo radio cass. w/power booster, excel. cond., must see, neg. 924-8558.

80 AMC WAGON - 6-cyl., ac, $450. 878-0743 after 5 p.m.

77 FORD LTD - a/t, p/s, p/b, 4-dr., 136k mi., $250. Dannie, Ext. 4581.

69 CORVETTE - convertible, red/black, 4-spd., 350, p/s, am/fm cass., runs well, new top & int., $10,500 neg. Mike, 467-4975.

68 MUSTANG - 8-cyl., classic, seafoam green, many new parts incl. $2,000 or best offer. 473-1456.

PARTS - '84 Mustang, right fender, left side door, hood, willing to trade for other Mustang parts. Joe, Ext. 3120 or 929-0668.

CAR-TOP LUGGAGE RACK - canvas, w/zippered side, $50. Joe P., Ext. 5409.

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

Boats & Marine Supplies

23' BENETEAU 235 SAILBOAT - 1989 racer/cruiser, priv. head, fully galley, shower, sleeps 4, furler, 9.9-h.p. ob., showroom cond., $15,000. Steve, Ext. 3230.

18' HOBIE CAT - 1990, w/ trailer, red jib, black & white mainsail, hardly used, $2,950. 473-1456.

18' STARCRAFT - aluminum, center console, v.g. cond., needs deck rebuilt, Teleflex steering, trailer, eng. options, $1,000 neg. Bill, 281-6498.

MARINER - 1990, ob., 60-h.p., oil injected, w/power trim & tilt, $2,800. 689-9234.

MOTOR - 1976, 20-h.p. Mercury, good for parts, make offer. Carl, Ext. 4986 or 929-5781.

Furnishings & Appliances

BEDROOM SET - 5 pieces, excel. cond., $225, 2 hi-risers, $40 & $35; adjustable bed, w/mattress, excel. cond., $65. Howard, 878-8294.

COUCH - sleeper, v. g. cond., $75; woman's bike, 10-spd., 24", $25. Tim, Ext. 4630 or 878-3947.

DESK - computer, $50; infants' walker, $5; floor lamp, brass, $25; 4 cane & chrome chairs, $35. Bob H., Ext. 4446 or 654-3989.

DINETTE - oak, 42" round table, extends to 54", 66" oval w/leaves, 4 chairs, excel., $350. 744-2060.

DINING ROOM - Colonial, pine w/glass china front, chairs, table w/leaf, $750. Ext. 2040 or 924-3641 after 5 p.m.

DINING ROOM TABLE - oak, pedestal, 48", 4 ladder-back rush-seated chairs, $225. Sue, Ext. 2888 or 286-1474 after 6 p.m.

FREEZER - GE, 18 cu. ft., upright, white, built-in lock, excel. cond., $350. Ann, Ext. 5740 or 744-8386.

FREEZER - Kelvinator chest, 42"x36"x27", shelf w/2 compartments, glass partition, $75. John, 281-3515.

ROCKING CHAIR - natural wood finish, $200; etagere, natural wicker, three pieces, adjustable shelves, $150. Donna, Ext. 2716.

WASHER & DRYER - Sears, apt.-sized, 2 yrs. old, $400. Mauro, 265-6542.

AIR CONDITIONER - Friedrich Quietmaster, 8,000 Btu/hr., ER-10, excel. cond., $275 or best offer. Ellie, Ext. 3395 or 325-1537.

BED - 38"x74"x5" foam mattress, metal frame, casters, used three months, $65. Rau, Ext. 3864.

BED - platform, full size, large storage compartment, $60. Dennis, Ext. 4218.

DRESSER - double dresser, w/hutch top, Heywood Wakefield, maple, orig. $650, sell for $200. Jackie, Ext. 3908.

RANGE - elec., 30", Caloric, almond top, self clean, electronic timer, v.g. cond., $250. Kevin, Ext. 2948 or 744-0871.

FREEZER - 15 cu. ft., GE, white, upright, v.g. cond., $100. John, Ext. 3422 or 929-4101.

GAS DRYER - Kenmore, brand-new, $300. 289-0967.

EXPRESSO MACHINE - Krups, mini, works well, orig. $70. 744-4611 after 6 p.m.

REFRIGERATOR - Sears, frostless, 10 yrs. old, 58"h x 30"w, $40. Dave, Ext. 5460.

SOFA - full-size sleeper, neutral color, excel. cond., price neg.; end tables, coffee tables. Roseann, Ext. 3142 or 447-2110.

