



# BROOKHAVEN BULLETIN

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## Radiation Therapy Use Studied At AGS

An experimental group in the Accelerator Department has studied the capability of the AGS for production of low energy negative pions, which are of interest in radiation therapy treatment of cancer. The experimental results indicate that the AGS can, at present intensity, produce  $\pi^-$  beams with adequate flux for clinical use.

The data were recently reported at the Particle Accelerator Conference in San Francisco by Dr. Wing-Chee Lam, Accelerator Department, and will be further discussed at the St. Louis meeting of the Radiation Research Society by Dr. William Chu, a research collaborator with the BNL group from Loma Linda University, California. Also participating in the BNL experiment were D. Berley, L. Blumberg, D.C. Bonar, R. Fairchild (Medical Dept.), J.D. Fox, D. Lazarus, Y.Y. Lee, C.L. Wang, and research collaborators A. Kanofsky of Lehigh University and M. Blecher of Virginia Polytechnic Institute.

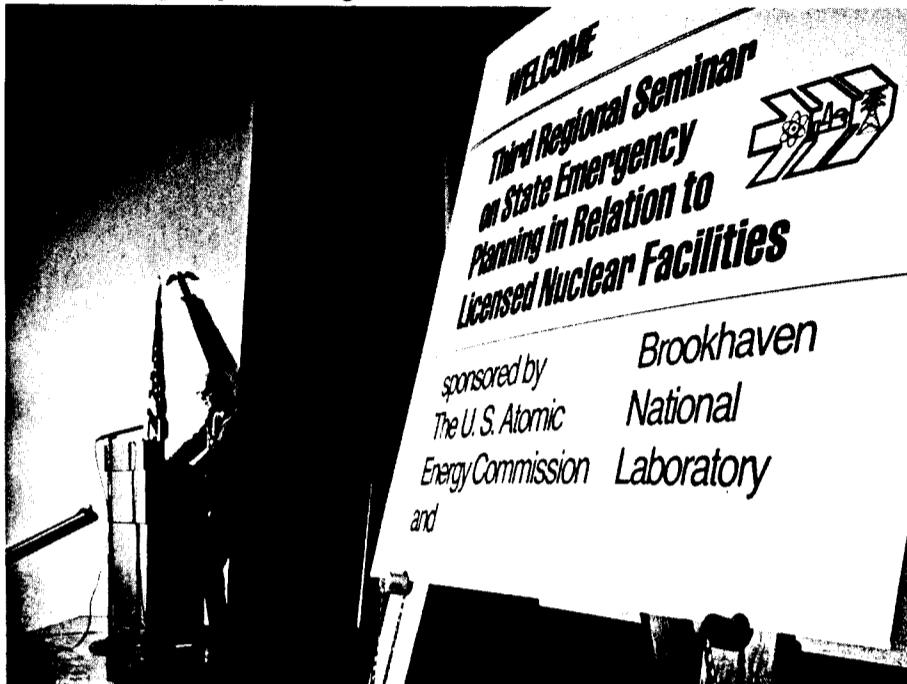
The probability of  $\pi^-$  radiation therapy was first suggested in 1961 by P. Fowler and D. Perkins in England. They noted that, when negative pions stop within matter, they are usually captured by a nucleus in a time short compared to their 26 nanosecond mean life for decay. The entire 140 MeV rest energy of the pion is then available as excitation energy in the resulting nucleus, which subsequently disintegrates into numerous fragments - a so-called pion "star" - with release of a large amount of energy in the form of highly ionizing particles.

Fowler and Perkins pointed out that if the pion beam stops within a tumor, the destruction of tumor cells would appreciably exceed the damage to healthy cells in surrounding tissue. They also noted that the presence among the disintegration products of fragments heavier than protons would enhance the therapeutic value of pions, in that heavy ions have a greater biological effectiveness per unit dose for producing cell damage than do protons or gammas.

Heavily ionizing particles are also expected to be more effective than present methods in the oxygen-deficient environment of the tumor. Subsequent estimates by Dr. L. Rosen of Los Alamos indicate that  $\pi^-$  therapy should be a factor of ten improvement over the present  $\text{Co}^{60}$  gamma irradiation in the ratio of tumor to healthy cell damage. A thorough review of the expected advantages was conducted for the AEC in 1970 by a panel of eminent radiation therapists and biologists under the chairmanship of Dr. V.P. Bond, BNL Associate Director.

The BNL data indicate that a dose rate of 36 Rads/minute can be delivered to a 1000  $\text{cm}^3$  tumor volume at present maximum AGS intensity using a pion beam designed by the Los Alamos staff. This dose rate is comparable to that expected at the Los Alamos Linear Accelerator (LAMPF) when it is fully operational. Typical therapeutic doses are expected to be 200 Rads per irradiation. Additional radiation studies on cell culture and animal systems would be required to establish dose schedule and other parameters before real ther-

## State Emergency Planning Conference



Associate Director Victor P. Bond welcomes participants in the week-long seminar on emergency planning held at Berkner Hall from March 19 through March 23. Attendees came from all areas of the United States, and participated in a full schedule of presentations and discussions which will culminate in a simulated "incident" on Friday morning.



