BROOKHAVEN BULLETIN
Vol. 44 - No. 6 February 9, 1990
BROOKHAVEN NATIONAL LABORATORY

A Promising Treatment for Melanoma

This is the third in a series of articles on four grants awarded last July to BNL scientists in the Biology and Medical Departments by the U.S. Department of Energy (DOE), Office of Energy Research, under a new, special grant program for nuclear medicine research.

Roger Stoutenburgh

Jeffrey Coderre

Melanoma — a malignant tumor usually composed of darkly pigmented cells — is one deadly reason to avoid overexposure to the sun.

First appearing as an unevenly pigmented, rapidly growing mole, this skin cancer quickly metastasizes all over the body. Resistant to conventional chemo- and radiation therapy, the disease is fatal once it has metastasized to other parts of the body.

Unfortunately, approximately 27,000 cases of melanoma were diagnosed in 1988 in the U.S., and the number of cases continues to rise each year.

In addition to occurring in the skin, melanoma can arise in the pigmented coat of the eye, the choroid. Though less common than cutaneous melanoma, ocular melanoma is diagnosed in about 1,800 Americans each year. As metastasis is likely, only 15-20 percent are alive five years after diagnosis.

Fortunately, boron neutron-capture therapy (BNCT), a cancer treatment being investigated by Scientist Jeffrey Coderre and his colleagues in BNL's Medical Department, offers the hope of a treatment for melanoma.

Coderre is testing the boron-containing compound called p-boronophenylalanine (BPA), which he synthesized for BNCT of melanoma. BPA is one of the most promising tumor-specific compounds developed for BNCT to date.

To prove the feasibility of using this compound for BNCT to treat people with malignant melanoma, Coderre received a three-year grant last July from DOE.

Under this special grant program for nuclear medicine research, Coderre is collaborating with Samuel Packer of North Shore University Hospital-Cornell University Medical Center on human ocular melanoma; and with Allen Meek of the University Hospital, State University of New York at Stony Brook, and Reinhard Gahbauer, Ohio State University, on human cutaneous melanoma.

Since 1987, Coderre's research has been supported by the National Cancer Institute of the National Institutes of Health.

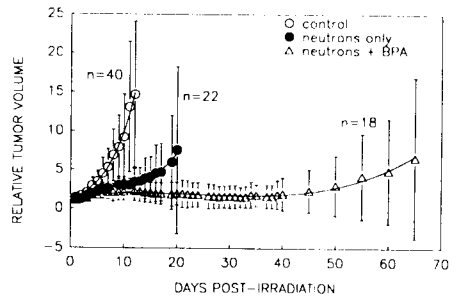
Two BNCT Breakthroughs

For BNCT, a compound containing the stable isotope of boron called boron-10 is administered to the cancer patient. The boron-containing compound accumulates in the cancerous tumor, which is then irradiated with neutrons.

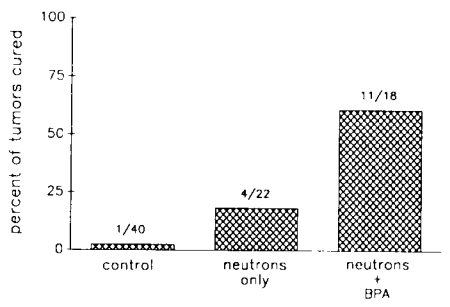
Because boron-10 absorbs these slow neutrons, it self-destructs, releasing an alpha particle and a lithium ion. Highly ionizing, these radiations have a short range, only about a one-cell radius. Thus, the majority of the radiation dose is restricted within the tumor.

In the late 1950s and early 1960s, BNCT was originated at BNL as a treatment for a brain cancer known as

(continued on page 2)



Curves showing the relative growth of melanoma tumors in mice following no treatment, exposure to neutrons only, or boron neutron-capture therapy (BNCT). As shown, growth is significantly suppressed only with BNCT using BPA.



Bar graph showing percentage of tumors in mice cured without treatment (control), following exposure to neutrons only, or after boron neutron-capture therapy (BNCT) with BPA. As displayed, the cure rate of 61 percent for BNCT with BPA is significantly better than that for neutrons only, 18 percent, and that for no treatment, 2.5 percent. Results from the most recent experiments, using longer irradiation times, show a cure rate of almost 90 percent.

Child-Development Center: Recent Developments

By mid-1991, BNL's child-development center will open its doors to 100 eight-week through five-year-old children of Lab employees. Towards that goal, two efforts are now ongoing: the selection of a contractor to operate the center and the design of the facility.

Since January 22, seven written proposals from prospective operators have been under review by a six-member committee. Chaired by Employee Relations Counselor Susan Foster of the Personnel Division, the committee is expected to select the center's operator by April 9.

"We'll be making our decision based on factors such as operator experience and qualifications, the proposed program and fee structure, as we are looking to provide quality child care at affordable prices," explains Foster.

Foster's committee includes: Michael Bebon, Plant Engineering Division (PE), Frank Federmann (ex officio), Associated Universities, Inc.; Renee Flack, Office of Educational Programs; Michael Goldman, BNL Legal Counsel; and Mary-Faith Healey, Contracts & Procurement Division.

To evaluate the seven proposals, the selection committee will also be using criteria developed by a subcommittee of BNL employees. "As these employees have or had young children in day care, we thought that their input would be valuable," comments Foster.

The concerned parents on the subcommittee were: Margaret Alexoff, Central Shops Division; Patricia Carr, Department of Applied Science; Christopher Johnson, PE; Stephanie

(continued on page 2)

Preliminary sketch of BNL's child-development center.

NRC Honors Two From DNE

Upendra Rohatgi (right center) and Wolfgang Wulff (left center), both mechanical engineers in the Department of Nuclear Energy (DNE), recently received Certificates of Appreciation from the U.S. Nuclear Regulatory Commission (NRC). Denwood Ross (left), NRC Deputy Director of Research, presented the certificates, "In recognition of valuable contributions made to the development and demonstration of the Code Scaling Applicability and Uncertainty [CSAU] Evaluation Methodology."

Rohatgi and Wulff's work on the CSAU methodology was done as part of an NRC Technical Program Group (TPG), which also included researchers from Idaho National Engineering Laboratory, Los Alamos National Laboratory, Massachusetts Institute of Technology and Salomon Levy Incorporated. The TPG was chaired by Novak Zuber (right), NRC.

