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BROOKHAVEN NATIONAL LABORATORY

The Phantom of the BNCT Program Helps Test Medical Reactor Beam

A "phantom" representing the head of a patient with a brain tumor is being used to test the specialized neutron beam in the Medical Research Reactor.

The beam, called an epithermal beam, was developed for use in boron neutron capture therapy (BNCT). While its effects had already been documented, alterations at the reactor made last fall improved the beam by 50 percent.

Robert Brugger and colleagues from the Medical Department are therefore using a phantom to refine the radiation dosimetry, or measure of doses, to be used in clinical trials.

Said Brugger, "When I came to BNL in 1990, this beam, which is one of only three epithermal neutron beams in the world that can treat cancers by BNCT, was already the world's best. However, we're always looking at ways to improve things."

Brugger, joined by Hungyman (Ben) Liu in 1991, used Monte Carlo computer calculations to explore methods of making the beam more effective. Said Liu, "Neutrons come out of the reactor core at two million electron volts. To get epithermal neutrons, which we need for BNCT, they have to be slowed down. Our goal was to increase the flux of epithermal neutrons while at the same time decreasing the fast neutrons."

While Robert Brugger holds the ellipsoidal head phantom, loaded with bare and cadmium-covered gold foils, Brenda Laster puts a cell sample into the other phantom, held by Ben Liu. Behind them is the Medical Research Reactor area where the phantoms will be irradiated.

Some BNCT History

Research on BNCT started in the 1940s, when BNL staff studied its application in cancers such as glioblastoma multiforme, a brain tumor that results in a median life expectancy of less than a year.

In this therapy, a compound containing boron-10, a stable isotope of boron, is administered to the patient. The compound preferentially accumulates in the cancerous tumors and is then irradiated with slow neutrons.

Boron-10 absorbs the slow neutrons and then undergoes fission — releasing radiation that includes alpha particles energetic enough to sterilize a cancer cell when they traverse the nucleus. As the alpha transfers energy only as far as the radius of a single cell, and the boron-10 is mostly concentrated in and around the tumor cells, the cancer can be selectively destroyed without much effect on nearby healthy cells.

In the first BNCT clinical trials in the 1950s and early 1960s, at Brookhaven and at the Massachusetts Institute of Technology (MIT), the boron-10 compounds used were not particularly tumor selective. Also, the slow, thermal neutron beam did not penetrate deeply enough to destroy the tumor without harming surrounding healthy tissue. Clinical trials were therefore halted in 1961.

Since then, new research in the Medical Department and at other research centers has yielded promising solutions to these problems. New boron compounds, some developed by Brookhaven scientists, have proven to concentrate in the tumor at levels required for effective treatment (see accompanying story).

Equally important has been the research done on the neutron beam.

Commissioned in 1959, BNL's Medical Research Reactor was the first to be specifically constructed for medical research, and for BNCT in particular.

In the 1960s, the late Ralph Fairchild and James Robertson, both of the Medical Department, pioneered work to modify the thermal beam. Finally, in the 1980s, Fairchild led a team from BNL and Idaho National Engineering Laboratory to produce a beam of neutrons with energies of a few hundred electron volts — intermediate-energy, epithermal neutrons. Slowed down by body tissue, these reach the tumor as slow, thermal neutrons that can interact with the boron-10 in the cancer cells and destroy them.

Back to the Present

"Our calculations showed that we could improve the epithermal neutron flux in two ways," said Brugger. "First, we could rearrange the fuel elements in the reactor core. Second, we could redesign the moderator assembly — a filtering system placed where the beam emerges from the core to slow the neutrons to the correct energy.

"Once we'd suggested that rearranging the core would improve the beam, the staff of the Reactor Division took over," continued Brugger. "With Henry Hauptman leading the reactor operations team, the high standard of cooperation and skill resulted in four new fuel elements' being installed close to the beam, quickly and expertly. By fall 1992, the job was done, gaining us the predicted 50 percent beam improvement."

The next step was to reestablish

(continued on page 2)

CRADA Signed for Development Of Boron Compounds for Cancer Therapy

A new agreement between BNL and a North Carolina company may soon lead to significantly cheaper boron compounds for boron neutron capture therapy (BNCT), an experimental cancer treatment.

BNL Scientist Jeffrey Coderre, Medical Department, is the principal investigator in the Cooperative Research and Development Agreement (CRADA) with Boron Biologicals, Inc. (BBI) of Raleigh. A small, six-year-old company, BBI is the sole commercial source of the boron compounds used for experimental BNCT in the U.S.

BNCT involves tagging certain biomolecules with boron-10, a nonradioactive boron isotope. After injection, the boron-10 concentrates at the target tumor site. Using BNL's Medical Research Reactor, researchers irradiate the tumor with a low-energy neutron beam (see accompanying story).

The boron compound absorbs the neutrons and instantaneously undergoes nuclear fission. The fission products then injure or kill the tumor cells, thus slowing or stopping tumor growth. However, the short range of the fission products greatly reduces the damage to normal tissues surrounding the tumor.

Coderre and his BNL colleagues recently determined that the boron compound called p-boronophenylalanine (BPA) is highly effective in destroying malignant skin, brain and eye tumors in animals. Based on these results, the U.S. Food and Drug Administration (FDA) has given approval for Brookhaven to begin testing the distribution of BPA in cancer patients.

At the Medical Department, Michael Makar (left) and Jeffrey Coderre prepare a cell culture to evaluate the effectiveness of a boron compound for use in boron neutron capture therapy.

Photos on this page by Roger Stoutenburgh

Actual treatment of human cancers at the Medical Reactor should begin in about a year if ongoing research continues to be successful.

Coderre said, "Our animal studies indicate that BNCT will be effective in treating human tumors, but the high cost of these compounds is inhibiting progress." One gram of BPA currently costs $185, and one patient study costs approximately $7,000.

To make BPA more affordable, BBI will use a new manufacturing method, which may decrease the cost of the boron compound by a factor of ten. As required by the FDA, Coderre and his associates will test the BPA produced by the new process to show that it is equivalent to the BPA currently in use.

In addition, BBI will synthesize new boron compounds, which Brookhaven will evaluate in cell culture and animal tumor models to determine their toxicity, selective uptake in tumors, and efficacy of BNCT.

Another approach under the CRADA will be liposome encapsulation of new or existing boron-containing drugs, such as BPA. A liposome, a synthetic, spherical membrane, can trap a drug in the space inside the sphere, which may result in a boron-containing drug being present in the blood longer, thus enhancing uptake in the tumor. Also, the tumor cells may ingest these liposomes more readily than would cells in normal tissues, potentiating BNCT's lethal effect on tumors.

BNL's participation in this CRADA is funded by the U.S. Department of Energy's Office of Energy Research, through the Research & Development Laboratory Technology Transfer Program. — Diane Greenberg

Coming Up

Ruth Ann Verell, former Deputy Director of the Office of University and Science Education Programs in the U.S. Department of Energy, will present the next Office of Educational Programs Seminar. She will speak about the "Laboratory Role in Science Education," on Wednesday, February 17, at noon, in Room B, Berkner Hall.