Marshall Sanders, Chief of the Earthquake Planning Group, Office of Emergency Planning, responds to questions from the floor after his presentation on Federal Agencies Responsibilities for Fixed Nuclear Facilities Incident Planning.

## Switchboard Hours

Beginning at 11 p.m. on March 30 and continuing until further notice, the telephone switchboard will be closed from 11 p.m. to 7 a.m. each night as well as on holidays and weekends. It will be open from 7 a.m. to 11 p.m. on workdays.

After 11 p.m. dialing "O" for operator assistance will not be possible. Police headquarters will be open all night, and available by calling Ext. 2238.

The emergency phone numbers; 2222 for Medical, 3333 for Fire, and 4444 for Police emergency are still operable at all times, day or night.

apy with human subjects would be possible.

Radiation therapy facilities are presently under construction at LAMPF as well as at the high intensity AVF cyclotrons under construction at Zurich, Switzerland and Vancouver, B.C., Canada.

## Layoff Notice Given To Lab Staff Members

Employees were notified on Friday, March 16, that the staff of Brookhaven National Laboratory would be reduced by approximately 200 employees.

In the memorandum distributed to all employees, Dr. George Vineyard, Laboratory Director, said: "My memorandum to you of February 7 stated that an overall reduction in the operating budget for the coming fiscal year, coupled with increased costs of operation, would require a reduction in staff of approximately 225 employees.

"Further careful assessment has shown that the total reduction, including voluntary terminations, will be approximately 200 employees. With few exceptions, employees subject to involuntary termination have been notified today and will be terminating on March 30."

## Record Intensity With Ion Source

Three physicists with the Accelerator Department, Al Maschke, Krsto Prelec, and Theo Sluyters, who call themselves "The Plasma Group" have succeeded in producing more than one milliamper negative hydrogen beam, extracted directly from a hollow ion source.

The physicists claim that this intensity is an order of magnitude larger than from any duoplasmatron in the western world. They are further convinced that they can boost this intensity by another order of magnitude in the near future.

They were assisted in this project by several other people including Lou Repeta and his team, Bob Larson, Ron Clipperton, Tod Whitaker and the Machine Shop.

## Cotzias Receives 19th Hunter Award

The Oscar B. Hunter Award in Therapeutics was awarded to Dr. George C. Cotzias of the Medical Department, at the 74th Annual Meeting of the American Society for Clinical Pharmacology and Therapeutics in New Orleans on March 22.

The award was given to Dr. Cotzias for his discovery of the therapeutic effects of the drug L-Dopa in the treatment of Parkinson's disease.

The Hunter Award was established in honor of Dr. Oscar B. Hunter, who for many years was the guiding spirit of the American Therapeutic Society in the furtherance of the society's objectives in the field of experimental therapeutics. The first Hunter Award was made in 1955 to Dr. Jonas E. Salk.

## Power Off Tomorrow

Most of the buildings in the southeast section of the Laboratory will be without power from 8 a.m. to 4 p.m. on Saturday, April 24. The shutdown is required for connection of a replacement 2300-volt cable on Center Street.

Because the Citgo gas station is located in this area, it will be closed for the entire day, and will reopen on Monday morning.



Dr. Clifford K. Beck, Director of the Office of Government Liaison - Regulation, was the keynote speaker of the Third Regional Seminar on State Emergency Planning in Relation to Licensed Nuclear Facilities.

## Stony Brook Events

Two theatrical productions highlight a week of activities at the State University of New York at Stony Brook. Unless otherwise noted, all events are free and open to the general public.

### Friday, March 23

Clarinetist Jack Kreiselman, one of the University's 14 Performing Artists-In-Residence, is featured soloist at a chamber concert beginning at 8:30 p.m. in Lecture Center Room 105; admission is \$1.50.

COCA will show the film "Carnal Knowledge" at 7 p.m., 9:30 p.m. and midnight in Lecture Center Room 100 on Friday and Saturday. A limited number of tickets will be available at the door for \$1.

The Student Activities Board will present an informal concert with Orleans at 7:30 p.m. on Friday and Saturday in the Stony Brook Union Auditorium.

### Sunday, March 25

The University's Brass Ensemble will present a concert of Brass Music at 3:30 p.m. in Lecture Center Room 105.

The International Art of Jazz Council will present the All-Star Band of Gill Evans beginning at 4 p.m. in the Ballroom of the Stony Brook Union. Admission is \$3 for the general public, \$2 for students.

COCA's Sunday film series features the film "Husbands" at 8 p.m. in Lecture Center Room 100; admission is 50 cents.

### Tuesday, March 27

The Music Department's Spring Artist Series presents a concert with Nora Post playing Oboe at 8:30 p.m. in Lecture Center Room 105; admission is \$1.50.

Two gangster films share the bill at Tuesday Flicks beginning at 8 p.m. in the Stony Brook Union Theatre. Creating roles that both set a trend and provided material for a generation of mimics, Edward G. Robinson stars as "Little Caesar" and James Cagney plays the tough guy in "Public Enemy."