The CSAU methodology was developed to determine the accuracy of large system codes for safety analysis of reactors. The TPG demonstrated the methodology by applying it to the TRAC PF1 computer code — evaluating the code's performance for a postulated large-break, loss-of-coolant accident in a Westinghouse four-loop plant — to show how well the code scaled experimental data from laboratory test facilities to full-scale power plants, and to determine the uncertainty in the code predictions. In 1989, the TPG was the first worldwide to report with CSAU success in demonstrating any methodology for systematic, practical and auditable assessment of large thermohydraulic computer codes for nuclear reactor safety.

Police Group Using Radar To Enforce Lab Speed Limits

Are you a driver who treats BNL's streets as an extension of the high-speed roads that surround the Lab? If so, it's definitely time to leave those off-site driving habits off site.

Last Monday, February 5, marked the start of BNL's new on-site speed control and enforcement program. That's when patrol officers from the Police Group began using radar guns to monitor speeding on site, then pulling over those violating the Lab's 30 miles per hour speed limit.

"Safety and safety alone was the prime reason for initiating this program," said Larry Runge, Manager of the Safeguards & Security Division. "We want to make this a safer place to work." As the program's primary aim is to slow down Lab drivers, Runge added, "We will be highly visible at it."

Towards this end, BNL Police Group patrol officers who were recently graduated from the Suffolk County Police Department's radar certification course have begun taking up their positions on the Lab's roadways and stopping speeders. For the rest of this month, drivers who are stopped will receive only warnings — and a reminder that, had the program been fully in effect, they would have received a citation.

When the Police Group begins issuing tickets on March 1, they will be handled as they are currently in the parking enforcement program. The original will be given to the driver, and a copy will be sent to the violator's department or division head. Remaining copies will be held by the Police Group for 30 days, to allow a period for appeal.

Appeals will be handled by William Hempfling, Personnel Division, Bldg. 185, Ext. 2878. If an appeal is not successful, a fine of $50 will be charged to the employee's department or division operating funds at the end of the waiting period.

However, Runge emphasizes, the Police Group is not in the business of making money. "The goal is safety," he reiterated. "It would be fine with me if we never had to issue a citation. In fact, I'd prefer it if we didn't."

New Patrol Officers Graduate

Roger Stoutenburgh

The most recent class of BNL patrol officers includes (in uniform, from left) George Falcone, Helmut Thiel and Kevin Linkletter. Joining them at their February 2 graduation ceremony are: (left) Larry Runge, Manager of the Safeguards & Security Division, and (right) Russ Reaver, Manager of the Police Group.

Inside Info

Ilan Ben-Zvi is a physicist with the National Synchrotron Light Source Department (NSLS), but in speaking of his son David's sophisticated entry in this year's Westinghouse Science Talent Search, he admits, "There are parts that I don't understand."

David D. Ben-Zvi, a 15-year-old senior at Ward Melville High School in East Setauket, has been named one of 40 national finalists in the prestigious science competition. As such, he will travel to Washington, D.C., in March to compete for $140,000 in scholarships.

David's entry "Hysteresis and the Structure of Fractal Basin Boundaries in the Henon System," was mathematical — a problem in nonlinear dynamics. To investigate a system that exhibits extremely complex behavior, he developed a mathematical proof to explain the exact effect of parameters on the outcome. He began with a hypothesis he derived from a great deal of computer experimentation and ended up discovering an important new theorem for the system.

To pursue the field of mathematics further, David looks forward to attending Princeton University next year.

In addition to the finalists, 263 students nationwide were selected to the Honors Group of semifinalists in the Westinghouse competition. One of the semifinalists was Ward Melville's **David Joshua Goldhaber,** grandson of **Gertrude and Maurice Goldhaber,** whose project aimed "Toward a General Definition of Chaos." A BNL physicist since 1950, Gertrude Scharff-Goldhaber is a consultant with the Physics Department, while former BNL Director Maurice Goldhaber is now AUI Distinguished Scientist emeritus.

Also a semifinalist was **Philip Peter Soo**, son of **Peter Soo,** Department of Nuclear Energy (DNE). Also a student at Ward Melville, Philip Soo studied "Chloride-Induced Stress Corrosion Cracking in Austenitic Stainless Steels."

Another Ward Melville semifinalist was **Sumit Kumar Subudhi,** the son of **Manomohan Subudhi,** DNE. His project involved "Characterization of the Generation and Inhibition of Factor Xa in the Human Blood Coagulation System."

In addition, semifinalist **Eric Dennis Nordstrom,** a senior at Shoreham-Wading River High School, did his project on "Dose Rate to Human Organs From Monochromatic Synchrotron Beams," at BNL's National Synchrotron Light Source, under the guidance of NSLS Physicist **William Thomlinson.**

Child-Development (cont'd)

LaMontagne, Accelerator Development Department; and Kathleen McIntyre, Safety & Environmental Protection Division.

Once the operator is selected, Foster explains, it will establish a registration procedure. In the meantime, however, no preregistration list is being kept. Foster adds, "Those with immediate child-care needs are welcome to call me on extension 2888 regarding the child-care referral service that is provided free to BNL employees."

While deliberations about the seven prospective operators have just begun, preliminary plans for BNL's child-development facility have already been completed by John Castro, architect in PE's design group, which is developing the final drawings.

To be built across the street from the laundry in the apartment area, the center will contain some 6,800 square feet, including specific areas for four age groups — "and a lot of nooks and crannies for children to explore," explains Castro.

"BNL's child-development center takes its cue from the uniquely American, shingled saltbox," continues Castro. "Its two-level plan has a high, central space reminiscent of an old timber barn — but with many more windows. It will be a safe yet fun building — one that is inviting and responsive to young, creative imaginations."

During the design process, Castro and Foster have been seeking the opinions of private child-care center operators, as well as those at other U.S. Department of Energy labs.

The design deadline of May 1 coincides with the date by which Brookhaven's negotiations with the selected child-development center operator are expected to be completed. The operator will then have an opportunity to review the drawings and to fine-tune design details.

The request for proposals to build the center will go out on July 1, with written responses due by August 1. The construction contract is to be agreed upon by August 15, so construction can start on September 1.

