

## Courting the Amazon Molly

Regarding survival of the fittest, conventional wisdom says that in nature, males set up a hierarchy based on prowess, and that the dominant male mates with the most females. The same gospel proclaims that females are passive creatures whose success at reproduction is totally dependent upon the courting behavior and action of males, not upon female choice.

"I think reproductive behavior is much more complex than we have thought it to be," declares Associate Biologist Avril Woodhead. In behavioral studies of the mating behavior of opportune males and the Amazon molly, an all-female species of fish

be no parental species left as a result. On the other hand, if the males exclusively preferred their own females, the Amazon molly would never get pregnant."

So in the competition with the parental females in nature, the Amazon molly has achieved a balance of being sufficiently yet not too attractive to the parental species males. But to which males — dominant or subordinate ones?

With the assistance of Southampton College student Norris Armstrong, Woodhead observed males in a tank with either their own females or the Amazon molly, and she found that males raised with the Amazons courted them for about the same length of time as they did their own females. However, when both females were in the tank, these males significantly reduced the time they devoted to the Amazons.

Males that had been raised with their own females paid little attention to the Amazon molly to begin with. "Generally, the males would approach the Amazon molly, briefly nip at her and then move away quickly to court the females of their own species," reports Woodhead.

Woodhead found that mate discrimination and courtship behavior both increase with age. As a male grows older and larger, he shows almost complete preference for the females of his own species, and he goes through elaborate courtship before mating. Simultaneously, the larger males set up a male hierarchy, which determines which male will dominate the others.

Males that did not discriminate between the Amazon molly and their own females invariably were small, young males. Small males, for some reason, are not inhibited by the hierarchy. Says Woodhead, "While the large males were engaged in courtship display and territorial defense, the small males wasted no time — they just darted in and mated. Large males, therefore, have fewer mating encounters than small males."

Mating with the Amazon molly does not give the younger males any advantage because they do not make a genetic contribution to the Amazon's offspring. "I think it is just a learning process," explains Woodhead. "The males learn to prefer their own females. In nature, of course, they would be with their own females most of the

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Mort Rosen

Avril Woodhead

whose members are naturally cloned, Woodhead has observed quite the opposite from what one would expect: young, subordinate males do the most mating, and the clone of Amazon mollies that is most aggressive has the most mating encounters.

According to Greek mythology, the Amazons were a matriarchal tribe of women warriors who mated with the men of other nations and kept only the female children they bore. In drought-prone ponds of southern Texas, the Amazon molly is a naturally occurring cross of two parental species, *P. latipinna* and *P. mexicana*. As a sexual parasite, the Amazon molly uses males of other species to activate her eggs. In this process, called gynogenesis, the male fish do not fertilize the eggs with their sperm, but stimulate the ovum to development. As clones, the resulting offspring are identical to their mother.

The fish were brought to the Biology Department in 1974 by Richard Setlow, Associate Director for Life Sciences, and have been since used by Setlow and Woodhead to study the relationship of ultraviolet light and skin cancer.

"I often come down to the greenhouse just to look at the fish and see how they are doing," says Woodhead. Attempting to mate is what the Amazon molly and the male *P. schenops*, a closely related species with which they are kept, are doing most of the time. The Amazon molly begins bearing live young at five months, and, after maturity, she can be bred almost every month of her three-year life.

Woodhead's observations led her to question how the Amazon molly succeeds in nature. "The males must obviously prefer their own females to the Amazon molly," explains Woodhead. "If they had preference for the Amazon molly, the Amazon would outbreed the other females because it only produces females — there would



Mort Rosen

Gathered for an executive committee meeting the afternoon before a symposium sponsored by the New York State Section of the American Physical Society are: (from left, front) Fred Wilson, Rochester Institute of Technology; Giancarlo Moneti, Syracuse University; (rear) Allen Goland, BNL; Myron Strongin, BNL; and Robert von Gutfeld, IBM. The New York Section holds a topical meeting every six months at various locations throughout the state. The symposium at Brookhaven focused on "Detectors for Physics," and drew people from universities, industry and other institutions.

## A Visitor's View Giancarlo Moneti, Physicist

Giancarlo Moneti's latest trip to Brookhaven was for the spring meeting of the New York State Section of the American Physical Society, held last Friday and Saturday. Moneti has been an occasional visitor to BNL over the past 25 years.

Italian born and educated, Moneti divides his time between high energy physics research and teaching physics at Syracuse University. We asked for his viewpoint on the history of physics and on trends in physics today.

"I would say that there has been a steady quickening of the pace of scientific discovery over the last few centuries," says Moneti. "There have also been brief lulls followed by great spurts. For example, if you go from the discovery of continuous electric current, which was in the year 1800, until the discovery of the magnetic effect of electric current, which was in 1820, there wasn't terribly much done. But as soon as news of the discovery of magnetic effect arrived in Paris and London, especially Paris, in a matter of a few months, an enormous number of discoveries were made and laws established."

He says that more recently, there

have been slow periods too, but not for so many years. "The late 60's was a slow period. But then came deep inelastic scattering and quark theory as a dynamical theory."

His prognosis is that physics is healthy right now, but "we may risk a later period of not very interesting physics if we cannot build the next big machines."

Although Moneti has taught a little of everything, one of his favorite courses is on the history of physics. He devotes the first semester to the so-called scientific revolution — the transition from ancient astronomy to modern astronomy, through Copernicus, Kepler and Newton. He also discusses the establishment of the experimental method, comparing Galileo's experiments to the earlier "natural philosophers," who just philosophized. Then the second semester is concentrated on the history of electromagnetism, which is the first clear example of what he considers the basic goal of physics — unification.