### Thursday, March 29

The Center for Continuing Education will show Vittorio DeSica's film "The Condemned of Altona" at 8:30 p.m. in Lecture Center Room 100. Starring Sophia Loren, Maximilian Schell, and Frederic March, the film is an analysis of Nazi war crimes expressed in the lives of a cynical Prussian industrialist and his family.

Pulitzer Prize winning poet and Stony Brook Professor Louis Simpson will give a poetry reading at 8:30 p.m. in the Kelly Cafeteria Lounge.

An experimental musical play, "Evolution," will be presented at 8:30 p.m. in the Stony Brook Union Theatre. This original play was written and directed by Theatre Arts student Frank Catalano; the production has an all-student cast.

The University's Theatre Arts Department present Michel de Ghelderode's play "Miss Jauris - A Mystery in Four Tableaux" tonight at 8 p.m. Directed and choreographed by Assistant Professor of Theatre Arts Cecily Dell, this joint faculty-student production will be staged in the University's Calderone Theatre in Building B on the South Campus. No tickets or reservations are required.

## BERA Sales and Services

The BERA ticket service, located at the cafeteria has the following tickets available for the Metropolitan Opera for the month of April.

Tues.	April 3	Pique Dame
Thurs.	April 5	Der Rosenkavalier
Mon.	April 9	Der Rosenkavalier
Tues.	April 10	Romeo Et Juliette
Thurs.	April 12	Lucia D. Lammermoor
Mon.	April 16	Romeo Et Juliette
Tues.	April 17	Il Trovatore

In addition, we have discount exchange tickets for the Ringling Bros. Barnum and Bailey Circus at Madison Square Garden for March 27 & 29 and April 3, 4, 5, 10, 11 & 12, and for the International Automobile Show at the New York Coliseum for April 7 - 15.

You may also pick up your mail order coupons for the Ice Follies at the Nassau Coliseum and your free Disney World discount coupons.

## Post Conference Visitors



Thirteen foreign visitors to the San Francisco Particle Accelerator Conference toured Brookhaven on March 14. After a discussion of the AGS and the 200-MeV linac led by Leroy Blumberg, Hugh Brown, (right) briefed the visitors in the AGS control room.



Tore Wikberg, CERN, (left) got an inside view of the AGS, guided by William Sampson.

## Young Boatman's Course

Youngsters in the Three Village, Port Jefferson, Centereach and Miller Place area who are between the ages of 10 and 15 inclusive and are interested in taking the free four-session N.Y.S. Young Boatman's Course, may do so beginning at the end of March.

The four sessions will be conducted on Friday evenings from 7 to 9 p.m. in the Port Jefferson Village Hall, which is across the street from the Marina in Port Jefferson. The class is sponsored in the fore-mentioned area by the Old Field Point Power Squadron with the cooperation of the Village of Port Jefferson. The dates are March 30, April 6, 13, and 20.

N.Y. State law requires any youngster between the ages of 10 and 15 to pass the Young Boatman's Course in order to operate a motor boat in New York. A "Safety Certificate" will be issued to all youngsters who successfully complete the course and pass the examination at the end of it.

There is absolutely no charge for the course and the student textbooks are provided free to the students by the N.Y. State Motorboat Division.

## Selected Reading

- Atom No. 196, February 1973  
The changing role of Harwell. R.M. Longstaff. 41-4+
- Nuclear power - the future. 46-62
- Int. At. Energy Ag., Bull. 14, No. 6, 1972  
A history and a forecast of nuclear developments in Argentina, 2-9; Canada, 10-15; Federal Republic of Germany, 16-23; France, 24-30; India, 36-44; United Kingdom, 46-53, U.S.A., 56-62.
- Nature 242, March 2, 1973  
Energy from above and below. 6-7
- New Sci. 57, March 8, 1973  
Nuclear establishment at the watershed? M. Kenward. 539-41
- Plowshare's death rattle at Rio Blanco. G. Chedd. 544-5
- Phys. Today 26, March 1973  
New channels for White House science advice. 97+
- Sci. Amer. 228, March 1973  
The prospects for a stationary world population. T. Frejka. 15-23
- New Yorker, March 10, 1973  
Profiles: Albert Einstein, I. J. Bernstein. 44-8+

## In Search Of A Character

Agatha Christie's *The Spider's Web*, which is the spring production of the Theater Group, has been cast except for the role of Hugo, one of the major characters. Director Pat Towey would like readers to audition for the part. She may be contacted at her home, 924-3722.

Anyone interested in joining the production staff is also urged to call Pat.

## IAEA Openings

IAEA openings for specialists in various fields are available in Latin America, Zambia and Korea for periods of one month to one year. Details are posted at the Office of Scientific Personnel, 40 Brookhaven Avenue.