— Marsha Belford

PSI Meeting

Susan C. Bauer, a certified professional secretary (CPS) with the Office of Technology Department, State University of New York at Farmingdale, will discuss the "CPS Program and You," at the next meeting of the Upton Chapter of Professional Secretaries International (PSI). Her talk describing the CPS rating and exam, which is administered by PSI, will take place on Thursday, February 15, at 6 p.m., in the Brookhaven Center south dining room.

Cooking Exchange

Demonstrations of national recipes from Japan and Finland will be featured at the next get-together of the International Cooking Exchange, on Wednesday, February 14, at 12:30 p.m., in the Recreation Building in the apartment area.

As always, prepared dishes will be sampled by all those present, so there will be a $2 per person charge to cover the cost of recipe ingredients. Babysitting will be provided at 50¢ per child.

Hotline for Fraud, Waste and Abuse

Fighting fraud, waste and abuse in U.S. Department of Energy (DOE) programs, operations or funds is the aim of DOE Order 2030.4. This order directs any employee of DOE or a DOE contractor who has information about such alleged criminal violations relating to DOE programs, operations, or funds to report such information to the Office of Assistant Inspector General for Investigation.

Employees can gain immediate access to the Office of Investigations by using the following toll-free hotline numbers, which are in operation 24 hours a day, seven days a week: 800-541-1625 and FTS 896-4073.

Melanoma (cont'd)

glioblastoma. The Brookhaven Medical Research Reactor (BMRR) came on line in 1959 to provide a beam of slow, low-energy, or thermal neutrons for BNCT.

Back then, BNCT for glioblastoma was not as successful as had been hoped, for two reasons: First, the low-energy neutrons did not penetrate the tissue well, and, second, the boron compounds used at the time were not selective for tumor tissue.

BNCT has been recently revived as a viable cancer treatment by two breakthroughs: First, BNL scientist Ralph Fairchild and his collaborators have developed a higher energy, epithermal neutron beam at the BMRR, which has improved tissue-penetration characteristics. Second, newly synthesized boron-10 compounds, such as Coderre's BPA, take advantage of metabolic pathways to deliver boron selectively to tumors.

What gives BPA its specificity for melanoma is the fact that BPA is the boronated amino-acid precursor of melanin, the brown-black pigment that gives melanoma its name. Therefore, BPA accumulates within melanoma by moving into the tumor via the same metabolic pathway as the natural amino-acid precursors of melanin.

Administering BPA in a variety of animal tumor models, Coderre has already determined that BPA can be given orally in one or more doses, is selective for melanoma, accumulates to therapeutic levels, and clears rapidly from the blood and normal tissue. Using BPA for BNCT in animals implanted with experimental melanomas, up to 90 percent of mice have been cured, versus the close to 100 percent death rate for control groups.

Using BPA, Coderre is also performing the preliminary tissue-distribution studies in animal models of other tumors, for example glioblastoma and breast cancer.

"At first, I was somewhat surprised that BPA works so well in non-melanoma tumors," admits Coderre. "But, given that BPA is not only a melanin-precursor analog, but also an amino-acid analog, it is good enough to be selectively accumulated in other rapidly growing tumors besides melanoma."

Coderre also has plans to synthesize other amino-acid compounds to be used in BNCT of leukemia, for instance.

BPA has been approved by the U.S. Food and Drug Administration for initial studies in humans. During the first phase of BNCT clinical trials, the distribution of BPA in the normal and cancerous tissue of patients with metastatic melanoma will be determined.

"The results from our animal experiments and the Phase I study will provide the data necessary to determine if boron neutron-capture therapy of malignant melanoma using BPA is likely to succeed in humans," concludes Coderre.

— Marsha Belford

P-CAD Users Meeting

The next P-CAD Users Group Meeting will be held on Wednesday, February 14, from 10 a.m. to noon, in the CCD Seminar Room, Bldg. 515.

Doug Marks of Doug Marks Associates will be available to answer any questions about the 4.5 release. All are invited to attend.

For more information, call Pam Mansfield, Ext. 7286.

One-Day Trip To Atlantic City

BERA is sponsoring a day trip to Bally's Grand on the Boardwalk on Saturday, March 3. The bus will leave the Laboratory at 9 a.m. and return about 11 p.m.

After an initial cost of $20 per person, the casino will give a $10 reimbursement in coins and a $5 return voucher.

Only one bus has been hired, so don't delay making reservations through Louisa Barone at the BERA Sales Office, Ext. 3347, from 9 a.m. to 2 p.m., weekdays.

Rifle & Pistol Club

The next meeting of the Rifle & Pistol Club will be held at noon on Wednesday, February 14, Room 202, Bldg. 911B. Please attend for information about our upcoming outdoor season. For more information, call Otto Jacobi, Ext. 3471.

Bowling

Purple League

Joe Cuccia had a 267, Jim Vogel 211, Ed Sperry IV 211, Jeannette Thiede 204, Vito Manzella 202, Paul Callegari 201, Kathy Griffin 191, Cheryl Miezianka 183, Betty Jellett 182, Annamarie Spira converted the 4/7/10 split.

White League

Ed Beadle had a 236, Mary Grace Meier 186, Jeanne Penoyar 180, Donna Fernandez converted the 2/10 split.

Pink League

Pat Jencius had a 221, Ginny Diebel 203, Pam Meehan 189, Donna Cunningham 189, Maryann Reynolds 184.

Red/Green League

J. Muller had a 220/213/200 for a 633 scratch series, W. Kristiansen 217, T. Prach 210, H. Arnesen 200, B. McCarrick 200.

Lecture by Marquette Floyd, NYS Supreme Court Justice

In New York State, the highest trial court at the county level is the Supreme Court, which has unlimited jurisdiction in civil and criminal cases.

Supreme Court Justice Marquette Floyd, who believes that preparation, perseverance and performance are the keys to a successful professional career, will share some of the insights he has gathered throughout his prestigious career in the legal field when he delivers a Black History Month lecture next week. His talk on "Being a Good Neighbor" will begin at 7 p.m., on Tuesday, February 13, in Berkner Hall. His talk is sponsored by the Afro-American Culture Club.

Marquette Floyd

A Korean War veteran, Floyd served in the U.S. Air Force from 1948-54. He graduated from New York University in 1958 and from Brooklyn Law School in 1960. He practiced law from 1961-69, when he won election to the District Court in Suffolk. He sat on the District Court bench until Suffolk and Nassau County voters elected him to a 14-year term on the Supreme Court last November. He now presides in Riverhead.