As to the students he teaches, Moneti speaks of a worrisome trend. He says that in graduate school, fewer Americans are going into physics, although that is compensated for by an influx of foreign students. "There was a sudden decline of students in the early 1970's. At that time, there was a general crisis in high technology, with lots of layoffs, so young people decided not to go into engineering and physics. Of course, that's always a mistake, because there is an eight- to ten-year delay between the time you get into school and the time you get your higher degree."

Adding to the decline in the number of physics students, he says, is the fact that young people today are mostly exposed to entertainment, sports and arts. Engineering and technology are largely ignored. He points out that a century ago, young people knew what their parents or relatives did for a living. Often, homes were attached to shops, and children became part of the family enterprise. Today, work and family are kept separate, and, too often, the characters youngsters see on TV become role models.

Physics research, and teaching in general, are also not perceived as pay-

(Continued on page 2)



Mort Rosen

Paul Low (left, center), vice president of IBM and president of the General Technology Division, visited BNL on Tuesday afternoon, April 15. With him at the helicopter field is Michael Knotek (right), chairman of the National Synchrotron Light Source Department, as well as members of the BNL and IBM staffs. Low was here to see at first hand IBM's x-ray lithography project at the NSLS and to confer with Knotek.

# BNL's Record Holders

Every new employee at BNL is issued a life number. Ever wonder where that number comes from? It comes from the Records Group in the Personnel Division.

Supervisor Mary Austin began working in Personnel Records in 1962. Through mid-April, she had issued 10,725 life numbers to the 14,764 people who came on board during that time. The reason the figures are unequal is the reason the number is called a life number: Once issued, the number is a person's for life. So 4,102 of those employees represent rehires with recycled life numbers. The most recent new life number issued was 18,100.

Issuing life numbers accounts for only a fraction of the tasks handled by Personnel Records, which includes Austin; Bonnie Miller, who has worked with Austin for seven years, Pat Manzella, who joined the group last October, and new arrival Lorraine Barry. Together, they maintain the official Lab records for approximately 3,300 BNL regular and temporary employees, 1,800 guests and collaborators, 315 consultants, and about 14,800 terminated employees. That's a lot of record keeping, because Personnel Records follows employees throughout their stays at BNL.

Remember your first day here? Probably the first thing you did was to go to Personnel where you were given a folder of paperwork to be filled out, prepared especially for you by Personnel Records. In this folder you found your life number as well as such things as an emergency notification form, W-4 (employee withholding form), information about safety orientation, patent agreement, and insurance and retirement forms.

If you were among the BNL employees and visitors from outside the U.S., Mary Austin may have assisted you with this paperwork. She really enjoys doing that and says "Often, I have found that I've made a friend for the rest of his or her time at the Lab."

Though Personnel Records prepares the paperwork for new employees,

recently, the National Synchrotron Light Source Department and High Energy Facilities began to check in their own users. But no matter where you started, the completed forms in your folder ended up in Personnel Records, where, among other things: You were put on the payroll. If you belong to a union, you were added to the appropriate seniority list. An evaluation form was prepared to be sent to your supervisor for assessment when your probationary period was up.

If your life number was a new one, the records group prepared a large yellow Kardex containing such data as jobs held, salary history, education and an I.D. photo. Though this information is confidential, employees may obtain copies of their own Kardexes.

If you were a rehire, you saved Austin and her colleagues some time: Just as your life number is recycled, so is your Kardex. The same is true for the Wheelindex, a sort of abridged card for quick reference when Personnel Records gets a call about an employee.

As far as answering those questions goes, Austin says, "We don't volunteer any information over the phone. We just verify. And we only give out information by mail if the employee has signed a consent form."

Why do people outside of BNL contact Personnel Records? Mostly to check the job references of former employees or to verify an employee's work and salary history on an application for a loan or a mortgage. Do they get many mortgage requests? "You wouldn't believe the number I get every day. Right now we're averaging 15 a day because of the drop in interest rates," says Austin. "It's like everyone at the Lab is applying or refinancing!"

If you're one of those and would like your application to be processed as quickly as possible, take note. Austin says, "Sometimes there's a delay because people give their own building numbers as the address for check-



In the Records room are (from left) Pat Manzella, Lorraine Barry, Mary Austin and Bonnie Miller.

ing, rather than Personnel Records, Bldg. 185."

Why do people at BNL contact Personnel Records? There are lots of reasons. Sometimes, for example, they're looking for carpools. Austin maintains a directory separating employees by zip code.

Personnel Records is the trigger for many events during the course of your BNL employment. The group processes all forms for transfers, promotions or increases. Service awards are ordered and distributed by Dot Marelli; however, service is calculated by Personnel Records. Though the Affirmative Action Office develops the Lab's affirmative action plan, Personnel Records prepares the semi-annual statistical report of employment and labor turnover required by DOE. Though the Insurance & Retirement group deals with your questions on those subjects, Personnel Records puts the beneficiaries you have named into the system. And when your beneficiary, your job, or anything else in your record changes, Personnel Records updates that information. Right now, Records is in the process of removing 3,300 photos from the Kardex files and replacing them with the new ones recently taken by Security.

Regarding updating, Austin reminds you to notify Personnel Records of any changes in address, phone number, name, etc., which can be reported on a Change of Personal

Information form, available from department secretaries or Personnel. And, if your educational status changes, you'll want to send a copy of your new degree and a transcript, to be put in your folder.

"When I first started working here," Austin recalls, "we had so many files for active employees that the floor was starting to sag. So we went to microfilm." If new paperwork, such as a transcript, enters a folder, it sits there like a giant, until it's time to send all files with changes for annual updating.

If you leave the Lab, Personnel Records will process your final paperwork, then transfer your folder and Kardex to the terminated files. Almost 14,800 folders have been added to the terminated files since Mary Austin came to Personnel Records as a temporary 24 years ago. At the end of this month, Austin's own folder will join those, as she begins her retirement.