SOFA & LOVESEAT - $200; 2 end tables, 1 coffee table, $75; 4'x5' oil painting, $50. Neil, Ext. 4688.

TABLE - 2!/2x4, dark oak, trestle, 4 chairs, excel. cond., $100 neg. 878-1947.

VACUUM CLEANER - Regina, upright, 8.5 A, w/ attachments, brand-new, never used. $60. Ext. 4719.

WATER BED - king-size, dual mattress, waveless, heater, frame, pedestal, $150 or best offer, orig. $1,000. Mike, Ext. 2052.

Tools, House & Garden

WINDOW - Andersen casement bow, 84"x46", vinyl, new, $400; 361/2", countertop range, converts to grill, $300. Joe, 399-4169.

BURNER - Beckett, complete w/fire eye, $165. Bill, Ext. 2214.

GAS GRILL - Charmglow, dual burner, good cond., $45. Ext. 3751 or 589-5490.

GLASS - 4'x4', 2" wood frames, 1 w/no frame, $5/ea.; assorted sizes in alum. frame, $2/ea. Judy, Ext. 2590.

LADDER - 30', wood, entension, good cond., $30; compost grinder, Wichita heavy-duty, converted to elect. motor, $40. Tom, Ext. 7196 or 286-2505.

PUMP - Goulds, 1.h.p., w/tank, used, 2 mo., $100. 395-3837.

SKY LIGHT - new Insuladome, 30"x45", fixed, $200. Jim, 228-0397.

STORM DOOR - 36", Emco Forever, white, self-storing screen & window, insulated steel entrance door, 36", w/locks, $150/both. Bob H., 654-3989.

STOVE - coal, Franco Belge, piping, $250. John, Ext. 7238 after 7 p.m.

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

TREES - Japanese, red maples, 18" to 24" tall, Bob, Ext. 5439 or 744-3224.

WELL PUMP - excel. cond., asking $100. Bruce, Ext. 5996.

WELL PUMP - 2-stage, 2 yrs. old, great for faucet pressure, glass-lined tank, $175. 924-8558.

FIREWOOD - seasoned hardwood, split, delivered, $115/cord, $60/half cord. Glenn, 924-2035.

LAWN MOWER - Sunbeam, elec., 20', single blade, used 3 summers, $30. Bob, Ext. 2503.

STOVE - pot belly, large U.S. Army No. 20, coal or wood, $200. Kevin, Ext. 3082 or 281-8031.

TABLE SAW - Homecraft, 8" blade, good cond., $100. Joe P., Ext. 5409.

WINDOW - Andersen, slide, w/screen, 5' L, 8'H, vinyl, complete, new, ask. $350 or best offer. Ext. 2238.

WOOD STOVE - small cast-iron, $35; plow attachment, chains, for tractor, $100. Ext. 4719.

Sports, Hobbies & Pets

BICYCLES - 2, 12", boys', like new, $25/ea. Anne, 361-6835.

BICYCLES - boys', 16" & 20", $5/ea. 589-5490.

BIKE - Fuji, 18-spd., gray, touring series, rack, center pull brakes, alloy wheels, 27", asking $165. 473-3852.

BIKE - 1991 Schwinn Woodlands, mountain bike, mint, asking $200; RC car, Black Foot, working, parts needed, $90. Dan, 360-3803.

GUITAR AMP - GK250RL, $200; wireless system, Nady 201, $225. Doug, Ext. 4661 OR 434-7812.

BICYCLES - 27" man's & 26" woman's, 10-spd., $30/ea.; golf clubs, junior set, driver, putter, 3 irons, nylon bag, $35. Bob, Ext. 2503.

BMX BIKE - Fuji, all chrome, $40; mountain bike, Ross Mt. Washington, 10-spd., black & red. Ext. 7225 or 929-6748.

DRAFTING TABLE - 6'x3' surface, adjustable height, angle, $30. Mike, Ext. 2052.

DOLLHOUSE - Newberg, wooden kit, some assembled, brand-new, 6 rooms, 1 stairway, $15. 821-6867.

ENGLISH RIDING GEAR - boots size 7, $50; helmet, size 7, $20; both used only twice. Bob, Ext. 4002 or 924-9662.

FISH TANK - 30 gal., w/stand & light, $30. Dave, 924-6235.

ROWER - exerciser, $43. Bill, 473-3171.

VIOLIN - !/2 size, suitable for 2nd to 6th grader, Suzuki Nagoya, excel. cond., $140. Steve, Ext. 4475.

Audio, Video & Computer

COMPUTER - Commodore 64, Star NX-10 printer, 1541 drive, color monitor, joysticks, software, games, $300 or best offer. Bob. H., Ext. 4446 or 654-5989.