Floyd is a former director of the Suffolk County Bar Association, which gave him its highest rating — "highly qualified" — for the judicial offices of District Court Judge, County Court Judge and Supreme Court Justice.

In 1986, the Suffolk County Court Officers Association voted Floyd "Judge of the Year," a distinction he also earned from the Suffolk County Criminal Bar Association in 1987. In 1990, he was voted Man of the Year by the Suffolk County Police Conference.

Floyd is a member of a host of professional and charitable endeavors. The parents of six children, he and his wife Mildred reside in West Babylon.

Scotch Doubles

The Scotch Doubles Tournament will be held on Sunday, February 25, at 1:30 p.m., at the Port Jeff Bowl. The cost is $20 per couple. The tournament is open to BNL employees and immediate family members. Applications are available at the BERA Sales Office. Deadline for applications is Friday, February 16. If you need a partner or have any questions, contact Donna Cunningham, Ext. 4599, or Maryann Reynolds, Ext. 5234.

Black History Month — Other Events

Other events planned at the Lab for Black History Month include:

- **"Black Eye" Photo Exhibit** — Featuring photographic works by four black artists and sponsored by the BNL Camera Club, this exhibit will run through Wednesday, February 14, from noon to 1 p.m. in Room C, Berkner Hall.

The featured photographers include two BNL'ers: Ripp Bowman, Alternating Gradient Synchrotron Department, who has won numerous awards for his advertising and portrait photography, and Tom Johnson, Staff Services Divisions, who is interested in darkroom work. Also on display are the works of Felton Miller and Walker Turner.

- BNL **Talent Show** — The Afro-American Culture Club will present its annual talent show on Saturday, February 17, at 7:30 p.m., in Berkner Hall. Advance tickets, at $3 each, may be purchased from Arthur Anderson, Ext. 5318, Bldg. 422; Renee Flack, Ext. 3316, Bldg. 490; and Ralph Wilson, Ext. 3900, Bldg. 535A. At the door, tickets will cost $4 each.

Nature Trail Hike

The BNL Mountain Club will hike the Smith's Point Nature Trail, as its first hike of the new year, this Saturday, February 10. Interested people should bring lunch and meet at the southwest corner of the Smith's Point parking lot at 10 a.m. For more information, call Richard Casella, Ext. 7975.

Love Notes

From BNL Employees To Their Valentines

MEATLOAF LOVER - Sometimes I'm really sorry I left you. Maybe one day we'll get back together again.

DOE EYES - Now that the kids are gone, I'm looking forward to renewing our courtship. Your Buck, love always, Irish.

BABYHONEY - I look forward to our tomorrows and lovingly on our yesterdays! Nothing beats the two-minute waltz! Je t'aime!

TREE - Happy Valentine's Day. I love you very much. Love, John.

NMS - Valentine's Day gives me a chance to thank you for bringing me happiness, a bluer sky and a brighter sun. TO.

TO MY ONE AND ONLY HONEY BUNNY - Happy Valentine's Day.

TO OUR FAVORITE MOMMY - in the whole wide world, Happy Valentine's Day. Love, Daddy, Stephen, Patrick, and ?.

TO MY SILVER FOX - I started to think about you today . . . WOW! Happy Valentine's Day.

SP - What's yours is theirs; what's mine is theirs; but what's ours is ours alone, and forever! All my love, MM.

MERLE - Roses are red, violets are blue, you are my life and I love you.

L, D AND ME - Ivan and Bonnie too, we love you, yes we do, a Valentine deam come true.

JOE MONTANA - Have I told you lately that I love you? I do! Infinity! Always, the Dweeb.

PORCUPINE - "Only you." Love, Me.

KATHY - Happy Birthday and Valentine's Day. Let's do lunch.

TO SMH FROM JC - Remember, I love, even if I don't always say so.

TEDDY - Being with you is always Valentine's Day. You are a real sweetheart. Love, Julia.

TO THE MOST ALLURING WOMAN - Seven and a half bunches — forever.

PAT - I am pleased to celebrate all the growing from the laughter and the sharing and the love. Bill.

HANS & FRANZ - Hope you enjoy your gift o'roses, but be aware, they're not for your noses!. Love, The Goils.

GOOBER - I'll always love you and our soon-to-be new son.

TO AMANDA & RENEE - Happy Valentine's Day. Love, Dad.

VANCE - LV YA LV U LVNG ME LV LVNG U LV 2 LV U LV YA.

IN A FIELD of dreams,
at moonrise, you offered love;
and I am yours now.

"AL FRANKIN" - Roses are red, your eyes are blue, sking is fun, and so are you. Sexy Ski Bunny.

KAREN & KELLIE - The light in my life, the love in my heart. Ray.

LADY - I love you more now than I ever have before. S. Fox.

DEAREST JACKIE - I love you for so many reasons, and all of them are wonderful.

TO ED THE IV - You are a living doll. Happy Valentine's Day.

SKI - Happy Valentine's Day, 13 years of love. Love always, Chuck. p.s. Happy Valentine's Day J & K too.

JIMMY - 5/15/87 was our lucky day. Love always, Me.

DEAR SUZI BLUE - What are you going to do? Love, Howie.

DR. C. - I'm the lucky one because you're so fine. Will you be my Valentine? Dr. T.

SWEETIE - You are my Sunshine, my only Sunshine, you make me HAPPY. With Love, Kisses & Hugs, Koty's Mother.

ANTHONY - Remember in the winter, far beneath the bitter snows, lies the seed that with the sun's love, in the spring becomes the rose. Love, Michele.

PR - You have won my heart & soul, with your sweet & sexy ways, need you by my side, you're my lover & my friend. I'll always love you! Sugar.

MARTYGUSHKA - Happy Valentine's Day, with many more to come. I love you. The Red Fox.

SVELTZ - Your marmelade love makes my cherry eyes twinkle. It always will.

JOANN - We love you. The men in your life, Bob, Kitty & Toby.

BAK - How about another try at Jay's love pie? Your Best Friend.

"LET'S DANCE." - Glad I asked you. "Let's love." Glad you asked me. "Let's celebrate." We've only just begun.

TO THE SCHECH - It's 22 but who's counting? Time flies when you're having fun.

THIRTY-SIX YEARS of loving my Honey! "Darling."