## EMERGENCY PHONE NUMBERS

Medical	2222
Fire	3333
Police	4444

## Cafeteria Menu

### Week Ending March 30, 1973

<b>Monday, March 26</b>	
Chicken Soup	
Barbequed Roast Pork & 1 Veg.	.99
Jumbo Knackwurst & Sauerkraut w/Mashed Potatoes	.90
Macaroni & Chopped Beef, Spanish Style & 1 Veg.	.90
<b>Tuesday, March 27</b>	
Puree of Split Pea Soup	
Beef Stew Casserole w/Biscuit Crust	.99
Southern Fried Chicken & 1 Veg.	.90
Stuffed Cabbage & 1 Veg.	.90
<b>Wednesday, March 28</b>	
Vegetable Soup	
Beef Hash w/Chili Sauce & 1 Veg.	.90
Broiled Link Sausage w/Scrambled Eggs & French Fries	.90
Seafood au Gratin Casserole	.95
<b>Thursday, March 29</b>	
Cream of Mushroom Soup	
Beef Chop Suey on Rice	.90
Sliced London Broil & 1 Veg.	1.05
Cheese Omelet w/Bacon Strips & French Fries	.85
<b>Friday, March 30</b>	
Manhattan Clam Chowder	
Fried Fillet Sole w/Tartar Sauce & French Fries	.99
Codfish Cakes & Spaghetti	.90
Baked Beef Loaf w/Savory Gravy & 1 Veg.	.90

## World Of BNL

The coming week's schedule for the Laboratory's own radio program, the World of BNL, with host Norb Dernbach, is as follows:

### Sunday, March 25

"Sharks" - Dr. Arland Carsten at 8:00 a.m.

WRCM-FM (103.9), Riverhead  
WHRF-AM (1570), Riverhead at 11:00 p.m.

WGLI-AM (1290), Babylon

### Tuesday, March 27

"Meteorology" - Part I at 10:00 a.m.

WSHR-FM (91.9), Lake Ronkonkoma

## CREF Unit Values

1972			
January	\$48.27	February	\$50.49
March	51.36	April	51.80
May	53.74	June	51.80
July	51.15	August	51.95
September	50.98	October	50.80
November	52.53	December	53.25

1973	
January	\$50.36
February	\$47.11

## In Memoriam

Anna Kokinelis, a technician in the Department of Applied Science, who was employed at the Lab since January, 1963, died on Friday, March 16. She is survived by her husband, Anthony, of the Accelerator Department, and three children.

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Published Weekly for the Employees of Brookhaven National Laboratory

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NORBERT J. DERNBACH  
Public Relations Officer

## BNL Scotch Doubles Tourney Is Go!

Enough team entries have been achieved as of this date to insure that there will be a tournament! All that is now left to do is to fill out the house, and have an "All BNL night" at Port Jefferson Bowl.

For only \$10.50 per team, it will be possible to have a fun night with friends. Each team will have four games, an excellent hot and cold buffet, dancing starting at 9:30 p.m., Door prizes, and a chance for the first place award of two trophies and six bottles of scotch!

As an added attraction, from Las Vegas, Puerto Rico, Miami, and TV, Morty Gunty will be appearing in the lounge for the evening's entertainment. According to Ed Arnold, proprietor of the PJ Bowl, Morty's show is one of the best he has seen!

Entries are limited to the first 64 teams, so don't wait too long and be left out in the cold. If your spouse does not bowl, take her along for the buffet and entertainment for only \$3.00. A call to either Helen Caisey, Ext. 3481, or Kit D'Ambrosio, Ext. 3830, will get you a partner for the bowling.

Tournament entry blanks are available at the Sales and Service Center in the Cafeteria. Saturday, April 14, at the Port Jeff Bowl starting at 6:15 p.m. is when the tournament starts. Call Jim Petro on Ext. 4421 for any additional information.

## Film Service News

To help you take beautiful pictures every time you use your camera, read these helpful hints carefully each week and avoid the most common picture taking mistakes.

Now that you have followed last week's tips on picture-taking, we will go one step further and answer the three most commonly asked questions.

### 1. Washed out color prints?

Film outdated or stored where it is hot or humid yields washed-out, greenish pictures. Use fresh film (before date printed on carton) and have it processed promptly. Store film and camera where it is cool and dry - NEVER in a closed automobile compartment or on the back-window shelf.

### 2. Your flash didn't fire?

The most frequent cause is battery contacts need cleaning. To clean battery ends and contacts in camera or flash holder, rub them with a pencil eraser or wipe them with a rough cloth. Use fresh live batteries, since weak batteries are often the cause of flash failure.

### 3. "Red Eye" Reflection?

"Red Eye" is a reflection of flash illumination from the interior of the eye when the pupil is dilated. To help avoid pupil dilation, causing "red-eye" turn on all the room lights when taking a flash picture and ask the subjects not to look directly at the camera but off to one side. Or if your camera accepts flashcubes, use a Kodak flash cube extender.

Your pictures are as important to us as they are to you. That is why we, as an independent photofinisher use dependable Kodak paper, chemicals and equipment.

We are now featuring, at the price you pay for ordinary bordered prints of your CX 126 or 35 mm, borderless prints. You get a full size 3 1/2 square color print with edge to edge picture - no wasted white border. So bring us your Kodak, Fuji and Gaf film sizes 126-12, 126-20, 135-20 and 36 exposures and get a full size picture.

We are located in the snack bar area of the cafeteria and our new hours are from 7:30-11:15 and 11:45-2:30.

## Soccer

Ken Batchelor

### Patchogue Reserve 1 vs BNL 3

On Sunday 4th March the BNL Soccer Team opened its outdoor season with an away game against Patchogue Reserves in which they were victorious by a score of 3 goals to 1.