JAY - Thank you for sharing your life with me! I love you more and more as time goes by! Tammy.

SAMUEL - Here's to 27 great years. Keep up the good work. Thanks for bringing so much happiness into my life. Love, Patria.

DAUGHTER - Out of all the people in the world, I'm so very glad I found you. Dad.

HUN - Happy Valentine's Day to the most wonderful husband in the world. I love you! Love always, your IAP.

TO MY COFFEE TRUCK BABY - Your hugs and snugs make my buttered roll. Happy Valentine's Day. Love, your S&M Honey.

TO THE MOST WONDERFUL WIFE, MOTHER & FRIEND - in the world. Happy Valentine's Day. Love you forever, Tim.

KAREN - The best is yet to come. Love you, G.O.

2 MY PILOT - I'll fly with U anytime, anywhere! LIFESGR8 with U N R new house. Love 4ever, your Co-pilot.

TO THE MÉNAGE À TROIS OF BLDG. 426 - Maggie, Pat, and Judy. We love you, The Gang.

THERESA - I'm so happy that we are married. The past eight months have been great. I love you very much, John.

FOR ONCE IN MY LIFE - I have someone who needs me! Dum de dum dum dum! Thank you, Luv U.

TRB - An expression of love is the greatest gift one person can give to another. Thank you for that gift. AMS.

JUANITA - Your friendship and loyalty have meant a lot to me. Thank you for adding to the quality of my life. AS.

DEAR BOO - I love you. Please take me haunting. Love, Boo 2.

BESTEMOR - We all love you, especially Bestefar. Otherwise, this Valentine couldn't be from the grandchildren and a Bestefar.

TO MY DARLING HUSBAND JUREK - With love, joy and hope for the future. Only love me!

TO MY MAGNETIC TELE-A-FRIEND - We are drawn to each other!! We have magnetic power. Never to end. Love you always, Me.

A.C. - Time passes quickly, but a day hasn't gone by that we don't think of you. Love your kids, X & T.

CINDY - I know where you work; I'm a little shy. How about lunch? I'll even buy! Ken.

FANTASY GIRL - There's a hole in my heart that can only be filled by you. Make the wall fall. Teddy Bear.

THERE IS NO GREATER LOVE - for a woman than that which I have for you. I love you, Joe.

KATHY - Happy Valentine's Day! Love, David.

NONA - Thank you for your understanding and love in the past years. I love you and need you. Love you forever, Bob.

D.J. - It doesn't get any better than this: a glass of wine and a lake view with you.

MUSTAFA - You "fill up" my heart with joy. Seni Seviyorum. Pat (Eileen)

DEAR ANGEL - A thought of you is a thought of love. I'll always love you. "Stay sweet." Paul J.

BOBBY - Come with me, my love, to the sea of love, I want to tell you how much I love you. Faithfully yours, Sue.

ATILLA - Let go of what is broken. Make room for what God repairs. Have faith. I do. Love, Hun xoxox.

TO MY SPECIAL S.P. - I finally found that special person to love, and it is you for me. Love, Me.

LARRY - Thank you for asking me to be your wife. You have made me very happy. Love always, Maryann.

MY ONLY TRUE LOVE - Forever, Pussycat.

LINDA - Be my Valentine "because." Chris.

MM - In choosing from models produced in the fifties, Belairs green or red, two-tens white or blue, results I've obtained have been pretty nifty, but none can compare with my choosing you! Krunch.

MARYSA - I love you so much. Thanks for being a loving sister. Love you, Marylin.

DENNIS - We walk alone, we stand as one. Your belief in me has made boundaries unlimited — your love has made me whole. Michelle.

TO MY LOVELY DAUGHTER FRAN - Would you be my Valentine? Love, Dad.

MY BESHERCHT (PM) - Happy Valentine's Day to my wonderful husband. I love you very much. NLS.

TO MY BABY - You are the most precious thing in the world to me. I'll love you forever. Love, Hiney.

ED.V - Happy Valentine #II and a Happy Birthday too. Love, Bob.

DGB - You roared into my life and stole my heart away. I'll love you forever!!! DMM.

MY DEAREST WIFE (MOMMY) - Happy Valentine's Day to you. Thank you so very much for helping me when I was down. Love, Daddy.

CHRIS - I love you. Happy Valentine's Day! Chainz.

LAMB CHOP - You are the best thing in my life. I love you 4-ever. Love, S.C.

SWEETIE - Roses are red, violets are blue, I'm so glad that I'm married to you. Be mine forever and ever more. Love, Koty's Mother.

BUN BUN - Happy Valentine's Day from your three little girls. We love you sooooo much! $1,500 worth! Your Honey, Sambuca & Precious too!

LOOKING FORWARD TO KW FLA - with my one and only. Happy Valentine's Day.

HUN - I feel a change in the air — no mistake. I love you. Spunky.

JERRY - An honest love is so hard to find and then work out, but so very easy to live. Love you, Angel or is it Angle?

TER-BEAR - Our ninth Valentine's Day, our first as a family, and I'm a very happy bunny! Love, Squeeks.

KELLY - You're the best! Thanks for being my Valentine. Love always, Ricky.

TO BEXHILL FROM HASTINGS - I will always love you.

MEEMO - We love you Meemo, Crabby too. Happy Valentine's Day Matthew Brandon xxx ooo. Crabby.

L.M.F. - Thank you for being there for all those years! Happy Valentine's Day to my sweetheart. I love you! J.A.S.

SEVEN MONTHS' PREGNANT & LOOKING FINE - You'll always be my Valentine. Love, Tony.

DADDY BEAR - Twenty-one years together and it is still like the first. I love you. Mommy Bear.

AMY - C.C. Shen wish you happy on this Valentine's Day and Happy Birthday to you on Yue Shaw Jeh.

LOUISE - You're the best wife and mother. We love you very much. Happy Valentine's Day. Your two Pats.

SHANE - I've never known a better friend. Thanks for being my Valentine every day! Love you, Lisa.

KAREN - You and Kellie make my dreams come true. All my love, all the time, all my life. Ray.

VICKI - You are the love of my life, always.

MR. R - Here's to Maui and mucho slam, ouch! Love you till the end of time.

VALENTINE'S DAZE HERE AGAIN - We say "Love you" with pen. Everyone's in this arena; only I can say 143 Gena.

LOU - I finally found the love of a lifetime. Love, your best friend.

HAPPY VALENTINE'S DAY - to the best looking "Blue Bag" I have every seen. I'm so glad you're mine. Love you.

TEE - A year ago we began a great friendship. Here's hoping they'll be many more. Happy Valentine's Day. Nette.

LAURENNA - To someone special and unique. You are one of a kind! Se Agapo Poly!

PORCUPINE - Sure glad I'm the object of your "presidential treatment." Love always, Me.

ALAN, DEAR ALAN - We see you all year. We meet in the hall or the room in the rear. Upstairs or downstairs, wherever we go, please be our Valentine with sparkle and glo!! The two of us.