CINDI - my wife and best friend and so whom I shall ever love. Always, Joe.

TO THE MAGNUM RUDE DOG - from the Fossil Nutcracker Bunny, with much love and admiration on Valentine's and every day.

SANDRA - Mi unico y solamente amante, tu eres mi luz y mi vida.

YOUR CHEEKS may be red, your toes an odd hue, but the humor still twinkles in eyes frosty blue. At 103, Doc, you're over the hill but in spite of all this, we do love you still. Cherished Friends.

DEAR HANNAH - I thought being neurotic was bad but love-itis done made things worse. Mock me anytime. Love always, Marty.

DIANE - You're in my heart always. Love, Bob-OSD.

DEAR ROCKETTE SCIENTIST - Nobody at CERN can dance like you! See you when I return. Bruce.

SWEETHEART - I love you "more than anything." Princess.

TO CLYDE'S DADDY - Our 12th Valentine's Day, and I love you more than ever. Bonnie's Mommy.

TAKE IT to the max. Love, Tony.

TO THE SEXIEST 40-YEAR-OLD IN BIO. - From your admiring teenie-boppers.

L.M.F. - I love you, I love you, I love you, thanks for it all! J.A.S.

TO THE "SEXY OLD MOOSE" - you "screw up" a lot, but I still love you.

CAUGHT UP in the rapture of magic love notes, the Disney girl asks, "Could I have this dance?" Lady in Red.

BABE(S) - Even though Xmas has passed, there's much to exchange. Love, the stocking boys. Because we are the GOL & DOD.

VENADO - Y T A A T C M L E ahora y siempre, MR.

HAPPY VALENTINE'S DAY TO ALL MY GIRLS - Gail, Jill and Kristen. I love you. Artie.

PI - You walked out of my dreams and into my arms. Please stay there. I love you, forever. Ed.

H.C. - A big hug to you and L.H.C., P.D.

TO OUR FAVORITE CREAM PUFF IN BIO. - We love you, hugs and kisses. From all your little lovecakes.

BOB, TONY, ALBERT! - The heart is weak, the mind is strong, when it comes to you guys everything goes wrong.

DEAR HONEYBUNNY AND DANIELLE - words couldn't express my love for you both, you've made me so happy. Neilly.

CHESH - Forever is within our reach — if we don't stop reaching. I love you. Atilla.

BB - Sometimes we like you, sometimes we don't, but trade you in we won't. Happy Valentine's Day! Comp.

DAD - The other men in my life may be variables, but you are a constant. Thanks for your constant affection and attention. Love, your favorite daughter.

BROOKHAVEN BULLETIN

Published weekly
by the Public Affairs Office
for the employees of
BROOKHAVEN NATIONAL LABORATORY

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Arrivals & Departures

Arrivals

Robert F. Howe ..... S&EP

Departures

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

Leo J. DeBobes ..... S&EP
Christopher Kushmerick ..... Biology
Randolph B. Logan ..... Plant Eng.
Kenneth Testa ..... Plant Eng.
Jeannette E. Thiede ..... NSLS
Josephine M. Weltz ..... SMD

Volleyball

Standings as of February 2

Open League		League I	
GTEAM	39-6	Upfagrabs	36-3
Magnum	37-5	Dinkers	35-10
Phoenix	24-21	Cannonballs	29-16
Me and the Boys	19-26	Xrayted	24-21
Jet Setters	16-29	Up-Setters	11-34
Dig It	15-30	Rude Dogs	10-35
Penetrating Vollies	7-38	Network News	9-33
League II		**League III**	
Fossils	35-4	Lethal Women	25-5
Nuts & Bolts	31-8	MISfits	22-8
Sourcerers	20-19	High Volley'em	20-10
Pteropods	19-20	Nutcrackers	18-12
Net Wits	16-23	Renegades	13-17
Chunga's Revenge	15-24	Good Timers	13-17
Upton-Ups	12-27	Bad Gnus	10-17
Slammers	8-31	Turkeys	7-20
		Spikes	4-26

On the Menu

At the Cafeteria

Luncheon served 11:15 a.m. to 1:30 p.m.; grill open to 4 p.m.

Monday, January 12

Soup: Mushroom barley	.75/.95
Entree: Macaroni & cheese w/1 veg.	2.95
Entree: Shepherd's pie w/1 veg.	3.10
Fitness fare: Baked chicken w/1 veg.	3.00
Carvery: Pastrami sandwich	2.85
Grill: Reuben w/cole slaw	2.95
SPICE: Monday blues	

Tuesday, January 13

Soup: Vegetable	.75/.95
Entree: Veal Parmesan hero w/1 veg.	3.10
Entree: Knockwurst & sauerkraut w/1 veg.	3.10
Fitness fare: Baked scrod w/1 veg.	3.10
Carvery: Hot roast beef sandwich	2.85
Grill: Monte Cristo	2.85
SPICE: Healthy hot muffins	

Wednesday, January 14

Soup: Cream of tomato	.75/.95
Entree: Breaded pork chop w/1 veg.	3.10
Entree: Cheese ravioli w/Italian bread & 1 veg.	3.10
Fitness fare: Spinach quiche	2.95
Carvery: Baked ham sandwich	2.85
Grill: Philly steak hero w/fries	2.95
SPICE: Valentine's Day - Sweetheart Special!	

Thursday, January 15

Soup: Beef noodle	.75/.95
Entree: Moussaka w/1 veg.	3.10
Entree: Stuffed cabbage w/mashed potatoes	3.10
Fitness fare: Steamed vegetable platter	2.50
Carvery: Hot corned beef sandwich	2.85
Grill: Grilled cheese & bacon w/fries	2.45
SPICE: Coffee break - 2nd cup, ½ price	

Friday, January 16

Soup: Manhattan clam chowder	.75/.95
Entree: French bread pizza	2.25
Entree: Fried clams on soft roll w/1 veg.	3.10
Fitness fare: Broiled flounder w/1 veg.	3.10
Carvery: Hot turkey sandwich w/cranberry sauce	2.85
Grill: Whaler sandwich w/French fries	2.95
SPICE: Personalized pizza	

Breakfast specials served 7:30 to 10:30 a.m., w/coffee 2.65

Mon.: 2 eggs, bacon & pancakes
Tue.: Western omelette, French fries, toast
Wed.: Spanish omelette, home fries, toast
Thu.: 2 eggs, bacon, cheese on croissant, w/fries
Fri.: French toast, 2 eggs, bacon, home fries

At the Brookhaven Center — Dinner

served from 5 to ~8 p.m.; grill open to 11 p.m.