BNL started strongly and after several good moves by the forward line Skalys crossed a perfect ball from the right for Kjemts to score with a fine shot from the edge of the area. Minutes later the Patchogue goal made another fine save whilst at the other end Fairchild saved a certain Patchogue goal by kicking the ball out of bounds with the BNL goalkeeper beaten. Just before half time a weak goal kick by Patchogue was seized upon by Meyers who beat the goalkeeper with another good shot to put BNL two goals ahead at the half.

In the second half play was more even but the BNL team had good control of the game with both the defense and offense finding their men well and with the mid-field controlled by the BNL half backs, but Patchogue was awarded a penalty kick which the BNL goalkeeper saved in fine style and it was Patchogue who scored first when a goalmouth melee found Majura free only yards from the BNL goal from which point he rammed the ball home. BNL was quickly back in the hunt and when the Patchogue defense handled the ball under pressure Meyers made no mistake from the penalty spot and thus BNL won the game by 3 goals to 1.

The Winter competition in the gymnasium has just been completed with the young Make-ups team easy league winners having lost only three games out of twenty-four played. Physics finished strongly to take second place in the league trophy due to the ineligibility of the Make-ups team for BNL trophies. The final league positions and goal scorers are as follows:

	Goals					Pts.
	P	W	D	L	F A	
Make-ups	24	21	0	3	84 18	42
Physics	24	10	2	12	39 39	22
Chem. Med.	24	9	1	14	28 43	19
& DAS	24	6	1	17	35 86	13
AGS						

Practice games will continue on Friday evenings at 5:30 P.M. in the gymnasium. Anyone who is interested in playing should come along. Beginners are welcome and the indoor game is an ideal way to introduce the game.

## BERA Concert Series

The next concert will be presented by the Richards Quintet on Tuesday, March 27, at 8:30 p.m. in Berkner Hall.

The Richards Quintet was organized in 1948 as the Michigan State College Faculty Woodwind Ensemble. The group adopted the name of Richards in memory of Lewis Richards, the first head of the Music Department at Michigan State.

Recognized by critics and public alike as one of the finest wind chamber ensembles in the United States, the Richards Quintet is now broadening its horizons by concertizing internationally. The Quintet consists of Alexander Murray, formerly principal flutist of the London Symphony; Daniel Stolper, oboe, who has played as first desk man with the San Antonio and New Orleans Symphony Orchestras; Elsa Ludewig, well known clarinet recitalist and Marlboro Festival participant; Douglas Campbell,

## Golf News

The grass is getting greener and the days are getting longer, so it's time to wipe the dust off the golf bag and get ready for the golf season of '73. In the recent election of Golf League officers, Jim Conway became President; Jack Detweiler was elected Vice-President, and Jim Petro, Secretary.

Last year was an exciting one as the BGA initiated individual competition along with team competition. The innovation proved a success, as first place in many team and individual races was not decided until the last week of the season. Special tournaments were held at various local courses with the final 18 hole event at the Suffolk County

Course in West Sayville. The BGA officers will try to expand these programs in the hope of making them more attractive for the coming season. The Golf League encourages new members as well as existing members to again join in a season of golfing. Eligibility for membership is extended to all BNL employees. We are hoping to start the season early in May, so work on your back swing. Additional information on the BGA is available by contacting any of the league officers. Watch the *Brookhaven Bulletin* for information regarding application for membership and time of leagues starting.

## Bowling News

Grace Fales

### Green League

The Bubble Boys and Sandbaggers moved to a tie for first place, both with 44 wins and 26 losses. 200's for the night were bowled by J. Lee 226, C. Spence 215, J. Scesny 210/203, C. Vogel 208, C. Gardner 205, N. Parrinello 203/201, and C. Bohnenblusch 202. Adding to the action were two conversions of the 5-7-10 split by W. Sells (3/6), and C. Spence this week.

### Red League

3/6/73 - J. Disparti 212 for the Arcs, F. Green 221 for the Soc-et-tuums, and for the Lucky Strikes C. Buzzo 202/225/607.

3/13/73 - W. Kristiansen 209, R. Larsen 220 for the Neutrons, P. Klotz 205 for the Anachems, W. Reams 244 for the Old Timers, J. Ferrante 220 for the Phoubars, and for the Soc-et-tuums, G. Meinken 202.

### Pink League

The Pinsplitters are maintaining their hold on first by five points, with the Spares now in a challenging position. There were quite a few good series this week, all of them topped by Marge Stoeckel's 210/530. Margie is now tied for high scratch game in the league, and has made her high scratch series even higher. Bowling 160 or better were: Mary Austin 163, Irma Carl 165, Helen Keeley 166, Ruby Cooper 170, Jean Hamilton 176, Helen Caisey 177/448, and Pat Oster 192.

### Black and Blue League

Midway through the final third, the Caisey Cats have moved into first with the Rolling Stones and the Atholes close behind in second and third. High games were bowled by Bill Lebitski 203/548, Lou Caisey 202, Helen Caisey 190/486, and Nancy Jesaitis 171/467.