BELLE - That our hearts will grow warmer and closer together! Happy Valentine's Day! Love Thee, Beast.

FEISTY BABY - I love you more than life & I'm glad that you're my wife. H.V.D.

HAPPY VALENTINE'S DAY - To the gorgeous guy who's #3 on Deep Six.

EDGAR - Love you always and forever. Happy Valentine's Day! Mamacita.

RUTH - All my love, all my life. Tom.

CHRIS - I'm so happy that our paths crossed. Thanks for making my life extra special! I love you! Love, Doreen.

BADGE 122 - You break down my walls with the strength of your love. I'm forever yours, faithfully. Your other half, B.

HONEY-BUNNY & LITTLE PRINCESS - Words can't express my love for you both! Happy Valentine's Day. Love always, Neilly.

OUR LOVE MOLDS THE SHAPE - A dream family come true. The new baby we make multiplies my love for you.

MUZZ - All my love on Valentine's Day. I love you, Lenny.

FUZZY - You are the cutest bowler I have ever seen. Love, Jeff.

SUNSHINE - Thanks for showing me what love is all about! Happy Valentine's Day. Love, Art.

DEAREST S.K. - I want "T.B." unanimous in my wishes for a Happy Valentine's Day. Love, S.W.F.

SWEET PEA - Your love is what keeps me smiling day after day. My smile will be even bigger after August 22. Love, Cheeky.

LADY - For all you do, for all you are. My love, Himself.

TO MY GARFIELD COLLECTOR - Love and happiness, through good times and bad times. Happy Valentine's Day. Your P.R.

POTATO CHIP - I'm the happiest guy in the world and it's all because of you. I♡U, Pooh.

SWEETIE - I love you more than anything. Your Sweetheart.

TO MY FOUR STAR GENERAL - Yes, it's you and only you who has that special key. Love you, Hooked.

JOE - '92 was for "us two," and '93 is for "us three." Marrying you was the best thing I ever did. Yours forever, Lisa.

DEAR BARB - Happy Valentine's Day. Love, Gary.

L.G. - Let me put a ring on your finger Valentine's Day. Love, R.S.G.

TO MY HUNNY - It gets better every day because your love is so special to me. Love ya all the time, Spider.

DEAREST JACKIE - I love you for so many reasons, great and small. But most of all I love you just because you're you. All my love, Bruce.

LAURA ANN - You give marriage a great reputation! Thanx for your devotion, the boys, and the past 10+ years. Love, Dominic.

RED FOX - Looking forward to the country life with our two little red foxes. We love you. Marty Gushka.

OUT OF RAIN & MIST
Castle walls & gate beckon
Knight to his lady.

PAB - To my one and only. Together we will make all our dreams come true. I love you. SLB.

CHITATANA - Let's have that sitar and strawberry all over again. Yours forever, Chit.

J., K., & L. - Happy Valentine's Day! Thanks for the coffee. You're welcome for the bagels. Love, L.

BABY - You make it Valentine's Day 365 days a year. Love you forever, Me.

HOOK - You are and always will be very special, and have a special piece of my heart. The General.

TO MERYL STREEP - Love is the heart's thirst to be completely known and all forgiven. Happy Valentine's. Love, Bob DiNiro.

KAREN - Forever to you I do give all my love. Doug.

L.J. - Still love you after all these years. You know I'm still there for you. All my Love, Pooky.

TO LESLIE - With love, today, tomorrow and always. Love, Lou.

JMS - It's two boys later, I love you no less; you're still the incredible woman I married, on this I needn't guess.

MY GIRL - I cherish the time we spend together. You are my Paradise. I've never been happier. Love, K.J.

DEAR CI - To a very special person: please be my Valentine forever. Love always, A.J.

JOYCE - Your lips are sweeter than wine, but seven kids are enough. Let's do it again without the kids. Rich.

TO MY HONEYBUNNY - Happy 1st Valentine's Day as Mr. & Mrs. I will always love you. With love, your Sweetheart.

DAD - Not only are you my Valentine, but you're also my hero. xoxoxo, your favorite.

BNCT Beam Test (cont'd)

dosimetric measurements. Brugger and Liu designed an ellipsoidal lucite head phantom with removeable rods inside. The rods are inserted loaded with different testing materials, such as bare and cadmium-covered gold foils, which show the effects of thermal and epithermal neutron fluxes.

"We also load the rods with cell cultures," noted Brenda Laster, who also works with Brugger. "By making tests with cells in different places in the phantom, we plan to evaluate their response to the calculated doses. Then, in clinical trials, we'll know what reactions to expect. Another advantage is that after many years of research with this cell line, we know it's stable and predictable at certain doses. It responds in a simple way to complex radiation, making an effective biological dosimeter."

As Brugger remarked, the present advances in BNCT are the result of years of intensive research at Brookhaven, in collaboration with several other institutions — the North Shore University Hospital, the University Hospital at Stony Brook, MIT, and about a dozen more.

"What we need now is funding to finish the second part of our work," said Brugger. "The Monte Carlo calculations show that rearranging the materials in the filtering system can substantially increase the epithermal beam intensity and improve the beam quality."

Liu explained how the changes would affect a patient. "Before May, 1992, one treatment session was predicted to be 55 minutes long," he said. "Since October, 1992, with the new fuel arrangement, a treatment is predicted to take only 35 minutes. But if we can get funding for a new filter, a patient would have to be treated for just 25 minutes each time."

— Liz Seubert

Arrivals & Departures

Arrivals

Richard A. Benske.....RHIC
Charlotte M. Bullock.....Fiscal

Departures

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

Stephen C. Biemer.....Plant Eng.

Outreach Workshop
Of Macho and Men

Why do men tend to die earlier than women? Why are they more prone to accidents, serious illness, and alcohol and drug abuse? Why do they have a higher rate of suicide? Why are they more likely to act out violently, commit a crime, murder someone and be imprisoned?

Could it be the same reason many men are afraid to cry?

The answers will be discussed in the next Outreach workshop, "Of Macho and Men," on Tuesday, February 16, from noon to 1 p.m. in Room B, Berkner Hall. Sponsored by the Employee Assistance Program (EAP) of the Occupational Medicine Clinic, this workshop will be presented by clinical psychologist Don-David Lusterman. All are invited to attend, and the workshop will be audiotaped.

Don-David Lusterman

Lusterman will discuss what he calls "man disease," the things that happen to men as a result of their macho socialization. As Lusterman will explain, men have been socialized to be strong and virile — but, in the process of meeting the masculine ideal and of not being effeminate, men have had to harden themselves and suppress their emotions, especially those that make them feel vunerable. This sublimation of emotion takes a toll on men's physical, social and psychological well-being.

Lusterman will suggest ways that men can transcend machismo, and feel less distanced from their emotions and their loved ones.

Specializing in family therapy in his Baldwin practice, Don-David Lusterman, Ph.D., is a fellow of the American Psychological Association (APA). He was the 1987 family psychologist of the year, so named by the APA's Division of Family Psychology. A founding member of the Society for the Psychological Study of Men and Masculinity, Lusterman is working toward establishing an APA division devoted to advancing the psychological research and treatment of men.