Mon.: Open-face hot turkey sandwich w/French fries	3.85
Tue.: Meatball Parmesan hero w/breaded mushrooms	3.65
Wed.: Chicken cordon bleu, steamed rice	4.25
Thu.: Beef & peppers over noodles	3.85
Fri.: Fish & chips	3.45

Classified Advertisements

Placement Notices

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

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all non-scientific staff positions; second, to give employees an opportunity to request consideration for themselves through Personnel; and, finally, for general recruiting purposes. Because of the priority preference policy stated above, each listing does not necessarily represent an opportunity for all candidates. As a guide to readers, the listings are grouped according to the anticipated area of recruitment.

Except when operational needs require otherwise, positions will remain open for one week following publication date.

For further information regarding a placement listing, contact the Employment Manager, Ext. 2882.

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

LABORATORY RECRUITMENT - Opportunities for Laboratory employees only.

4160. DEPARTMENT ADMINISTRATIVE MANAGER - Requires a bachelor's or advanced degree in a business discipline or equivalent, plus substantial experience with high-level administrative policies and procedures and budget management. Will be responsible for managing diverse administrative functions within the department in areas such as procurement, facilities, systems development, property management and non-scientific personnel. Will have supervisory responsibility for administrative support staff. Will also carry out existing departmental administrative policies and develop new policies with the approval of the chairperson. Must have experience with business-related computer systems, be able to deal effectively with all levels of personnel, possess excellent communication skills, and have demonstrated a high degree of initiative and professional judgment. Please submit resume to Marsha R. Kipperman, Personnel Division, Bldg. 185. Medical Department.

4161. CUSTODIAN, GROUP LEADER - Staff Services Division.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside applicants.

4162. ENGINEERING POSITION - Requires BSEE and 3 years' experience in at least two of the following areas: power engineering, solid-state high-power converter technology, rotating machinery, or feedback control systems. Responsibilities include upgrading existing power supply, operation/maintenance of a multimegawatt pulsed dc power supply, and development of high-power solid-state equipment. Alternating Gradient Synchrotron Department.

Motor Vehicles & Supplies

89 KAWASAKI ZX10 NINJA MOTORCYCLE - 1,000cc, black, alum. frame, radials, extras, 6k mi., mint cond., $5,000. Charlie, Ext. 7638.

88 GMC VANDURA VAN - Tern pkg., all options, 1-of-a-kind paint job, excel. cond., $16,500 neg. 878-1178.

88 SUBARU GL WAGON - 4wd, a/t, ac, 9k+ mi., loaded, like new. John, Ext. 2710.

88 TOYOTA SR535K - 4x4, fully loaded, 5-yr./100k mi. warranty, $9,000. Joanne, Ext. 3711.

87 CHEVY CAMARO - v-6, a/t, p/s, p/b, ac, mint cond., orig. owner, $5,300. 874-3796.

87 JAYCO MOTORHOME - designer series, 25', rear bath, sleeps six, cruise, 460 motor, awning, $32,000 neg. Bob, Ext. 4672.

87 NISSAN SENTRA - 5-spd., 42k mi., am/fm cass., clock, side molding, luggage rack, good shape, $5,000. 288-9150.

86 HONDA REBEL MOTORCYCLE - low rider, 305cc, black, 3k mi., economical, fun, runs well, looks excel., $750 neg. Andrew, Ext. 2012.

86 DODGE CHARGER - p/s, p/b, ac, am/fm radio., excel. cond., asking $3,300. Ext. 3160 or 289-5704 after 5 p.m.

85 OMNI GLH - turbo, 5-spd., new engine, clutch, alternator, black, good tires, fast, fun, very clean, $2,750 neg. Charlie, Ext. 7638.

85 LYNX - 2-dr., a/t, ac, p/s, p/b, am/fm stereo cass., $2,000 neg. Dale, Ext. 7638.

84 EAGLE - 4wd wagon, a/t, p/s, ac, am/fm cass., 46k mi., clean, asking $4,300. 473-2473.

84 YAMAHA Rz350 - red/white, garaged, new Metzlers, tank pack, $1,500. Scott, Ext. 7110 or 874-3652.

84 HONDA CRX - red/silver, 5-spd., clean in & out, runs well, must sell, asking $3,500. Patricia, 654-2387.

84 OLDS OMEGA - 2-dr., p/b, p/s, am/fm, ac, 67k mi., good cond., must sell, $3,000. Jim, Ext. 4606 or 654-5049.

84 LINCOLN TOWN CAR - power everything, white/gray, cass. player, ac, asking $10,000. 727-4041.

81 AUDI 5000S - a/t, am/fm cass, $1,900; '76 Chevy Caprice Classic, 110k mi., a/t, p/b, p/s, am/fm, $400. Patti, Ext. 4001.

80 FORD F150 - parting out, 351 40 motor needs bearings, all reasonable. Dick, Ext. 3499 or 589-9103.

79 SUNLINE TRAVEL TRAILER - sleeps 6, new tires, battery, & brakes, stands & awning, excel. cond., $4,100 neg. Artie, Ext. 4988 or 325-0743.

79 CHEVY CAPRICE - 4-dr., V-8, a/t, ac, new brakes & shocks, very reliable, a few body imperfections, $880. 286-3928.

79 DATSUN KINGCAB PICKUP - w/cap, good for parts or restoration, $150. John, Ext. 3302.

78 CHEVY MOTOR HOME - loaded, 64k mi., good cond., $10,000 firm. Ron, Ext. 3499 or 928-5883.

78 TOYOTA MOTOR HOME - self-contained, sleeps 3, new paint, excel. cond., $7,000 neg. 475-3415 after 6 p.m.

77 CHEVY TRUCK C-10 - $600. Randy, Ext. 2550 or 736-5259.

71 NOVA - all rebuilt engine, drivetrain, needs minor body work, great station car or restore, $350 firm. 669-5181.

63 CHEVY CORVAIR MONZA - convertible, 4-speed, red/red int., white top, completely restored, $4,500. Ext. 3992 or 331-1003 eves.

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

ROLL BARS - 4x4, black, w/light bar, 2 lights, fits small trucks. Ken, 744-8512, leave message.