Though she's looking forward to spending more time with her husband Jere, who worked at BNL for 25 years before retiring three years ago, Mary Austin will miss many things, particularly the interaction she has had with people throughout the Lab. Though much of that contact is done over the phone, she says, "It's nice because we get to see everyone's picture, so we know who we're talking to. The face is familiar as well as the name." — Anita Cohen



Peter Horton

BNL Police Chief Harold Justice (right) congratulates Kevin Rutkowski, who was elected by his classmates to be class leader, as he awards the new patrol officer his diploma. Colleen Daily, another member of police recruit class 1-86, is next in line.

## Police Recruits Graduate

After six weeks of classroom, practical and on-the-job training, 17 BNL police recruits were graduated on April 14. At the graduation ceremony at the Brookhaven Center, Training Group Leader Stephen Tyler certified that the new patrol officers were ready and eager to assume their mission, be it admitting visitors and employees through the front gate or protecting Laboratory employees and facilities.

The new officers, who were awarded badges and diplomas, are: Robert Abruzese, Arthur Bamonte, Jeffrey Culver, Colleen Daily, Christopher DeRubio, Robert Dohrenwend, Matthias Harrington, William Horn, Michael Johnson, Bruce Kavan, Robert Lombardi, John Muller, Thomas O'Shea, David Peter, Kevin Rutkowski, Jack Sadosky Jr., who graduated first in the class, and Reinaldo Santiago.

Class 1-86 includes three former Marines, three veterans of the Air Force, three ex-Army men, two former New York City police officers and one ex-National Park Service ranger. Members of the class ranged in age from 22-32 years, and over half hold college degrees. Thomas O'Shea is the second generation of his family to work at the Lab: his parents Rosa Hughes O'Shea and Michael O'Shea are former BNL employees.

## Moneti

(Cont'd)

ing well. Moreover, physics is hard work. Says Moneti, "Physics is intrinsically difficult, so it takes a lot of intellectual energy. And there is lots of competition." He admits to keeping pressure on his graduate students. "From time to time, I think they will rebel and say to hell with you, I'll do something else!"

Why did he go into physics? He was fond of math as early as junior high school and was even thinking of philosophy at the end of high school. "But I wanted something more specific, things that happen. So I finally settled on physics," he recalls. "I must say that I didn't really know what to expect. In fact, if I expected anything, it was to become a high school teacher. But I didn't know the world of physics research, and it was a bit of a revelation. That and the whole conceptual structure of physics."

After teaching for a number of years at his alma mater, the University of Rome, he decided, for the experience, to come to the United States. He came to Brookhaven in 1961, first as a Columbia University postdoc and then to work in the bubble chamber group under Ralph Shutt, now in High Energy Facilities, and spent a year doing research with Nicholas Samios, the Lab's present director.

He returned to Rome for six years, during which time he collaborated on anti-proton annihilation experiments at the Alternating Gradient Synchrotron, with Ted Kalogeropoulos from

Syracuse University. In 1968, he was offered a professorship at Syracuse, and that's where he settled.

Always active in research, Moneti is right now involved in the CLEO collaboration at the Cornell Electron Storage Ring, in a study of the bottom quark. "We also produce a lot of charmed particles," he says, "so we're doing studies of charm physics and quark/gluon hadronization."

— Mona S. Rowe

## CREF Values

April	71.97	May	75.52
June	76.40	July	76.69
August	75.94	September	73.77
October	77.12	November	82.20
December	85.78	January	86.50
February	92.83		
		March	\$98.20

## Arrivals & Departures

### Arrivals

Richard J. Gard ..... Chemistry  
 Carlos Victoria ..... Sfgds & Sec.  
 Ernest R. White ..... Sfgds & Sec.

### Departures

This list includes all employees who have terminated from the Laboratory, including retirees:  
 Joseph Perillo ..... Sfgds & Sec.

## Spring Ahead!

Daylight Saving Time begins at 2 a.m., Sunday, April 27. Set your clocks ahead one hour.

## Fish (Continued)

time. But at the edge of the distribution of fish, young males and Amazon molly do overlap, and it is the young males who get the Amazons pregnant."

Different Amazon molly clones compete for the attention of these young males. Woodhead keeps what are identified as clones 1 and 2 in her laboratory, and "though I am a very good fish keeper, clone 1 does not live as long as clone 2," says Woodhead. "If under optimum laboratory conditions clone 1 does not do as well, why doesn't it die out in nature?"

In keeping the fish, Woodhead noticed that though clone 1 was less hardy, it seemed to survive because it reacted differently to the males than clone 2. With Southampton College student Chris Carlson, Woodhead studied the attraction to and avoidance of males by the different Amazon clones.

While less aggressive than a female of the same species as the male, a clone 1 Amazon molly would swim between clone 2 Amazons and an approaching male, thereby interrupting his mating approach. Also, the clone 1 fish were receptive to the attention of males much sooner after being introduced into the aquarium.

"Though clone 2 has a better growth rate and larger brood size than clone 1, these advantages are partially offset because clone 1 is better at making mating encounters," explains Woodhead. "This advantage may give clone 1 a good hold in localities that are underpopulated or where females are scarce. With the Amazon molly, at least, female choice is much more important than one would think."