Info Meeting on Kindergarten

Parents interested in enrolling their kindergarten-age children in BNL's Child Development Center (CDC) Kindergarten are invited to an informational meeting on Tuesday, February 23. Come to the little red schoolhouse, Bldg. 370, on Yale Road in the apartment area, from noon to 1 p.m., to attend the meeting, see the facility and some of the children's projects, and meet the teacher, Dianne Santarpia.

Santarpia is a certified elementary education teacher whose objective is to prepare the kindergartners to enter first grade through a developmentally appropriate program. The program begins at 8 a.m. and ends at 5:30 p.m., with the structured portion of the day between 9 a.m. and 3 p.m. During the school day, one aide assists Santarpia; two aides provide care at the end of the school day.

Started last September, the kindergarten is run by the same organization that operates the on-site CDC for preschoolers. Next year's class will begin on September 7, and end June 24, 1994. The facility will follow the Lab's holiday schedule except between Christmas and New Year's Day, when both the kindergarten and the CDC will be closed.

The cost of the program is $525 per month, and a minimum of 12 children must be enrolled.

Toastmasters

BNL Toastmasters will hold a special program on "The Art of Effective Evaluation," to be led by Ronnie Evans. This interactive service workshop will be held on Tuesday, February 16, at 5:15 p.m., in the large conference room of Bldg. 475.

One thing that makes Toastmasters unique is its evaluation system. Since there are no instructors at a Toastmasters meeting, the group uses speech evaluation to improve members' speaking skills. Therefore, it is vital to learn to make effective evaluations.

Everyone is welcome. For more information, call Ext. 2851.

Note to Diners

The Center Club will be closed this Sunday, February 14, the day before Presidents' Day, then reopen Monday evening, February 15, at 5 p.m.

The Cafeteria will be open from 9 a.m. to 2 p.m. on Saturday through Monday, February 13-15.

The vended food service in Bldg. 912 will be in operation continuously.

Cafeteria Menu

Luncheons

Monday, February 15 - Presidents' Day
Snack bar service - 9 a.m. to 2 p.m.

Tuesday, February 16

Soup: Cream of cauliflower	.80/1.10
Entree: Arroz con pollo	3.45
Lite Choice: Stir-fried beef & peppers	3.65
Carvery: Hot roast beef sandwich	2.95
Grill: 3-cheese melt platter	2.95
Taster Bar: Seafood nuggets	(oz.) .25

Wednesday, February 17 - Festa Italiana

Soup: Minestrone	.80/1.10
Entree: Spaghetti marinara & meatballs	3.25
Lite Choice: Bobli personal pizza	3.95
Carvery: Hot ham sandwich	2.95
Grill: Hot cappy ham melt	3.20
Taster Bar: Gnocchi marinara	(oz.) .25

Thursday, February 18

Soup: Beef & cabbage	.80/1.10
Entree: South Miami Cuban stew	3.45
Lite Choice: Turkey tetrazzini	3.35
Carvery: Hot corned beef sandwich	2.95
Grill: Mahi-mahi w/fried potatoes	3.45
Taster Bar: Mini pizza bagels	(oz.) .25

Friday, February 19

Soup: New England clam chowder	.80/1.10
Entree: Breaded pork chops w/apple sauce	3.65
Lite Choice: Baked fillet of fish w/lemon	3.65
Carvery: Hot turkey sandwich	2.95
Grill: Tuna melt platter	2.95
Taster Bar: Chicken tenders	(oz.) .25

Movie Night . . . Brookhaven Center
Wednesday, February 17 . . . 8 p.m.
The Babe . . . free popcorn

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Pick a Student

Applications for two summer programs run by the Office of Educational Programs (OEP) will be available for review from February 22 through March 5, from 9 a.m. to 4:30 p.m., in the Science Education Center, Bldg. 438.

The two programs are:

- **Summer Students** — The traditional summer program in which junior and senior undergraduates receive ten-week summer research appointments, June 7 to August 13. OEP pays the individual stipends of $225 per week and round-trip transportation. The sponsoring department pays for the student's housing at $80 per week.
- **Summer Interns** — This is the same as the Summer Student Program except that appointments are offered to students who have participated in a prior U.S. Department of Energy High School Honors Program at BNL. Generally, these students are finishing their college freshman year, but a few may be recent high school graduates. OEP pays all costs associated with these students — stipend, travel and housing.

A special effort is made to offer minority students summer research opportunities at BNL. If your student choice is a minority, you will substantively contribute to this effort. All requests for students must be submitted to Departmental Coordinators on or before March 5. For more information, call OEP, Ext. 4503.

Guild Trio to Give BERA Concert

The Guild Trio, a Long Island-based ensemble that has won a world-class reputation, will perform in the third BERA concert of the 1992-93 season on Thursday, February 18, at 8 p.m., in the Snyder Seminar Room, Building 911. (Note location change because Berkner Hall is currently closed for renovation.)

Just three months after they formed at the State University of New York (SUNY) at Stony Brook in 1988, The Guild Trio, consisting of a pianist, violinist and cellist, won the prestigious Artistic Ambassador Competition. A year later, they were honored as the trio in residence at Tanglewood Music Center.

In 1991, The Guild Trio was one of four groups in the nation to receive a matching grant from Chamber Music America for their unique residency at SUNY Stony Brook's Institute for Medicine in Contemporary Society. There, they perform, tape concerts for patients, and coach amateur musicians from the University Hospital and Health Sciences Center.

The program for the Brookhaven concert consists of Gabriel Faure's Trio for Piano and Strings, Opus 15; Johannes Brahms' Trio No. II in C Major, Opus 87; and Antonin Dvorak's Trio in F Minor, Opus 65.

The Guild Trio

Tickets can be purchased at the door for $12 for general admission, $9 for students and people over age 65, and $5 for youths under 18.

Note to Employees:

Attendance at lectures, meetings and other special progams held during normal working hours is subject to supervisory concurrence.