TIRES - 2, 950x16.5, Ford, 8-lug rims, $50 for both. Ken, 281-8458.

TIRES - 3, 195/75R14, one new, 2 w/plenty of tread, all on 5-hole wheels, $100. Tony, Ext. 3658.

Boats & Marine Supplies

37' EGG HARBOR - 1969, dbl. cabin, T/265-h.p. Palmers, sleeps 7, ac, heat, 2 heads, encl. shower, galley, wet bar, more, $25,000. Ron, 286-3386.

28' CAPE DORY SAILBOAT - 1975, Volvo diesel, fully equipped, great shape, must see, cradle incl., asking $23,500. Paul, 734-6605.

25' RINKER CABIN CRUISER - many extras, 1 yr. old. Dick, 325-1677.

22' OFFSHORE EVIN SPORTCRAFT - 225 O/B, low hrs., fully loaded, 1988 E-Z loader trailer, excel. cond., $18,500. 744-7549.

17' CHECKMATE - 1983, 170-h.p. OMC, very low hrs., good cond., $4,900, trailer available. Jesse, Ext. 5015.

14½' SUNFISH - Alcort AMF, w/sail & board, needs some work but sails, $350. Ext. 2384.

Furnishings & Appliances

REFRIGERATOR - Westinghouse, 16 cu. ft., auto defrost, white, good cond., $75; Caloric dishwasher, 5 yrs. old., $35. Ext. 2679 or 472-6922.

MICROWAVE - w/turntable & recipe book, $50. 369-9879.

FREEZER - Amana, 16 cu. ft., upright, good cond., $75. Ext. 5156 or 581-4436.

WASHER - Sears Stain Master 700; Fabric Master 7000 Dryer, 220V, white, $100/pair or $60/each. 669-5181.

WASHER - Kenmore, portable, 1 spd., 2 cycles, straight vane agitator, lint filter, etc., $200 or best offer. O. Booker, Ext. 3082 or 727-5912,

FREEZER - Westinghouse, 19.6 cu. ft., upright, perfect in/out, $200. Rich, Ext. 7519 or 696-2258 eves.

TABLES - 1 coffee table, 2 end tables, country glass top, cane inset on bottom, $250. 475-2509.

BUNK BED - apartment size, mattress in good cond., sheets and matching sleeping bags, $100. Bill, Ext. 2378.

DINING ROOM SET - china closet, table w/cover, 6 chairs, $300. 924-0277.

LIVING ROOM SET - Colonial, sleeper couch, love seat, chair & ottoman, 2 lamp tables & lamp, $550. 924-0277.

WATER BED - king size, waveless, 6-drawer, pedestal, mirrored, headboard, $400. Bob, 744-4879.

LIVING ROOM CHAIRS - 2, Herculon, brown plaid, orig. $249 each, now $50/each; man's ice skates, size 10, v.g. cond., $8. 878-6637.

ELECTRIC DRYER - new, General Electric, used 1 mo., $200. Leo, Ext. 2952.

Tools, House & Garden

BECKETT BURNER - used one month, $150. 472-1302.

TUNE-UP CENTER - Snap-On, 3 meters, $250; Snap-On brake bleeder, asking $125; 20-ton air assisted hydraulic jack, asking $200. 474-5715.

IRON RAILINGS - two 4' sections, ornamental, $7/each. 929-4326.

STORM DOORS - Jalousie, 2, 36½" x 80½" & 32½" x 80½", both $250. Randy, Ext. 2550 or 736-5259.

Sports, Hobbies & Pets

FISH TANKS - 65 gallon, stand, $125; 29 gallon, $75, both complete set-ups. 669-5181.

CLARINET - student model, excel. cond., $125; advanced Signet, $250; Rossignol 170cm skis, new, $75. Jim, Ext. 3372 or 821-0250.

SNOW SKIS - Lange, 170cm, poles, man's Solomon bindings, $50. Ken, 281-8458.

FLUTE - Artley, good cond., $200 or best offer. O. Booker, Ext. 3082 or 727-5912.

DRYSUIT - Poseidon, man's large, must sell, asking $500. 474-5715.

SKIS - Atomic Prisma, 170cm, w/bindings, 3 yrs. old, $80; Dynafit rear-entry boots, size 8½, $25. 473-2473.

FISH TANK - 55 gallon, w/stand & accessories, like new. 878-0516 after 4:30 p.m.

Audio, Video & Computer

POWER ADAPTER - video camera to VCR camera, Sears, Hitachi connector, new, never used, orig. $50, sell for $10. Ernie, Ext. 3357.

ELECTRONIC FLASH - Honeywell 770 auto, Stronbonar w/camera attachments, light filters & case. Gabusi, Ext. 7704/4792.

IBM XT CLONE - 640k, 2 MB hard disk,, color monitor, 160 cps dot matrix printer. Mike, 475-8633 after 6 p.m.

COMPUTER - Commodore 128, disk drive, 1571 Thompson color monitor, manuals, software, $550. Patricia, Ext. 3427.

COMPUTER - Apple Laser 128, monitor, w/software, orig. $350., neg. 345-3970 after 6 p.m.

CAMERA - Petri SLR w/28mm, 55mm and 135mm lenses, Braun flash, $75. G. Friedlander, Ext. 4300 or 724-5131.

PROJECTION LENS - 100 to 150mm, Kodak Carousel projectors, $30. 929-4326.

AMPLIFIER - Pioneer reverb, like new, $50; 2 modems, new UDS, 103LP, 300bd, manual, $25/each. Chris, Ext. 2326.

Miscellaneous

BABY CARRIAGE - Prego, brown velvet, converts to car bed/seat & stroller, good cond., $25. Ken, 281-8458.

SATIN GOWN - teal blue, worn once, dry cleaned, short puffy sleeves, scoop neck & back, drop waist, size 6/8. Ext. 2950.

FRAMING GLASS - assorted sizes, price depending; 2 storm windows, 1 screen, 24"x29", excel. cond., $20. Kathy, 244-2203.

TICKETS - New York Islanders, Feb. 13 & 24, March 6, good seats, $30/seat. Michael, Ext. 7909 or 325-0447.

RING - sapphire & diamonds, 14k gold setting, $200. Ext. 7286.

Free

SPARK PLUGS - 4 new Champion, N-9Y. Peter, Ext. 4094.