— Marsha Belford

## Cafeteria Menu Week of April 28

<b>Monday, April 28</b>	
Chicken noodle soup	(cup) .65 (bowl) .85
Corned beef brisket & cabbage	2.45
Broiled liver steak w/ 1 veg.	2.45
Hot Deli: Tacos	.85
Smoked turkey	(bread) 2.30 (roll) 2.45
<b>Tuesday, April 29</b>	
Cream of cauliflower soup	(cup) .65 (bowl) .85
Chicken pot pie	2.45
Breast of chicken Italiano	2.50
Hot Deli: Roast beef	(bread) 2.30 (roll) 2.55
<b>Wednesday, April 30</b>	
Minestrone soup	(cup) .65 (bowl) .85
Baked lasagna w/garlic bread	2.45
Ground beef & cheddar pie	2.45
Hot Deli: Corned beef	(bread) 2.30 (roll) 2.45
<b>Thursday, May 1</b>	
Beef barley soup	(cup) .65 (bowl) .85
Pepper steak over rice	2.45
Ham steak Hawaiian w/ 1 veg.	2.45
Hot Deli: BBQ meatloaf sandwich	(bread) 2.30 (roll) 2.45
<b>Friday, May 2</b>	
Boston clam chowder	(cup) .65 (bowl) .85
Broiled fish w/ 1 veg.	2.65
Fried clam plate w/ 1 veg.	2.45
Fettucini carbonara	2.45
Hot Deli: 4 oz. steak & onions	(bread) 2.30 (roll) 2.45

## Hospitality News

The next monthly get-together of the Hospitality Committee will be Tuesday, May 6, at 9:30 a.m., at the Brookhaven Center. Gillian Love, chairperson of the committee, will speak on Seminole Patchwork Quilting.

Wives of Lab employees, guests and visitors are welcome. Coffee, tea and danish will be served. Bring the children; babysitting will be provided free of charge.

## Bowling

### Purple League

High games were bowled by Al Pinelli 214, Mary Grace Meier 214, Ken Asselta 212/204/195/611 scratch, Gene Hassell 205/200, Tony Natoli 200, Marge Stoeckel 196, Sharon Smith 193, Lee Barberich 193/182, Pat Oster 182, Joyce Pinelli 182.

### Red/Green League

R. Larsen bowled a 225, L. Schairer 216, K. Asselta 215/212, H. Arnesen 215, J. Muller 212, C. Bachsmith 204, N. Combatti 204, J. Connelly 203, W. Cahill 201, J. Petro 200.

### White League

Jim Roesler rolled a 210, Ken Riker 210, Vito Manzella 196/195, Karen Vogel 187, Pat Manzella 178/172.

## Fast-Break at BNL

*Half-time is seconds away in this the final game of the Basketball League playoffs. Hollywood is in control of the ball and the game. Five-foot-nine-inch Hollywood Guard Ed A. Meier dribbles the ball down court and passes it to 5'7" Forward Rich Domenech, who passes it to Hollywood Captain and 6'2" Forward Greg Mack. Eighteen feet from the basket and with no time left on the clock, Mack turns, is off balance, but shoots anyway. The buzzer goes off. The ball hits the backboard and goes in. The basket is good. The score: Hollywood 33, Longshots 17 at the half.*

Hollywood went on to win the playoff game 58-49. They also had compiled a 9-2 record to win the Basketball League competition, as they have for the last three years. Says Greg Mack, who has coached the Hollywood team for the last three seasons, to win the regular season, but not the playoffs, "I really wanted this win. The team didn't have the best athletes — but we were the smartest and we worked together."

Hollywood was known throughout the season for its patient, deliberate offensive: After bringing the ball down court towards their basket, the Hollywood guards would maintain possession of the ball in the front court while waiting for an opening in the opposition's defense and setting up outside shots. And the team was noted for its zone defense, whereby each of the five men had a specific area to guard in front of the opposition's basket. "We were good at stopping the other teams' inside games — and they weren't as good outside shooters as we were," explains Mack.

Basketball, which was invented in 1891 and is the only major sport that originated solely in the United States, has been played at BNL since the Lab began. The four teams of the Basketball League begin full-court play in January and play Thursday nights through the playoffs in April. There are no formal practice sessions, though most of the League members play half-court pick-up games in the gym during lunch. Spectators are invited to attend the games, and refreshments are available.

While there are no tryouts to make the teams, a couple of scrimmage games are held to look at the abilities of the prospective players. "We try to balance the teams by ability, height and playing experience," explains Mac Thomas, BNL's Basketball Commissioner for the past two years. "The teams give everyone on the bench playing time."

## Anniversary Dance

The Afro-American Culture Club invites everyone to join them in celebrating their 5th anniversary. The festivities will take place at the annual Installation Dinner/Dance on Saturday, May 10, from 7 p.m. to 2 a.m. at the Brookhaven Center.

Continuous music will be provided by the MJB Jazz Band and D.J. "E.T." and delicious food will be prepared by Saga Foods. The bar is open.

The dress is "after-five attire," and ticket prices are \$22 per person. Space is limited so get your tickets early. No tickets will be sold at the door.

Contacts are: Sandra Dozier, Ext. 4933, Frances Ligon, Ext. 3709, Bruce Penn, Ext. 7213, Barbara Simpson, Ext. 7009, and Bettie Sylvester, Ext. 7711.

## I.B.E.W. Meeting

Local 2230, I.B.E.W. will hold its regular monthly meeting on April 28 at 6:00 p.m. in the Knights of Columbus Hall, Railroad Avenue, Patchogue. On the agenda will be regular business, committee reports and the president's report.

## Runners Corner

Over the next several months, the club will be entering men's, women's and mixed teams of all levels in local races. All members of the Lab community may participate.

The BNL Twosome Five-Mile Race for individual competitors and couples will be held on Sunday, May 25, 10 a.m. at the Lab. The race is open to all members of the Lab community, as well as the general public. Applications are available from Dean Chapman, Bldg. 510E, Ext. 4744. Volunteers are needed: If you would like to help with the race, please call Ext. 4744 or 2665.

## Swim Club

The Swim Club will meet on Thursday, May 1, at 5:15 p.m. at the BNL pool for individual coaching on any stroke and a workout afterwards. All those who can swim at least two laps of the pool without stopping using the crawl stroke are invited. The Swim Team will hold a practice on Thursday, May 8, at 5:30 p.m. For more information, contact Marsha Belford, Ext. 3327, or Peter Heotis, Ext. 2304.