## Classified Advertisements

### Autos & Auto Supplies

70 VW - Am/fm radio, good cond, std trans. 981-0219.

IGNITION & CARB KITS - For 69 Austin America, \$5; ignition coil for 67 Rambler, \$5. B. Bornstein, Ext. 4581.

SHOP MANUALS - MG 1100, Austin America, etc., \$12; 68-69 auto bk for 1100 Mk 2, 1300 America, \$5. B. Bornstein, Ext. 4581.

69 MGB ROADSTER - Yellow/blk top, new radial tires, wire wheels, excel cond. \$1300. L. Harty, 732-7911.

69 SAAB - 95 deluxe station wagon, low mileage, good gas mileage. E. Daley, JU6-3631 after 6.

VW TIRES & WHEELS - 7.00x14 (1 new, 1 used) for 71 or older, \$35/both; sidestep for VW bus, \$15. 281-9411 after 5.

72 HONDA COUPE - 10,000 mi, excel shape. \$1400. 281-9865 after 8.

63 FORD ECONOLINE VAN - Good working cond, great for camping. \$395. Al, Ext. 744-5022.

67 FORD PICKUP - 4 w/d, F250, new tires, brakes & batt, clean & good cond. Charlie, 744-0548.

65 FORD WAGON - Parts only. 286-8185.

69 PLYMOUTH FURY III - 4 dr, ps, all vinyl int, reg gas, like new. \$875. 286-3540.

68 OPEL WAGON - Dk blue, 4 spd 1.1 eng, 30 mpg, very good cond, new windshield, clutch. \$495. Mike, 929-6740 after 6.

72 PINTO - Std trans, orig owner, A-1 cond. \$1595. JU5-8322.

64 CHEVY 1/2 TON PICKUP - Bob, 929-4487.

71 VEGA WAGON - For immediate sale, good cond, extra wheels & radio. H. Ulyat, Ext. 3450, 744-2581 after 5:30.

62 VW - Excel w/w tires, runs but motor needs work, all seats recovered. \$100. 363-6597.

71 FORD STATION WAGON (RANCH) - V8, auto trans, ps/pb, factory air, 6 psgr, reg fuel eng, looks & runs new, 4 new belted tires. \$2195. 286-9260 eves.

15" FORD RIMS - \$4/pr. Ken, Ext. 3992.

70 CHEVY MONTE CARLO - 350 hp, auto trans, ps/pb, tilt wheel, posi, gold/blk vinyl, excel cond. \$2000. Steve, Ext. 3822, 929-6527 eves.

70 OLDS 88 CONV - R/h, ps/pb, 2 dr, air cond, am/fm stereo, very low miles, excel mech cond. \$1875. 289-0020 after 7.

67 FORD 10 PSGR WAGON - Clean, good running, 428 eng, ps/pb. \$695 or best offer. 288-9378.

65 DODGE DART - 2 dr, std trans, runs well. Ext. 4662, 473-8716.

72 VW - Am/fm radio, must sell. 234-2183 after 5.

70 BRIDGESTONE MOTORCYCLE - 200 cc. \$190. 281-8698 after 6.

66 FORD MUSTANG - V8, r/h, good mech cond, needs body work. \$300. Nancy, 281-4140.

4-70 CHEVY SS MAGS & TIRES - 7" rims, H-70-14, F-70-14. 281-6325 after 5.

51 CHEVY PICKUP - Recent valve job, body fair cond, Dale, Ext. 2022, 281-8579 after 5.

65 PONTIAC LEMANS - 2 dr, V8, auto trans, ps, excel cond. Asking \$490. Ext. 3527, 878-1751.

## Classified Advertisements

STORAGE COMPARTMENT - W/lock, for stick shift cars w/bckts. \$7.50. B. Espensen, Ext. 3992.

66 IMPERIAL CROWN COUPE - Pwr everything, leather upholstery. \$895. Ext. 2564, 286-3647.

68 IMPALA SS - Ps/pb, auto trans, new tires, brakes & drums. \$1195 firm. Ext. 2564, 286-3647.

VW WHEELS & TIRES - 475-1586.

72 YAMAHA R5C - Excel cond, 350 cc. Gene, 281-2590.

TIRES - 8.25x14, \$3.50; 2-8.45x15, \$10 ea; 8.55x15, \$10. 281-3655.

### Boats & Marine Supplies

12' STARCRAFT SUPER D ALUM FISHING BOAT - Evinrude 9½, Tee Nee tilt trailer, many extras, all 1972 mint cond. orig cost \$1200. Ext. 2482.

17' FIBERGLASS - Fully equipped, 50 hp 1971 Mercury, only 20 hrs on motor. Mike or Danny, 473-0612.

2 PR OARS - 7' long, \$3.50/pr; 1 pr oars 7' long, slightly chipped, \$2; 1 SS beer barrel buoy, \$5. B. Espensen, Ext. 3992.

18 HP EVINRUDE MOTOR - \$75. B. Johnson, Ext. 3499.

16' LYMAN RUINABOUT - Priced for fast sale. \$75. Torre, Ext. 4243, 281-5050 after 6.