Basketball

Games of February 4

Runaways 77		Magic 71	
W. Cummings	28	D. Hoggard	26
J. Gaeta	16	T. Buck	14
L. Furenlid	8	J. Garrison	11
G. Shepherd	7	M. Williams	7
C. Saxen	6	D. Branch	7
D. White	4	M. Tardd	6
S. McAlary	4		
P. Ratzke	4		
B. Wells	4		

3-point shots: J. Gaeta (2), J. Garrison (3), D. Hoggard (3), M. Williams

Trailblazers 45		Scram 44	
T. Mayo	16	T. Powers	11
R. Domenech	10	J. Duggan	9
T. Fountaine	6	E. Gregory	7
C. Edwards	4	V. Cassella	5
B. Gunther	3	A. Boener	5
G. Mack	2	P. Coleman	5
A. Jones	2	J. Barkwill	2
M. LeBlanc	2		

3-point shots: A. Boener, R. Domenech (2), E. Gregory, T. Mayo, T. Powers (3)

Volleyball

Standings as of February 3

Open League		League I	
The Roofing Co.	35-10	Network News	33-9
GTeam	35-13	Upfagrabs	28-11
Me & the Boys	16-32	Rude Dogs	28-11
Farside	16-32	VolleyBallAholics	26-16
Penetrating Vollies	15-30	Underdogs	14-25
		Fornossing	6-33
League II		**League III**	
Monday Nite Live	34-5	Jolly Vollies	25-11
Safe Sets	29-10	Upton Ups	21-15
Nuts & Bolts	22-17	High Volley'em	21-15
Fossils	22-17	Nutcrackers	20-16
Net Wits	14-25	Silver Bullets	18-18
Night Court	14-25	Volley of the Dolls	18-18
Sourcerers	11-28	Mis-Fits	11-25
Just Up	10-29	Hairballs	10-26

ANS Meeting

Retired Admiral Paul Early, a member of the LIPA Shoreham Independent Review Panel, will speak on the U.S. Navy nuclear program at a meeting of the Long Island Section of the American Nuclear Society (ANS), on Thursday, February 18, at the Three Village Inn, in Stony Brook, at 8 p.m. Robert McNair of BNL's Reactor Division will introduce the speaker. To make dinner reservations, call Roz Goldberg, 929-8300, Ext. 3611.

BERA Returns to Disney World

Heigh-Ho, Heigh-Ho,
It's Off to Play We Go . . .

It's time to sign up for the third annual group trip that the Brookhaven Employees Recreation Association (BERA) is sponsoring to Walt Disney World in Florida. The seven-day, six-night trip is scheduled for October 6-12.

The following per-person rates are based on occupancy of one room: (maximum five per room, six w/child under 3).

4 adults - $868	Children ages 3-9, $542, ages 10-17, $595
3 adults - $926	Rates for ages 3-17 are applicable only when
2 adults - $1,039	occupying room with adult(s); children
1 adult -$1,491	age 2 pay airfare only, $335; no fare under age 2.

The trip is open to BNL employees, family members, guests and on-site contractors. Reservations are now being taken, first-come, first-served. To reserve your space, contact Recreation Supervisor M. Kay Dellimore, Ext. 2873, Bldg. 185. A deposit of $100 per person is required.

The trip rates include:

- Round-trip airfare between Islip and Orlando via USAir.
- Round-trip transportation between the Orlando airport and the hotel.
- Greeting and assistance by Disney representative upon arrival and departure.
- All baggage handling.
- Six nights at Disney's Polynesian Resort.
- Six days' unlimited transportation within the Walt Disney World Resort.
- Unlimited admission and use of attractions at the Magic Kingdom, Epcot Center, Disney-MGM Studios Theme Park, Typhoon Lagoon, Pleasure Island, River Country and Discovery Island.
- One breakfast or lunch at any resort, including the exclusive Grand Floridian.
- Half-day escorted group tour behind the scenes at MGM Studios.
- Steve Birnbaum's *Guide to Walt Disney World* (one per room).

For more information, call Carolann Zebrowski, Ext. 3347, or M. Kay Dellimore, Ext. 2873.

Bowling

Red/Green League

R. Jansson bowled a 243/624 scratch series, K. Koebel 235/622 scratch, R. Larsen 224, F. Hohmann 219, R. Wiseman 219, C. Bohnenblusch 215, A. Pinelli 214, F. Griswold 211/202, S. Thompson 211, T. Prach 210, G. Sorenson 205, A. Warkentien 204, K. Asselta 201, R. Raynis 201.

Purple League

Jim Goode bowled a 233/607 scratch series, Jim Biamonte 214, Sharon Smith 209, Ed Sperry IV 208, Ed Beadle 202, Joe Ferrante 202, Bob Geib 202, Joe Sheehan 190, Marilyn Picinich 187, Jeanne Penoyar 186, Lorraine Roecklein 184/183, Jim Goode converted the 6-7 split.

White League

Diane Romano 236 (106 pins over average), Ann Wynkoop 210/179/514 scratch, Andy Warkentien 201, Brian McCarrick 199, Pete Wynkoop 199, Pat Oster 192, Norman Besemer converted the 5-7 split.

Scotch Doubles

The Scotch Doubles Tournament will be held Sunday, March 7, at 1:30 p.m., at the Port Jefferson Bowl. At $24 a couple, the tournament is open to BNL employees and immediate family members.

Applications are available at the BERA Sales Office; the deadline is Friday, March 5. If you need a partner or have any questions, contact Fern Simes, Ext. 3969, or Ed Sperry IV, Ext. 2674.

HMO Reps on Site

The services of four Health Maintenance Organizations (HMO) are now being offered to active BNL employees as additional health-care options. Representatives of these HMOs will be at Berkner Hall the next two Wednesdays, February 17 and 24, between 11 a.m. and 1:30 p.m., to answer employees' questions.

The deadline for HMO enrollment is February 26, with coverage effective March 1. To enroll in one of the optional HMO plans, contact Personnel Services, Bldg. 185, Ext. 2877, for the necessary forms.

Hospitality News

The next meeting of the Women's Forum, led by Marion Davis-Parzen, will be Tuesday, February 16, in the lounge of the Recreation Building. The meeting will start promptly at 10 a.m.; please come on time.

The group meets every month on the third Tuesday to discuss women's issues and share experiences and concerns. Wives of Lab employees and guests are welcome; bring the children.

Lifeguard Training

BERA will offer a lifeguard-training course at the BNL swimming pool. Consisting of eight 3-hour classes on consecutive Saturdays, beginning February 13, from 9 a.m. to noon, it will cost $100. Register at the pool before February 13, class size will be limited. At the first class, participants, who must be at least 16 years old, must pass a swimming pretest.

For more information, call Susan Juzwak, Ext. 3147 or 3496, after 4 p.m.

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.

OPEN RECRUITMENT - Opportunities for Laboratory employees and outside candidates.

DD 0507. TECHNICAL POSITION - (term appointment) Requires an AAS in electronic technology or equivalent, significant knowledge of rf and high-voltage circuits, and the ability to work from electronic schematics, mechanical drawings and verbal instructions. Responsibilities will include the modification and commissioning of ten 196 MHz rf systems consisting of rf cavity, direct coupled tetrode amplifier and associated dc power supplies. Additional requirements include expertise in the operation of rf test equipment; knowledge of safety procedures associated with high-voltage and high-power rf desirable. RHIC Project.