CENTER HUBCAPS - 2 for Corvette, late 60s-early 70s. Jim, Ext. 4452.

Lost & Found

LOST - young cat w/flea collar, near Bldg. 355. Mickey, Ext. 7908.

LOST - cassette tape left on window sill in gym, Mon., Jan. 8. Bob, Ext. 3569.

Real Estate

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

For Rent

BELLPORT VILLAGE - 1-bdrm. apt., tennis, golf, Bellport beaches, walk to shopping, $700 includes utilities + gar., for 2 adults. 286-0336.

CENTER MORICHES - 2-bdrm. apt., all new appl., rugs, bath, $700/mo. + util. 878-1178.

FARMINGVILLE - 1-bdrm. cottage, cathedral ceilings, carpeting, kitchen, bath, detached gar., avail., March 1, $675/mo. + util. Chuck, Ext. 5327 or 698-9489 eves.

LAKE RONKONKOMA - 1-bdrm. apt., eik, l/r, bath, priv. ent., cable, w/w, own thermostat, 20 min. BNL, ½ mi. LIE, Exit 60, $675/mo. all, 1 mo. sec. 588-2477 after 5:30 p.m.

MASTIC BEACH - 2-3 bdrm. apt., l/r, d/r, full bath, priv. ent., 15 min. to Lab., $700/mo. incl. all, avail. March 1. Jim, 281-2849.

RIDGE - 1-bdrm. apt., priv. ent., l/r, eik, new appl., 5 min. to Lab., suitable for single person, $650 incl. util. Ext. 5076 or 744-4615.

SELDEN - Village in the Woods - 1-bdrm. co-op, upper unit, eik, d/r, l/r, priv. balcony, ask. $800/mo. + 1 mo. sec. 696-5386.

SHIRLEY - 1-bdrm. apt., eik, l/r, full bath, w/w, quiet block, $575/mo. incl. util., single, working adult. 281-1840.

HILTON HEAD, SC - 2-bdrm. condo, sleeps 6, 2 baths, tennis, golf, beach, pool, Feb. $250/wk., Mar., $300/wk., Apr. $425/wk. Guy, 689-5378.

For Sale

MIDDLE ISLAND - Coventry Manor, 3-bdrm. townhouse, 2 full baths, l/r, d/r, kitchen, laundry rm., 5 appl., cac, pool, tennis, ask. $104,000. Ext. 3160 or 289-5704 after 5 p.m.

MIDDLE ISLAND - 3-bdrm. condo, 2 full baths, fenced, patio, tennis, pool, 6 mi. to Lab, $107,000. Ext. 3922 or 878-2604 eves.

MIDDLE ISLAND - Springlake Golf Course Community, completed new development, ready to build, three 1+ acre lots, market value, $100,000 per lot, ask. $75,000/lot. Ext. 4138.

MIDDLE ISLAND - Lake Pointe, 2-bdrm. l/r-d/r area, w/d, gas heat, cac, wood deck off master bdrm., pool, tennis, clubhouse, ask. $78,500. Bob, 924-7316.

MILLER PLACE - 3-bdrm. ranch, l/r, eik, oak wood floors, 1 bath, 1 car gar., full size bsmt., deck, ⅓ acre, oil heat, ig sprinkler, excel. school, $147,000. King, Ext. 5516.

N. PATCHOGUE - 3-bdrm. ranch, fp, large kitchen, bsmt., low maint. & taxes, appl., landscaping, ig sprinkler, louvered porch, $132,900. Ext. 2040 or 289-1870 eves.

RIDGE/SCENIC HILLS - 4-bdrm. Colonial, 2½ baths, eik, d/r, l/r, w/w, gar., deck, ½ acre, minutes to Lab., $169,000. 924-7520.

ROCKY POINT - 3-bdrm. high ranch, l/r w/brick fp, cath. ceiling, d/r, large kit., 2 baths, bsmt., cac, deck, 2-car gar. w/elec. doors, beach rights, 0.34 acre, $154,900. Kochman, 744-1057.

ST. JAMES - spacious, 4-bdrm. Cape, full bsmt. w/20'x25' fin. heated rm., 2-car gar., 8 rms., tax, $2,000, sacrifice at $164,000. Ext. 4138, leave message.

SELDEN - Village in the Woods, 1-bdrm. co-op, upper unit, eik, d/r, l/r, priv. balcony, ask. $72,000. 696-5386.

SETAUKET - large 4-bdrm. Colonial, bsmt., 2-car gar., igp, ½ acre, close to SUNY, 9 rms., newly carpeted oak floors, ask., $206,000. 751-9096.

SOUND BEACH - 3-bdrm. ranch, 2 baths, l/r, d/r, eik, fin. bsmt., gar., w/w, alarm sys., cedar deck, Miller Place SD, $145,000, Ext. 7918 or 744-3068.

WADING RIVER - 5-bdrm. multi-level, contemp., pool, wooded acre, Jennair, jacuzzi, quarry tile, reduced to $209,000. 283-0155 or 282-3172.

WADING RIVER - ranch, 3-4 bdrms., d/r, 2½ baths, eik, fam. rm., sun rm., deck, part fin. bsmt., 2-car gar., SWR schools, ask. $229,000. 929-4631.

YAPHANK - wooded lots located in horse country near Southaven Park, build to suit, $70-75,000. 473-4930.

Wanted

68 CHEVY CAPRICE - for parts. Bob, Et. 5286.

PEOPLE FOR RAFTING TRIP - Cheat River, April 20, bus from Lab. Steve Waski Ext. 7592.

AUDIO COMPONENTS - old, tubed, by Macintosh, Marantz, W.E., Futterman, working or not. Jim, Ext. 4584.

ONE-BEDROOM APT. - w/yard, for responsible, female grad. student w/dog. Diane, Ext. 2963 or 689-9328.

SINGER & BASS PLAYER - for hard-rock band, Zep, Aerosmith, Zebra, Boston, etc. Ken, 473-7460.

WELL DRILLED - residential, reasonable. 929-4910 after 6 p.m.

OLD FLOOR SAFE - will gladly pick up. Artie, Ext. 4988 or 325-0743.

INFLATABLE BOAT - Don, Ext. 5329 or 878-2215.

MOVIE PROJECTOR - Super 8, must be in excellent condition. Peter, Ext. 4094.

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