To make sure the game is played according to the rules of the National Federation of State High School Associations and keep the peace among players, Guy Mastrion and John Ingoglia of the Recreation staff and official high school referees are used. The games are closely called, so there are no injuries, and technical fouls (for unsportsmanlike language and conduct) cost the disqualified player one dollar to be reinstated in the next game. "One player paid his fine in pennies," reports Thomas.

In the January 30, 1950, issue of the Bulletin Board, an ad to form a "girls' basketball team... (men's rules)" was placed under the headline "Girl Basketball Players Wanted." On March 13, 1986, 5'4" Guard Corinne Coughanowr was the first woman to play in the BNL Basketball League, formerly an all-male preserve, and she scored three points for the Longshots. "It's no big deal — I just love to play basketball," says Coughanowr. "It was nice the guys on my team gave me a chance to play — that doesn't always happen, and I did okay. I had an ankle injury, so I couldn't play for most of the season, but it was fun getting on the court when I could." Any other women who wish to play full court are invited to come out next year.

Running up and down a full court, which is 94 feet long and 50 feet wide, and trying to get the ball through the basket, which is elevated ten feet, can be exhausting, "especially for those over 35," says Bob Kowalski, a 5'5" Hollywood guard, who at 55 years of

age and 20 years with the Lab is the oldest and longest-playing member. What is called slow-break basketball, whereby the guards had to wait ten seconds after getting a rebound before bringing the ball down in front of their basket, was played until the early 70's. However, Kowalski prefers the fast-break game played now.

"I like a lot of movement — and there is constant movement in fast-break basketball," explains Kowalski. "Basketball is never boring — it is a fast-moving, intricate, thinking-man's team game that some have called poetry in motion."

Kowalski is happiest on the court when "I can feed the ball to the big guys who can score at the right time and place. Because of my size, being a guard is the natural position for me — the small guys are the quarterbacks of the team."

For those who would prefer a slower paced game, Thomas is trying to organize a slow-break league, in addition to the fast-break one, for next year. Those interested in playing in either league should call him in the fall at Ext. 2288. — Marsha Belford

## Hollywood Wins Playoffs

<b>Hollywood — 58</b>	<b>Longshots — 49</b>
G. Mack 11	L. James 7
R. Domenech 9	P. Brown 6
E. Meier, Jr. 21	J. Garrison 3
B. Gunther 4	R. Seymore 8
B. Jasper 1	L. Walcott 10
J. Powell 1	M. Colon 6
D. Hall 3	E. Taylor 3
D. Nordstrum 8	B. Johnson 4
	A. Anderson 2



Basketball League and playoff champions, the Hollywood team: (standing, from left) Dennis Nordstrum, Greg Mack, Bill Gunther, (kneeling, from left) Bob Kowalski and Ed A. Meier. Absent from the picture are Rich Domenech, Dennis Hall, Ken Rogers, Bernie Jasper and Jesse Powell.

# BROOKHAVEN BULLETIN

Published weekly for the employees of BROOKHAVEN NATIONAL LABORATORY

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## 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.

**SCIENTIFIC POSITIONS OPEN:** The following staff positions are open. Candidates may apply directly to the department representative named, or through the Office of Scientific Personnel, Ext. 3338.

**POSTDOCTORAL RESEARCH ASSOCIATE:** Protein Data Bank, to carry out statistical analyses of crystal structure data for proteins; to develop procedures to give reliable estimates of errors in atomic positions in proteins; and to study systematics of packing interactions. Proficiency in programming in FORTRAN is required. Contact: T.F. Koetzle, Chemistry Department.

**LABORATORY RECRUITMENT** - Opportunities for present Laboratory employees.

2425. CUSTODIAN, GROUP LEADER - (Temporary 5/27/86-10/5/86). Staff Services Division.

2426. RESIDENCE CUSTODIAN - (Temporary 5/27/86-10/5/86). Staff Services Division.

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

2427. TECHNICAL POSITION - Requires AAS in mechanical technology or equivalent experience. Will perform a variety of functions including maintaining, installing, testing and trouble-shooting of technical equipment and facilities. Must be able to obtain a "Q" clearance. Reactor Division.

2428. ENGINEERING POSITION - Requires MS in engineering or its equivalent and a strong background in either reactor operations or reactor design and maintenance, preferably at DOE reactor facilities. Should be familiar with NRC criteria and nuclear standards, codes and guides. Must be able to obtain a "Q" clearance. Reactor Division.

### Autos & Auto Supplies

82 HONDA CIVIC WAGON - silver, 5 spd., a/c, am/fm cass., 33 mpg, 50k mi., well maintained, records avail. 325-9510 after 6 p.m.

83 CHEVY CAMARO - V6, white, am/fm stereo, p/s, p/b, 21k mi., immac., \$7,295. 325-1686 after 6 p.m.

PARTS - 78F350, 4 spd., trans., \$150; 69 Ford, 360 V8, reb.; 1948 F-1 pickup, whole or parts. 473-5890 after 7 p.m.

82 DIRT BIKE - RM125, reb., very good cond., \$595. S. O'Kula, Ext. 4446 or 722-4821.

SHOP MANUALS - 76 and 77, Honda Civic CVCC, \$5. Ext. 4095 or 477-2269 after 5:30 p.m.

85 KAWASAKI - 110 ATV, excel. cond., low hrs., separate front shield, \$700. 751-7140.

76 OLDS - 4 dr., 350, a/c, new trans., tires & exhaust, \$850. Kevin, 563-1189.

78 PLYMOUTH HORIZON - white, 4 dr., h/b, 112k mi., best offer. Dan, Ext. 2319.

TIRES - new, Uniroyal Tiger Paw, 235-75R15MS, \$35 ea. Tony, Ext. 2462.