NS 0508. - PROGRAMMING/ANALYST POSITION (term appointment) - Requires a BS in an appropriate field, and three years' programming experience or an MS in computer science. Requires familiarity with object-oriented methods, C, C++, UNIX relational databases and network programming. Will be involved in the design, coding, documentation, installation and support of software tools for UNIX workstations. RHIC Project

NS 8166. ENGINEERING POSITION - Requires a BS, MS preferred, in hydrogeology, environmental engineering or a related field and three years' experience managing environmental data. Familiarity with data acquisition, relational database design and computerized data management and analysis utilizing GIS is essential. Groundwater modeling skills and experience with RCRA/CERCLA field investigations highly desirable. Office of Environmental Restoration

NS 0189. ENGINEERING POSITION (term appointment) - Requires a BSME or equivalent experience and significant mechanical design background, which should include HVAC, fire protection and plumbing experience. Familiarity with underground environmental systems, safety and operational requirements with regard to radiation considerations and energy efficiency is required. Extensive shop-drawing review and field inspection of mechanical systems experience on major construction projects necessary. Plant Engineering Division

LS 8165. ENGINEERING POSITION - Requires a BS in engineering or equivalent capabilities and some pertinent professional safety experience. Experience in investigation and analysis of safety incidents necessary. Must have good analytical, oral and written communication skills, and experience with computer database management, spreadsheet systems and statistical analysis. Safety & Environmental Protection Division.

MK 0188. SR. STATIONARY ENGINEER - Requires demonstrated experience in the maintenance, repair and operation of high-pressure boilers firing #6 fuel oil. Current stationary or marine engineer's license highly desirable. Plant Engineering Division.

Motor Vehicles & Supplies

91 HONDA CIVIC - h/b, 4-spd., factory am/fm cass., ac, new tires, extras, excel. cond., $5,500. Bob, Ext. 7257.

89 CHEVROLET EUROSPORT WAGON - V-6, 29k mi., fully loaded, Ext. 2384.

89 HONDA CIVIC - 4-spd., 45k mi., ac, cruise, excel. cond, $5,300. George, Ext. 5866.

88 PLYMOUTH SUNDANCE - 60k mi., red, good cond., $4,500; '86 Ford Tempo, 97k mi., white/red, good cond., $1,400. Don, Ext. 3511.

87 NISSAN MAXIMA - 4-dr., fully equipped, $5,500. Bob Kaszuba, Ext. 7785.

87 TOYOTA 4-RUNNER - 5-spd., p/s, p/b, ac, am/fm stereo, 79k mi., mint cond., $7,650. 862-7821 eves.

85 BUICK SKYHAWK - 4-dr., silver, a/t, p/s, p/b, ac, am/fm, 4-cyl., 87k mi., excel. cond., $2,200. Alex, Ext. 3723 or 341-1018.

80 AMC EAGLE - 4wd, high mileage, good running cond., reliable, $500. Nelson, Ext. 3861.

80 TOYOTA COROLLA WAGON - new tires, $400 neg; transfer case, 4wd, model 203 ratio 201, type new process fits '77-'85 Chevy or GM. 369-7704.

79 T-BIRD - clean, new brakes, 20k mi., new 351 motor, runs well, needs master cyl., tune-up, $700 neg. Gil, 744-5553.

79 CHEVY PICKUP - 4wd, 350 cu in., mechanically perfect. John, 924-3665 after 5 p.m.

78 DODGE DIPLOMAT - 318 V-8, 4-dr., a/t, 100k+ mi., rebuilt trans., new radiator, runs well, needs rear end, $200. Don, Ext. 7237 or 744-2921 eves.

70 CHEVROLET - runs well, must see, $275 firm; '78 Honda Civic wagon, blown head gasket, parts for $40, you tow. Darryl, Ext. 7892.

61 FORD FALCON - 6-cyl., 2-spd., a/t, all orig., no rust, many new parts, runs well, needs paint, $1,900. 589-2032.

HONDA ELITE LX50 - w/helmet, good cond., $400 neg. Ext. 5834.

TRANNY & TRANSFER CASE - '83 from S-10 Blazer, 2.8L eng., $200; 2 Summit 195/50R15 tires, good cond., $50. 924-8213 after 6 p.m.

RIMS - 15", from a Regal T-type, v.g. cond., $300 neg. Mike, Ext. 2980/3652.

CLUTCH - '80 Toyota Tercel, 5-spd., $40. Bob, Ext. 7238.

Sports, Hobbies & Pets

BICYCLES - boy's mountain bike & child's bike w/training wheels, $15/ea. or best offer. Charlie, Ext. 2804.

BREEDING COCKATIELS - 1 pair, $75; society finches, $5/ea. Herb or Barbra, 924-5621.

GUITAR AMP - Nady 201, wireless, mint cond., $200. Doug, Ext. 4661 or 434-7812.

HUNTING JACKET - & jumper, blaze orange, 1 yr. old, orig. $300, asking $150. John, Ext. 2980 or 395-5922.

ICE HOCKEY SKATES - Bauer Turbo, size 8, excel. cond., used 1 season, $30. Frank, 821-2586.

ORGAN - Lowry 2000, electric keyboard, free-standing, w/tapes, excel. cond., orig. $4,000, asking $1,800 firm. Kirk, 924-6932.

PIANO - baby grand, fair cond., needs tuning, must sell, $700 or best offer. Lora, 286-3508.

RACING CARS - & trucks, die-cast collectibles, 1/64 replicas, great investment. Joe, Ext. 5320.

SKIS - Olin, 160, Salomon bindings 597, poles, Raichle boots, ski bag, boot bag, used 4 times, excel. cond., $150 neg. Ext. 5834.

Free

CAT - female, 6-yrs.-old, black, tortoise-shell, declawed, spayed, affectionate. Vic, Ext. 7016.

CAT - male, off white, blue eyes, craves attention, needs loving home. Phil, 727-0842.

Lost & Found

LOST - pin, shaped like English hunting horn, 1/28, sentimental value. Joan, Ext. 4697.

Car Pools

BOHEMIA-E. ISLIP-OAKDALE-SAYVILLE - need 1 more driver. Frank, Ext. 2314.

STONY BROOK/LAKE GROVE - established car pool seeking new member(s), Ext. 5080/4192.

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

BROOKHAVEN - room for rent, complete use of large house in quiet area, kit., w/d, etc., $350/mo. incl. util. Sidney Stafford, 286-4028.

BROOKHAVEN HAMLET - 1738 restored 2-bdrm. cottage, beams, planked floors, 2 baths, fp in d/r, greenhouse, country setting, $1,200/mo. + sec. & util. Sue, Ext. 2888 or 286-0422.

CORAM - 1-bdrm. upper co-op, l/r, d/r, kit. bath, cac, pools, clubhouse, rent w/option to buy, $675/mo. + elec. & cable, must sell. 265-4572.

HUNTINGTON - 1 bdrm., l/r, eik, bath, all new, $700/mo. incl. heat. Gerard, Ext. 5233 or 427-7176.

MEDFORD - new 1-bdrm. apt., priv. ent., full bath, kit. l/r, lots of closet space, $600/mo. incl. all, + 1 mo. sec. Rich, 475-0373.

MEDFORD - 2-bdrm. Blue Ridge condo, 1½ baths, mirrored l/r, all appl., cac, w/w, golf, tennis, in/out pools, sauna, whirlpool, clubhouse, move-in cond., avail. 3/15, $900/mo. or buy $95,000. 736-8742.

MEDFORD - 1-bdrm. Blue Ridge upper condo, l/r, d/r, kit., all appl., cac, full club facilities, $740/mo. + util., 1 mo. sec. Russ, Ext. 3059 or 758-3952 after 6 p.m.