20' OUTBOARD CRUISER - W/trailer, fiberglass over wood, needs glass on bottom only. \$300. 724-2399.

13' FIBERGLASS BOAT - "Traveler," light & fast. \$115. 286-1205.

### Miscellaneous

TENT - Morsan's 2-man back packing tent. \$15. Walter, Ext. 3499.

ELEC H/W HEATER - \$15. 281-3655.

3 PC COLONIAL LIV RM SET - Incl 82" upholstered couch & 2 upholstered chairs, like new. 757-0929.

2 TICKETS - To Suff Symphony concert w/violinist Itzhak Perlman, Apr 24, excel seats. \$7 ea. J. Weiss, Ext. 4537/4506.

DUNCAN PHYFFE DIN RM - 9 pcs, pads, good cond. \$200. 744-7906.

MOTORCYCLE HELMET - Buco traveler, adjustable, hardly used, like new. \$10. Sharon, Ext. 4007.

LAWN MOWER - Locke, excel mech cond, good running cond, new tune-up, gas tank, muff & carb. \$250. Bob, 732-9517.

NATL GEOGRAPHIC MAGAZINES - From 1950-71; paper back bks, novels, mystery, non-fiction, etc., many to choose from. 928-0423.

KITCHEN SETS - Tabela w/leaf, 1-60x30 w/4 chairs, \$50; 1-60x36 w/6 chairs, \$75; excel cond. 928-0423.

BABY ITEMS - High chair, \$15; port-a-crib w/cover, \$15; excel cond. 928-0423.

REFRIG - Good running cond; dbl bed; sm lamps; toaster; all at reasonable prices. 473-4612 after 6.

MOVIE CAMERA & PROJECTOR - Slide projector, tripod; baby items - carriage, crib, playpen, swing set, etc. 473-4612 after 6.

TRANSCEIVER - GE 2 channel, 2 meter, FM, mobile. Torre, Ext. 4243, 281-5050 after 6.

LAWN BOY PWR MOWER - 18", new bag, very good cond. \$50. Sy, Ext. 3438.

TV - Needs minor repair, sell cheap. O. Booker, Ext. 4719.

AM/FM STEREO CONSOLE - Excel cond. R. Overton, Ext. 4291/4688.

68 THUNDERBIRD TRAVEL TRAILER - Fully self contained, 20', excel cond. 281-0398.

66 CAMPER - Super Van, sleeps 4, refrig, stove, carpeted, stereo throughout. \$1000. RA8-2553.

PILOT - Mono tuner, \$10; Sherwood stereo tuner, S 3000 V, \$50; Danish Mod sofa & chair, foam rubber, \$40. 286-8119.

SPEAKERS - 2 University 3-way speaker sys (S 11 H), 15" woofer, 8" mid range, hypersonic tweeter, cross-over network w/brilliance & presence controls. Cost \$300 ea, sell \$100 ea. 286-8119.

MOBILE HOME - 70', 2 bedrms, 1½ baths, laundry, pantry, etc., ready to move. 325-1961.

ROLLFAST BANANA BIKE - \$5; Schwinn balloon tire, 26" man's, \$10. 286-1205.

SHOES - 2 pr Nun Bush sizes 9½B & 10B, new, never worn. Bob, Ext. 4672, 929-4753.

2 SNOW MOBILES - 1970. 281-6325 after 6.

WURLITZER CLARINET - 1 yr old, like new, student gave up. \$95. Lloyd, Ext. 3381, 286-1024.

DRESS FORM - Adjustable, good cond. \$10. 286-1024.

HOLTON TRUMPET - W/case, excel cond. Asking \$90. Ext. 4028.

ENCYCLOPEDIA - Our Wonderful World, 1965, 20 vols, excel cond. \$25. Ext. 3640.

LYMAN - 4 cavity bullet mould & handles, cal .45 180 gr, \$13; Varmint rifle, cal 22-250, like new, \$75. John, Ext. 3353.

2 SECTIONAL SOFAS - W/corner table, excel cond. \$38.75. Helen, Ext. 3716, HR3-1445 after 5:30.

SMITH CORONA ADDING MACHINE - \$40; van 2nd seat, like new, \$30. Ext. 2486.

IBM STD ELEC TYPEWRITER - Office model, all std features, repeat keys, 2 yrs old, good cond. \$125 firm. 698-2879.

GE 24" B/W TV - Needs some work but plays. \$25. M. Jahngig, 281-9298.

HOOD - ¼" rubber, use w/wet suit. \$3. J. Olson, Ext. 3382, 289-8629.

ROUND DINETTE TABLE - Wood grain, \$25; tripod for TV antenna, \$3; medicine cabinet, \$2; 90" traverse rod, \$5; gray formica dinette table, \$15. Ethel, Ext. 3664.

FORMICA DIN SET - \$35; sofa, matching 2 chairs (set), \$160. Ext. 3527, 878-1751.

DUE TO RECENT CIRCUMSTANCES - Many household items for sale, fireplace access, upright freezer, bicycles, lawn furn, din rm set, picnic table, many more items. 281-6809 after 5.

HAND MIXER - \$7. 286-3742.

FREE - 2½ yr male St Bernard, AKC reg, lg dog - needs lg yard. 289-1585.