75 BUICK LE SABRE - 65k mi., fully loaded, immac. cond., mech. perfect, \$2300. 924-3236.

81 DATSUN 210 - 4 dr., a/c, a/t, am/fm cassette, \$2,500. 286-2205.

76 CHEVY BLAZER - 4x4, new lift kit, exhaust, brakes, excel. cond. 226-1910.

78 SHASTA TRAILER - 30', 5th wheel, \$10,500; 77 Ford F250, \$12,500. 475-0091 after 3 p.m.

81 YAMAHA SPECIAL - 650 cc, 900 mi., (2) helmets, \$950 firm. 878-1481 after 5 p.m.

72 YAMAHA - 250 cc, needs some minor work, \$125. Roy, Ext. 4664 or (212) 691-4396.

81 BUICK SKYLARK - 6 cyl., a/c, am/fm, excel. cond., 45k mi., \$3,800. Roger, Ext. 2384.

74 DATSUN PICKUP - w/cap, excel. cond., new tires, exhaust, clutch, no rust, \$1,295. Ted, Ext. 7992 or 821-2569.

78 BUICK REGAL - red, turbo, mint cond., loaded, new tires, muffler. Samuel, 399-1349 eves.

73 MERCURY COUGAR XR7 - a/t, p/s, p/b, a/c, p/w, am/fm stereo cassette, excel. cond., \$1,800. Barry, Ext. 5624 or 727-5956 eves.

79 MONTE CARLO - mech. excel., \$1,200 or trade for pickup truck; 73 CHEVY LUV pickup, good transp., will sell parts, new motor + trans. 234-0538.

78 FORD FIESTA - gray, 4 spd., 30 mpg, runs well, \$850. Colleen, 929-3573.

80 POPUP - sleeps 6, sink, stove, heater, ice box, \$1,500. 399-0828.

84 NISSAN KING CAB - 4x4, p/s, p/b, custom cap, stereo, many extras. 728-6890 after 5:30 p.m.

80 HONDA PASSPORT C70 - elec. start, 130 mpg, low mi., mint cond., \$500 firm. 878-2810.

76 MERCURY MONTEGO - new tires, brakes, exhaust system, etc., very good cond., \$1,200. 281-8031.

78 FORD FAIRMONT - p/s, p/b, a/c, 3 spd., 100k mi., \$1,700. Ramesh, Ext. 4805 or 924-8113 eves.

75 AUSTIN MARINA - 4 dr. sedan, 4 cyl., 4 spd., am/fm stereo, good running cond., 25 mpg, \$700; (2) snow tires for Honda Civic, small cars, like new, \$30. Pan, Ext. 3537.

TRANSMISSIONS - Chevy 4x4, 4 spd.; Chevy 3 spd.; Pinto 4 spd. John, Ext. 2172 or 744-4386.

78 CADILLAC FLEETWOOD BROUGHAM - like new, a classic. \$3,995. 475-4596.

SUZUKI GS250T - 10k mi., extras, excel. cond., \$649; custom fiberglass truck cap for Toyota short bed, \$249. Jack, Ext. 4411 or 929-8287.

77 PLYMOUTH ARROW 200 - 41k mi., 5 spd., a/c, radio, excel. cond., \$1,500 or best offer. Ext. 2611 or 751-4098 after 6 p.m.

TRAVEL TRAILER - 17-1/2 ft., new tires & brakes, sleeps 6, self-contained, \$2,300, neg. Ext. 4988 or 325-0743.

REAR WING - & spoiler, (3) pieces, for Firebird, complete, \$60. Ken, 473-7460.

75 CHEVY MALIBU - 4 dr., a/t, a/c, p/s, p/b, stereo, runs well, some body work, \$250. Ext. 5196 or 3233 after 6 p.m.

76 TOYOTA CELICA ST - a/c, am/fm, white/-brown roof, good cond., \$850. 281-2040.

85 VW QUANTUM WAGON - 5 spd., a/c, am/fm, roof rack, 7k mi., \$12,000. Ext. 5512 or 744-1176.

73 CHEVY TRUCK PARTS - fenders, doors, hood, reas. 475-7272 after 6:30 p.m.

84 PLYMOUTH HORIZON - 4 dr., p/s, p/b, a/t, a/c, stereo, 13k mi., \$4,800. Ext. 4692 or 878-2040 after 6 p.m.

67 CHRYSLER - convert., new top, seats, p/s, p/b, p/w, a/t, 383 V8. Tony, 698-9274.

80 CHEVELLE - am/fm, 2 dr., 80k mi., runs well, \$1,500. Ext. 5512 or 744-1176.

79 CHEVY PICKUP - 4 WD, 350 V8, p/s, p/b, a/t, good cond., \$4,300. Don, Ext. 3511.

72 PLYMOUTH DUSTER - p/s, p/b, 6 cyl., \$550; 79 FORD FAIRMONT, p/s, 4 cyl., \$1,400. Ines, Ext. 3449 or 3092 eves.

74 MUSTANG II - eng. runs, some new parts, \$100. Ken, Ext. 5042.

73 HORNET - a/t, a/c, am/fm, best offer over \$400. Jerry, Ext. 7427 or 475-5591 after 5 p.m.

80 SUZUKI GS850L - 9k mi., windshield, new batt., tank bag, excel. \$1,500. 924-4749.

75 PLYMOUTH VALIANT - 6 cyl., 4 dr., very good running cond., \$600 or best offer. Ext. 4099 or 689-9214.

80 CHEVY MONZA - 4 cyl., 4 spd., h/b, good cond., \$1,200. Rich, Ext. 4482 or 277-1129.

FIBERGLASS CAP - for 8' bed, sliding front window, roof vents, excel. cond. 325-0447 after 6 p.m.

75 GRANADA - 4 dr., 6 cyl., excel. running cond., 130k mi., manual, am/fm w/4 speakers, \$350. Ext. 4785 or 475-1844.

76 KAWASAKI KE175 - good cond., w/extras; 77 HONDA XL75, \$75. Ext. 4597 or 924-8213 after 5 p.m.

CHEVY WHEELS - (4), Rally Sport rims, 14x7 w/center cap, \$100; (2) Dunlap GT Qualifier radial tires, 215/70x14, plenty of tread, \$15 ea. Glenn, 281-7873.