MILLER PLACE - 1-bdrm. apt., paneled kit., l/r, full bath, w/w, priv. ent., quiet neighborhood, $560/mo. incl. all. 928-0093 after 4 p.m.

MILLER PLACE - studio apt., full bath, part. furn., 1 mo. sec., no lease, $495/mo. + cooking gas. Mike, Ext. 3981.

MILLER PLACE - new, semi-furn. studio, full bath/kit., priv. ent., deck, wooded, near beach, for single nonsmoker, quiet, mature, no pets, $475/mo. + 1/3 elec., sec. & refs. 473-6950.

MILLER PLACE - 1-bdrm. furn. apt., lr-kit., spare room, priv. ent., gar., util. included, single preferred. Ext. 5834 or 473-1658 after 6 p.m.

N. PATCHOGUE - 2 bdrm., l/r, eik, bsmt., nice quiet area, immed., $750/mo. + util. 473-3911 after 6:30 p.m.

PATCHOGUE - sublease 1-bdrm. apt., near village, Ext. 2459 or 758-0371.

PORT JEFFERSON STATION - walk-in 1-bdrm. apt., ac, own heat & hot water, priv. home, $600/mo. all. Bob, Ext. 2309 or 473-9180 eves.

QUIOQUE - furn. studio apt., priv. ent., non-smoker, $500/mo. incl. util. 288-5576.

RIDGE - furn. studio apt., kit., bath, priv., fenced-in yard, 3 mi. from Lab, $490/mo., avail. 4/1. Ext. 2673 or 744-8632.

RIDGE - large 1-bdrm. apt., l/r, kit. w/dining area, priv. ent., avail. 1/15, $650/all, sec., no pets, near Wm. Floyd, 5 min. to Lab. Ext. 5076 or 744-4615.

ROCKY POINT - studio apt., eik, sep. ent., thermostat, priv., $350/mo. +. Terry, Ext. 4753.

ROCKY POINT - 1-bdrm. beach house, large yard, deck, loft, cathedral ceiling, ½ block to beach, $600/mo. + 1 mo. sec., furn., 15 min. to Lab. John, Ext. 3883 or 821-4165.

SHOREHAM N. - large, furn. studio apt., kit., bath, priv. ent., $425/mo. incl. util., nonsmoker, no pets, 744-6648 after 6 p.m. or weekends.

SOUND BEACH - 1 bdrm., l/r-kit. combo, full bath, priv. ent., close to beach & shopping, 15 min. to Lab, $600/mo. + util. & sec. 744-3284.

SOUND BEACH - new, 1-bdrm. apt., $575/mo. incl. all. 744-2245.

WADING RIVER - 1-bdrm. bsmt. apt. on the beach, all util. & cable included, singles & working need only apply. 929-8443.

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

ORLANDO, FL - timeshare 1-bdrm. apt., sleeps 4, fully equipped, 5 min. to Disney World by car or bus, 1 week in July, Fri.-Fri., you pick the date, $600/mo. Ext. 2683 or 751-2469.

CLAREMONT, NH - 2-bdrm. condo, furn., kitchenware, VCR, phone, skiing, 25 mi. from Okemo, 8 mi. from Ascutney & Sunapée, $300/wk., $225/4-day wknd. Frank, Ext. 7749.

HILTON HEAD, SC - fully furn. 2-bdrm. condo, sleeps 6, 2 baths, beach, golf nearby, tennis on site, $300 Jan.-Mar. Guy, Ext. 3147 or 689-5378.

MT. HOLLY, VT - 2½-bdrm. A-frame, fully furn., kit. bath, wood stove, deck, 10 min. to Okemo Mt., 25 min. to Killington, Pico & Stratton ski areas, $325/wknds., $495/wk. Tom, Ext. 2823.

STOWE, VT - 3-bdrm. house, 2½ baths, new, furn., fp, deck, gar., 1 acre, priv. devel., skiing, rec., $600/wk. BNL rate. Ken, Ext. 2147 or 929-6634.

ST. THOMAS - 4/24-5/1, 2 attached villas, sleeps 6, ideal for 2 couples at Bluebeard's Castle, overlooks town harbor, restaurants, pool, free transport to beach & town. John, 924-4262.

For Sale

BELLPORT VILLAGE - 2-bdrm. house, loft, near golf & tennis, Fr. doors & decks, outdoor Jacuzzi, 2 full baths, 2/3 acre, s. of S. Country Rd., $248,000. Sue, 286-0422 eves.

CALVERTON - 2-bdrm. townhouse, 5 appl., carpeted, cac, fp, patio, upper deck, assum. mort., neg. Ext. 3558.

CENTEREACH - 4-brm. Cape, 2 full baths, 2-zone heat, new Weil McLain, eik, l/r, Fl. rm., gar., full bsmt., 80'x100' fenced, walk to stores, $115,000. 981-0551.

CORAM - n. of Rt. 83, 3-bdrm. contemp. col., l/r, d/r, fam. rm., fp, fin. bsmt. w/nightclub, 2-car gar., 1/3 acre, must sell, $114,900. Ext. 7897 or 331-0807.

EAST MARION - 1-acre bldg. lot, adjacent to green belt, walk to Sound. 325-0447.

EAST SETAUKET - 3-bdrm. ranch, 2 baths, gar., fin. bsmt., Andersen windows, vinyl-siding, landscaped, 1/3 acre, deck, igs, all appl., extras, $140,000. 878-9239.

E. SETAUKET - 4-bdrm. split-level, 2½ baths, 3VSD, 1/3 acre, igp/igs, rear deck, well landscaped, all appl., $184,900. 473-5376.

FARMINGDALE - co-op 2nd fl., terrace, storage, w/w, ac, new kit., bath, low maintenance, immediate occupancy, $47,000 or rent w/option to buy, 932-0291 after 5 p.m.

HOLTSVILLE -2-bdrm. ranch, vinyl-sided, fenced, Sachem schools, mint cond., taxes $1,450, inside remodeled, great location, ask. $112,000 neg. Lisa, 654-2928.

HOLTSVILLE - 2-bdrm. ranch, l/r, d/r, big kit., fp, pool, fenced backyard, low taxes, 25 min. BNL, $95,000. 289-1732 after 6 p.m.

MASTIC - 3-bdrm. split level, 1½ baths, l/r, d/r, kit., fam. rm., Fl. rm., bsmt., gar. w/elec. opener, 2 acs, shed, fenced, extras. Joan, Ext. 2549 or 281-3797 eves.

MIDDLE ISLAND - Lake Pointe at Artist Lake, upper 1-bdrm. co-op, deck, cac, w/d, clubhouse, assum. mortg., $59,000 neg. Bill, 924-1346.

MIDDLE ISLAND - 4-bdrm. custom Col., den w/fp, 2-car gar., full bsmt., wooded ½ acre, $128,000. 924-2722 after 6 p.m.