COMPUTER - 286,12, 40 MB hard disk, 2 HD, FD drives, math co-processor, NEC VGA mon., asking $680. Gary, Ext. 4547 or 369-4668.

COMPUTER - Commodore 64, disk drive, printer, disks, games, etc., joysticks, $125/all. 924-8558.

COMPUTER SOFTWARE - Ami Pro 3.0, requires 80386, DOS 3.0, Windows 3.0, 2 MB RAM, EGA, 11 MB HD, never opened, $100. Peggy, 751-2655.

KICKER BOX - MTX, 12" speakers, $200; Pyramid 600-W amp., $200. Christine, 286-4969 after 5 p.m.

NINTENDO - 12-13 games, 2 yrs. old, asking $75. Leo, Ext. 3103.

AMPLIFIER - Jenson A, 300W, for car stereo, $75; speaker box, 2 twelves, 2 mids, 2 tweeters, hot box issue, $175. Brett, 4672.

CAMCORDER - VHS Panasonic, low light, high-speed shutter, 6:1 power auto-focus lens, timer, battery charger, hard case. Sheryl, Ext. 7716.

COMPUTER - Commodore 128, w/1571 disk drive, Thompson monitor, some software, manuals, best offer. Bill, 473-3171.

Miscellaneous

CAR SEAT - Century, $25; recliner chair, $15; child carrier for bike, $7. Mary, 924-6235.

DIET TAPES - Jenny Craig, entire set, $25. 924-8558.

ELECTRIC BLANKET - new, $20; large speaker box, $10; twin pine headboard, $10; bassinet, $20; hedge trimmer, $20. Kathy, 744-2203.

GOWN - teal blue, size 10, excel., $20. 744-5871.

HONEY - fresh from hive, amber-colored wildflower, $3/pound. Terri, Ext. 2112.

MEMBERSHIP - Jack LaLanne Premier Plus, unlimited use of all facilities for 3 yrs., orig. $950, now $700. Ellen, 471-5726.

SKI PANTS - woman's, Head, lavender, size 12, men's gray, size med./large, both like new, $20/ea. 473-6546.

TICKETS - Metropolitan Opera, 10/16, Sat. matinee, Madame Butterfly, row 12, orch. center. Ext. 3922.

WEDDING GOWN - antique white, satin, lace, size 10, $150. 289-0967.

Yard & Garage Sales

BOHEMIA - 10/16, 10-4 p.m., household items, collectibles, furniture, rugs, knickknacks, more, 702 Smithtown Ave., rain date 10/23.

Lost & Found

LOST - gold wedding band on Friday, 10/1. Steve, Ext. 3230.

Car Pools

LIE EXIT 36 - need fourth member. John, Ext. 5181.

Wanted

AIR COMPRESSOR - for med. duty spray work. Mike, Ext. 5030 or 821-4083.

BASSINET - for newborn and car seat/carrier, must be in very good condition. Ext. 1020.

CURLERS - anyone interested in the sport of curling, call for info. Dannie, Ext. 4581.

DOOR - for 84 Mustang, right side, any color, good cond.; VCR or VCP, good cond., reasonable price. Joe, Ext. 3120 or 929-0668.

ENCYCLOPEDIA BRITANNICA - vintage. Horst, Ext. 7179 or 286-4234.

FURNITURE - white, wicker, dressers, headboard, chair, trunk, excel. cond. Ext. 4127.

HOUSE/APT. - for last 2 weeks of Dec., retired couple visiting for holidays, nonsmokers. 744-5422.

INDIVIDUALS - to join existing group studying dreams and their relation to our lives, meets alternate Thurs., 7:30 p.m. Ext. 5886, 473-8547 or 751-7218.

MEMBERS TO JOIN A FRENCH CLUB - meeting last Monday in each month. Joe, Ext. 2212.

NORDIC TRACK - will get good home w/person in need. Peder, Ext. 4591.

PING-PONG TABLE - reasonable cond., price neg. based on cond. Bob, Ext. 2503.

POSTCARDS - any and all for collection, the older the better. 325-5546.

RACQUETBALL PLAYERS - alternates for BNL league held on Thurs., 6-7 p.m. in Farmingville. Lois, Ext. 3315, or Bob, Ext. 4672.

TIRES - P205-75R14, good to excel. Susan, Ext. 7647.

TOOLS - auto-related diagnostic tools, timing light, gravity tester, coolant tester, battery load tester. Bill, 281-6498.

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