73 MERCURY MONTEGO - 475-9452 after 5:30 p.m.

83 DODGE ARIES - 4 dr. sedan, a/c, p/b, p/s, a/t, c/c, am/fm stereo, excel. cond., \$4,290 neg. Bob, Ext. 5308 or 878-1731.

81 SUZUKI RM60 MC - excel. cond., CLB, \$500. 878-1178.

FIRESTONE TIRES - all season radials, w/w, 205/75R14, almost new, \$70. 289-9794 after 6 p.m.

77 CHEVY CAPRICE - good cond., reliable, a/t, a/c, p/s, p/b, p/w, am/fm, 59k mi., \$2,500. 289-3782.

77 DATSUN B210 - 4 spd., reg. gas, a/c, no rust, new front end, excel. cond., \$1,700. 928-4683.

81 CHEVETTE - 35k mi., 2 dr., clean, 4 spd., am/fm cass., \$1,900. Joe, Ext. 4201.

78 NOMAD - 20' trailer, fully self-contained, sleeps 6, excel. cond., \$3,800. Ext. 4459 or 751-2095.

83 HONDA STATION WAGON - a/c, roof rack, undercoat, rustproof, 5 spd., mint cond., extras, \$5,500. Ext. 7585 or 261-4155 after 6 p.m.

TIRES - rims, caps, (2), Sears Roadhandler SR P185/75R14, w/w, on 14" Toyota rims, excel., \$125 pr. Lloyd, Ext. 3381 or 286-1024.

75 OLDS DELTA 88 - p/b, p/s, a/t, a/c, runs well, rel., \$600. Ext. 2788.

75 IMPALA - 8 cyl., a/t, p/s, p/b, a/c, am/fm, 72,500 mi., body good, recent tuneup, \$875. Ext. 4118 or 928-5714.

### Boats & Marine Supplies

28' OWENS - sleeps 4, stove, sink & head, 327 CI eng., needs some work, new canvas & hardtop, \$1,800; 14' glass Silverline runabout, 33 HP Johnson, steering, controls, trailer, \$800. 281-0360 after 6 p.m.

19' MFG - 1980, 70 HP Johnson, Tee Nee trailer, lines & cushions, \$2,300. Gerry, Ext. 3694 or Bob, 281-8296.

16' POLARIS - fiberglass, aux. sloop, Atomic 4, 7 sails, incl. spin., furling genoa, extras, \$7,500. Ext. 4368. leave message.

19' TRI-HULL - Evinrude, fiberglass, trailer, \$1,250, will sell separately; 21' Shardy, Storm King, \$500. 732-3707.

SAILFISH - excel. cond., yellow, \$450. Ext. 3428 or 427-6739 eves.

26' PEARSON - 1972, 15 HP Evinrude, 5 sails incl. spinnaker, d/f, VHF, extras. Ext. 4099 or 689-9214.

INFLATABLE BOAT - 5-person, 1,200 lb. cap., w/20 lb. Minnkote elec. motor 12 V batt., (1) pair oars, \$600. 467-1014.

23' O'DAY - 1980, 7.5 HP Honda, 6 sails, full race equip., keel ctr. bd., electronics, extras, excel. cond., \$15,400. Lloyd, Ext. 3381 or 286-1024.

15' REINHELL TRIHULL - 1972, 1973 85 HP Evinrude, galv. trailer, good cond., \$1,700. 924-7489.

### Miscellaneous

UPRIGHT FREEZER - 16 w. ft. Westinghouse, old but good mech. cond., \$65. Gerry, Ext. 3694 or Bob 281-8296.

KEROSENE HEATER - 22,000 Btu, used one season, new cond., \$70. Richard, Ext. 4134.

ROTISSERIE BROILER - Farberware Openhearth, like new, make offer. 473-7667.

CANNA - President, large scarlet flowers and green leaves, \$4 ea. Bob, 732-9517.

BMX RACING BICYCLE - Diamond Back Formula 1, excel. cond., w/pads, \$175. 722-4821.

RIDING BOOTS - leather, size 7, brand-new. Anne, Ext. 3563.

TARP - plastic, carbon, fiber reinforced, 20'x30', excel., \$25. Ext. 4745 or 722-4076.

COLOR TV - 25" console, tube-type, works, \$20; bench press w/wts., \$20; electronic organ, \$200. Russ, Ext. 3059 or 698-9364.

DINING ROOM SET - chrome & glass table, (4) upholstered chairs, \$250; 25" Magnavox console color TV, \$150. 234-1480.

DINETTE CHAIRS - (4), chrome swivel base with blue bucket style seats, \$35; kitchen set, oval table w/leaf, walnut formica, (4) chairs, \$40. Ken, Ext. 4421 or 744-0722.

FLOWERS/VEGETABLES - 4 & 6 pack, large selection, del. week of 5/13. 80¢ pack. Ray, 727-6818.

HIDE-A-BED COVER - two wedge pillows w/covers, navy blue, \$22; 8" table saw, never used, w/motor, \$30. Wait, Ext. 7154.

BAKER/BROILER - Sears, auto., rotisserie, excel. cond., \$20. 924-3236.

CANISTER VACUUM - Hoover Celebrity, w/ attachments, very good, paid \$200, sell for \$50. 744-9677.

GARAGE DOOR - wood w/some glass, 6'6" Hx8'W, w/hardware, very good cond., \$50. Tom, Ext. 4084 or 878-1060.

PIANO - Lester, very good cond., lamp bench, \$250. Diane, Ext. 3671.

COMPUTER MONITOR - 14" color RGB TOEI, for IBM or Commodore, \$175. Roy, Ext. 4664 or (212) 691-4396.