MILLER PLACE - 2-3 bdrm. Cape Cod, full dormer, RPSD, full bsmt., 0.27 acre fenced, priv. deck, fp w/wood stove, 4-zoned OHWH, 1½-car heated detached gar., appl., $113,000. 744-4386.

MT. SINAI N. - 3-bdrm. ranch, 2-car gar., 1½ bath, ¾ acre, waterview, fp, $239,000. 473-0178.

MT. SINAI - 4-bdrm. Col., 2½ baths, l/r, d/r, country kit., den w/fp, w/w, all appl., fin. bsmt., Andersens, vinyl siding, 2-car gar., sprinklers, fenced 100'x150', $198,000. Joan, 331-9264.

N. CORAM - 3-bdrm. ranch, 2-car gar., wood stove, 0.36 acre fenced, gas heat, 1½ baths, all appl., new Andersens, cathedral ceilings, $118,000. Nancy, Ext. 3005 or 698-0339.

PATCHOGUE - large 1-bdrm. co-op, upstairs, corner apt., kit., l/r, d/r, full bath, w/w, appl., new balcony, new Andersen windows & patio door, walk to shopping, $44,000. Ext. 2679 or 472-6922.

PORT JEFFERSON STATION - 3-bdrm. ranch, double gar., in town, walk shopping, rr, carpeted, fp, 1½ baths, $139,000. 473-0178.

RIDGE - Leisure Knoll Adult Community, 1-bdrm. duplex, cac, all appl., very close to pool, clubhouse, etc., $55,000, immed. occupancy. Ted, Ext. 4589 or 475-8581 eves.

RIVERHEAD - 12'x65' mobile home, co-op park, $25,000. Beth, Ext. 4986 or 369-4295.

ROCKY POINT - mint, 3-bdrm. L-ranch, 2 bath, new eik, d/r, l/r, carpeting, vinyl siding, bsmt. den, patio, shed, 2 in-wall acs, $139,900. 744-1958.

ROCKY POINT - 2-bdrm. ranch, l/r, d/r, full bsmt., wood stove, oak floors, 95'x120', fenced yard, $97,000. 744-7549 after 4 p.m.

ST. JAMES - 2-bdrm. ranch, l/r, d/r, eik, 2 fin. bdrm. in bsmt., 1½ baths, solar hot water, 0.31 acres, deck /hot tub, pool, $148,900. 584-5933.

ST. JAMES - Fairfield Sr. Condo, 3-bdrm., 2½ baths, l/r, d/r, eik, patio, garage, pools, clubhouse, amenities, $152,000. 941-9115.

SAYVILLE - quaint, 3-bdrm. home, 1/3 acre, det. gar., fin. attic, bsmt., OHWH, walk to downtown & rr, appraised at $120,000, neg. 821-9505.

SAYVILLE - 2-bdrm. Cape, mint, newly renovatd, eik, gar., carpet/ceramic tile, new boiler, low taxes, $118,000. Ext. 5327 or 567-8179.

SELDEN - 3-bdrm. ranch, 9 yrs. old, cul-de-sac, l/r, d/r, eik, den, laundry, gar., landscaped ½ acre, fenced, igs, new semi-inground pool, $132,000. Brian, Ext. 4028.

SHIRLEY - 3-bdrm. Cape, near beaches, $75,000. Kathy, Ext. 3845 or 878-9592.

SHOREHAM - N25A, 4 bdrm., 2 baths, kit., d/r, l/r, fp, full bsmt., enclosed porch, deck, 2-car gar., beach rights, $180,000. Jack, 744-8624.

SHOREHAM - bldg. lot, ½ acre waterview, private beach, all approvals, ready to build, $80's, neg, owner. 821-2815.

SHOREHAM - 3-bdrm. ranch, full bsmt., all util., fp, gas heat, LWSD, 0.37 acre, fenced, perennial garden, $109,900. Terry, 744-4912.

SOUND BEACH - MPSD, 3 bdrm., l/r, den, 2 baths, ¼ acre fenced, deck, 18' pool, 2 storage sheds. Lisa, 821-3306, or Bob, Ext. 2309.

WADING RIVER - private beach community, 3-bdrm. ranch, steps to beach, eik, fd/r, ac, trees, bsmt., deck, large shed, 1½ baths, cyclone fence, ½ acre, $124,900. 744-3842.

WADING RIVER - on beach, 10-rm. year-round house, 5 bdrm., 2 baths, d/r, l/r w/fp, upper/lower decks, full bsmt. w/apt. w/sep. ent., incl. adj. lot,. SWRSD, $259,000. Kathy, 929-8443.

YAPHANK - Whispering Pines, 3-bdrm. town-house, 2½ baths, fin. bsmt., extended brick patio, pool, clubhouse, 5 min. from Lab, must see, $110,000. Alex, Ext. 4244 or 924-6605.

BAYSIDE, QUEENS - 2-bdrm. co-op, near train, shops, must sell, $55,000 neg. Joann, 472-6742.

MANHATTAN - newly renovated spacious studio in Chelsea area, 10th floor, low maintenance, 24-hr. doorman, near NYU and FIT. 751-5868.

STUART, FL - waterfront condo, 2 bdrm., 2 baths, end unit, 3rd floor, screened porch, clubhouse, pool, $73,000 unfurn., $75,000 furn. Beth, Ext. 5630 or 472-0706.

NORTH CAROLINA - 1.13 wooded acres, waterfront community, pool, clubhouse, 35-boat slip on Pamlico River, $38,000. Ken, 281-5565.

Wanted

CAMPER - travel trailer, hard shell, 20'-24', working cond., older models okay. Don, Ext. 7237 or 744-2931 after 5:30 p.m.

FRIENDS OF BOB TALLON - come to retirement party 2/25, Rock Hill Country Club, $18 buffet/gift, RSVP 2/19. Lou Mazurakis, Pager 0894.

FRIENDS OF BOB BROWN - DAS, retirement party 2/24 at Brookhaven Center, $20. Lenore, Ext. 2954 for reservation by 2/16.

GRILL - 1957 Farmall cub tractor. Brownie, Ext. 4028.

MATURE WOMAN - to care for my 10-mo.-old, Mon.-Fri., 8 a.m.-5:30 p.m., must be dependable, responsible & loving person. Luan, Ext. 4353.

MATURE WORKING MALE - to share apt. w/same, Coram, off Rt. 25, 2 bdrm., l/r, eik, full bath, $450/mo. all. 821-3306 after 4:30 p.m.

PEOPLE - interested in "Great Discussions." Magaret, 473-9129.

RIM - 14" to fit Ford or Mercury, late 70s. Don, Ext. 7237.

SKIERS - to ski Camelback Mt. 3/3, cost $35 due by 2/19. Doris, Ext. 4669 or 2138.

SKIERS - to ski Windham, 2/17, send $42 for bus & lift to Augie Hoffman, Bldg. 510C.

STATION WAGON - 1985 or older w/ac, power options, must be clean in and out. Mike, Ext. 5030 or 821-4083.

Ads left out of this issue due to lack of space need not be resubmitted to appear in the next issue.

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