COFFEE TABLE - Walnut, excel cond. \$75. 286-3742. 10x15x4 SWIMMING POOL - All access, winter cover & bubble. \$125. EM3-6223.

METAL BED - Dbl size, matt & springs, beige color. \$20. Ext. 2497.

RANGE HOOD - 42" ventless, coppertone, w/3 spd motor, light, dbl grease filter. \$25. Ext. 3048.

PIANO - Red velvet upright. P. Schubert, Ext. 2441.

ACCORDION - Galizi & Sordoni, very good cond. Ext. 3036, 427-0768.

12 GA SHOTGUN - Westernfield made by Savage, 3" chamber, 30" full choke, 4 mos old, pump action. \$75. Tony, Ext. 4174.

ANTIQUA BEDRM FURN - Din rm set. 289-0413 after 5:30.

GE RECORD PLAYER - 4 spd, like new. \$20. 744-5096 after 4.

DINETTE SET - Pedestal base, oval table w/wood-grain finish, 4 blk vinyl swivel chairs, excel cond. \$130. Ext. 2497.

MAGNAVOX TV - 2 liv rm chairs; pole lamp. 289-3114.

MOD .98 MAUSER 30-06 - Target sights tapped for scope. \$60. F. Rumph, Ext. 4581.

### 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 Sale

CENTEREACH - 2 story, ½ brick, 4 bedrms, lg liv rm, eat-in kit, fin full bsmt, 1½ baths, in-ground pool, FHA approved, low taxes, principles only. 585-2665.

BRKHVN HAMLET - Lg 4 bedrm colonial on cul-de-sac st, formal liv rm & din rm, fam style kit, 2½ baths, on 1 acre. \$49,500. Ext. 4578.

4 BEDRM HOUSE - Excel cond, quiet dead-end st, near bay, deeded dock rights, air cond, fireplace, full bsmt, garage, landscaped lot, near schools & shopping. 878-0817.

W. PATCHOGUE - 3 bedrm cape, oil heat, 2-car garage. \$25,000. 289-0413 after 5:30.

### For Rent

2 BEDRM TOWNHOUSE APT - W/w, unfurn, all appliances, central air cond, 5 min to Lab. \$260/mo. Ext. 4676, 286-9721.

FURN RM - Kit privileges. W. Lundgren, Ext. 4278, 585-3794.

### Wanted

ELEC RANGE - Any size, in good cond. J. Fischer, 475-7464 days.

AQUARIUM - Needed desperately, the larger the size the better. P. Borg, 286-0428 after 6.

HOME - For 5 mo old male puppy, Shep mix, friendly, gentle, good watchdog potential. Charlie, Ext. 4850.

USED STOCKADE FENCE - 4' or higher. Fred, Ext. 4613.

LUMBER - Plywood, garage doors, etc., cash - I will pick up. Hersey, Ext. 4574, AN5-6326.

GOOD USED CAMPING EQUIPMENT - Tent, stove, etc. 286-3742.

STAMPS - Cancelled US & worldwide postage stamps, for handicapped stamp dealer. Rosenblatt, 732-1685.

USED COLOR TV - 19" minimum, good cond, reasonable. Ext. 3316, 698-1362 after 6.

### Carpools

NEED 4TH MEMBER - For carpool from Queens. K. Fuchel, Ext. 4116.

CARPOOL WANTED - Leaving St James or The State University. Ellen, Ext. 2406, 862-9725.

BAYPORT/BLUE POINT AREA - Want to join existing carpool or form new one, Mon-Fri, 8:30-5. Ken, Ext. 3574.

### Services

TREES - Removed, topped, pruned, no job too small, reasonable prices. Gary, 744-1548.

CLOCKS - All types overhauled & guaranteed, antiques my specialty, free estimates. J. Davis, Ext. 4504, 473-1523.

TAXPAYERS - Federal & State income tax forms prepared in the privacy of your home or mine. 475-8330.

### Classified Ad Policy

**Deadline is 12 noon Monday for publication the following Friday.**

1. The Brookhaven Bulletin's classified section may be used only by active and retired Laboratory employees.
2. All items for sale or rent must be the advertiser's property.
3. Ads for material acquired for resale in association with a full or part-time business cannot be accepted.
4. Firearms offered for sale or trade may not be brought on site.

5. Ads not carried because of space restrictions will be held for publication in the next issue.
6. Ads are run only once and must be resubmitted if they are to be repeated.
7. Ads should be restricted to 20 words or less and typed or printed on the form provided, and must bear the employee's signature.

- For Sale: Auto & Auto Supplies  
 For Sale: Boats & Marine Supplies  
 For Sale: Miscellaneous

- Wanted  
 Carpools  
 Lost & Found

Check  the heading applying to your ad.  
 Print or type your ad in 20 words or less.

Ads concerning property for sale or rent cannot be accepted on this form. Special Real Estate Ad forms are available at the Office of the Brookhaven Bulletin, Room 112, 40 Brookhaven Avenue.

(Name & Phone No. To Call)

Employee's Signat re..... Life No..... Ext.....

Send to: Brookhaven Bulletin, 40 Brookhaven Avenue