PUMP - 1/2 HP, shallow well, Rapidayton, excel. cond., \$50. Ext. 2705 or 286-1062.

MAGNAVOX STEREO - hi-fi console, \$125; Wuritzer organ, spinet, cherry, multimitic percussion, \$750; Vespa Bravo moped, Super Deluxe, Class B, excel. cond., \$450. Lloyd, Ext. 3381 or 286-1024.

ROUND POOL - 15', w/filter, ladder, winter cover, will help dismantle, \$200. 475-2598 after 5 p.m.

DRESSING TABLE - 1930 period, triple mirror, 6 drawers, \$225. 473-9180 after 3:30 p.m.

LAMPS - Colonial, pine, & brass, excel. cond., \$85. pr. Karen, Ext. 4262.

GE AIR CONDITIONER - good cond., \$75. Pan, Ext. 3537.

FOOD PROCESSOR - Cuisinart DLC 8 plus, almost new, cost \$190, sell for \$100. Rachel, Ext. 3129.

BICYCLE - BMX Cyclepro Shotgun, chromalloy, maxy cross cranks, snake belly tires, extras, mint cond., \$125. 473-2473.

MEN'S BICYCLE - 10 spd., 27", \$30. Artie, Ext. 4988 or 325-0743.

CRIB - \$25; child's car seat, \$10; Umbroller, \$10. Peter, Ext. 7687 or 744-1112.

SEARS AIR CONDITIONER - 11,000 Btu, very good cond., \$150. John, Ext. 5152 or 281-2471.

WHITE GAS RANGE - \$50; Colonial console stereo radio cabinet, excel. cond., \$25. 472-2680.

COLOR TV - 19" R/C, \$200; vacuum cleaner, \$125, both w/warranty; spray-steam iron, w/warranty, \$10; 9-drawer dresser, \$50. Ext. 3677 or 744-1176.

HUFFY H1054 LAWN TRACTOR - 8 HP, pull start, B&S, 26" cut, tuned up, \$450. Ext. 3428 or 427-6738 eves.

BABY CARRIAGE - good cond., \$20. Walter, Ext. 3988 or 567-9025.

SOFA - gold, excel. cond. Ext. 4192 or 751-7787.

STEREO CASSETTE PLAYBACK DECK - auto-reverse, use through any stereo system, receiver, etc., \$35. Tebbutt, Ext. 3293 or 751-7408 after 3 p.m.

MUSICAL ROCKING CHAIR - all wood, good cond.; elec. train & car sets. S. Spark, Ext. 4111.

POOL TABLE - good cond. 325-0447 after 6 p.m.

GE REFRIGERATOR - 19 cu. ft., white, clean, \$75. Joel, Ext. 2760 or 399-2018.

END TABLES - (2), coffee tables, honey pine, \$175. 289-3667 after 7 p.m.

GE TOASTER OVEN - small, works well, \$10; spice rack w/18 bottles, \$10. Mike, Ext. 2705.

SEARS CAMERA - 35mm, auto 500, wide angle, telephoto, flash, \$15. Ext. 4612 or 928-6469 after 5:30 p.m.

HIDE-A-BED COVER - & (2) wedge pillows w/covers, navy blue, excel., \$25. Wait, Ext. 7154.

GE REFRIGERATOR/FREEZER - harvest gold, 30"Wx65"Hx24"D, like new cond., \$200. 473-1456.

SEARS LAWN MOWER - 20", push type, side grass catcher, good cond., \$30. Ext. 4459 or 751-2095.

FLUE HEAT RECOVERY DEVICE - \$30; metal file box, \$6; new wallpaper, \$8 ea. Susan, Ext. 4267.

BUFFET RANGE - 1 kw, like new, \$9. Ext. 3187.

### Free

BACKYARD TRAMPOLINE - 14'x7'. Don, Ext. 3942 or 286-2267.

TIME MAGAZINES - several years. Norma, Ext. 2370.

### Lost & Found

LOST - gold chain bracelet, on 4/16 in pool locker area or vicinity, reward. Ext. 7108.

### Yard Sales

BELLPORT - 90 Country Club Rd., 4/26-4/27, 9 a.m. to 4 p.m.

PATCHOGUE - 56 S. Summit, 4/26-4/27, furniture, dishes, baby/children clothes, books, truck parts, rugs, chairs, bottles.

HOLBROOK - 4/27, contents of home. 472-1014.

### Real Estate

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

### For Rent

MANORVILLE - studio cottage, sun deck, very secluded, 5 mi. from Lab, summer only. 878-8294.

N. SHIRLEY - studio apt., furn., w/kit., priv. ent., 1 non-smoking person, no pets, 5 min. from Lab. & stores, security, \$400 mo. incl. util. 281-8044.

WHITE MOUNTAINS, NH - 3 bdrms., 2 baths, riverfront condo., cable TV, f/p, priv. deck, pool, tennis, clubhouse, jacuzzi, shopping, golf, July-August, \$425 wk., June-September, \$390 wk. (914) 232-4039.

N. SHIRLEY - 1-2 bdrms., basement apt., lg. kit. and l/r, \$500 mo. + util. Ext. 3573.

MYRTLE BEACH - oceanfront condo., new, 2 bdrms., 2 full baths, sleeps 6, indoor/outdoor pools, spa, gym, golf courses, balcony view. 584-7258.

SPRING HILL, FL - 2 bdrm. house in planned community, off-season rates, weekly or monthly, near many attractions. Ext. 4530 or 261-2719.

BERKSHIRES CHALET - 3 hrs. from NYC, 3 bdrms., 2 baths, fully equipped kit., elec. heat, deck w/spectacular view, near lake, hiking trails, 1/2 hr. from Tanglewood Theater. 929-6946 after 6 p.m.

ENGLEWOOD, FL - 2 bdrm. condo., on Gulf, beach, pool, tennis, \$300 wk.. 744-9746 eves.