BROOKHAVEN BULLETIN
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BROOKHAVEN NATIONAL LABORATORY

Fighting Metal Poisons, Nature's Way

The scene was more common in the 1960s: a dingy apartment with paint peeling off the walls, unsupervised children eating the paint, white paint made with lead pigments.

Now, most people are aware of the physiological damage that can result from lead poisoning. But not many people realize that other heavy metals and radionuclides, like cadmium, chromium, strontium, plutonium, uranium and thorium, can also cause serious damage, even kill.

Children aren't the only ones at risk. So are workers in the nuclear industry, paint manufacture and other industries that involve heavy metals.

Eugene Premuzic, chemist in the Department of Applied Science, is spearheading a long-range project to find natural products that will rid a body of heavy metals. He notes that the synthetic compounds now used to remove heavy metals can also remove trace elements essential to the body. And for these synthetic compounds, there is a fine line between effective dose and lethal dose.

Alex Reben

Mow Lin uses this glass rotary evaporator to concentrate solutions of microorganisms growing in culture with metals.

Premuzic thinks he can find better compounds. "There are microorganisms that have adapted to drastic conditions," he says. "You can find them in hot springs, burning slag heaps and radioactive wastes, all containing high concentrations of toxic metals."

How can these microorganisms live in such toxic environments? Premuzic says they produce chelating agents, which are natural products capable of selectively binding heavy metals and changing them into forms which the microorganisms can handle, for example, by excretion.

Premuzic is trying to duplicate in a laboratory what can be found in nature. His co-workers on the project are Mow Lin, Arokiasami Francis, and Helen Quinby. Jack Schubert, a world authority on chelation chemistry and therapy, at the University of Maryland, is also a collaborator.

In the first phase of the project, selected microorganisms are grown in small flasks containing a culture medium (food) and a metal (so far, only thorium and uranium have been used). Gradually, the amount of metal in each flask is increased, which in effect challenges the microorganisms to produce chelating agents specific to that metal. It's a do or die method, which Premuzic has dubbed "challenge biosynthesis."

The advantages of developing new chelating agents by this method are several. By nature, the microorganism will produce the most effective chelator specific to the metal which challenges it. Also, new chelating agents produced this way are likely to be biologically compatible with other organisms, and ultimately, people.

But before new chelating agents can be tested even on animals, a lot more laboratory work must be done. Once the ideal growing conditions have been established for a small flask of microorganisms, that flask is used as seed to grow a batch 20 to 30 times larger. The larger batch is necessary to maximize the amount of chelating agent produced.

Alex Reben

BNL researchers (from left) Helen Quinby, Arokiasami Francis, Eugene Premuzic and Mow Lin are developing new natural products for removing poisonous heavy metals from organisms.

The chelator is extracted and chemically characterized, a time-consuming and laborious process. Then a test is done with mouse liver to see how well the chelator works. Says Premuzic, "Already, our first crude products look to be as good as the best of the synthetics."

So far, eight new chelating agents have been produced for thorium and 12 for uranium. Eventually, the group will develop chelating agents for plutonium, lead and other heavy metals.

Before moving on to laboratory animal studies, which are much more expensive than test tube experiments, the best chelating agents will be picked. They will be chosen based on their performance one against the other and relative to the standard synthetic chelators. Simultaneously, the group will also explore synthetic improvements to the selected chelators.

Eventual toxicology studies with laboratory animals will test for actual effectiveness of the new chelators and their compatibility with a live system. The Medical Department, particularly Eugene Cronkite and Bertrand Brill who have advised the group from the beginning, would collaborate on the toxicology studies.

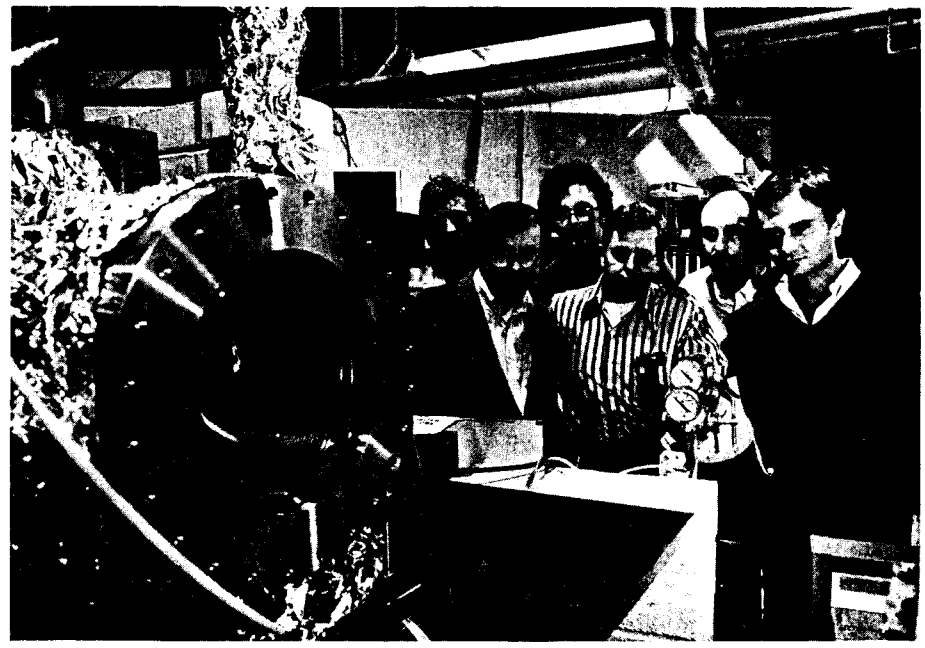
Premuzic sees this work leading to new therapeutic drugs for people poisoned with heavy metals. Another application is in nuclear medicine. These chelating agents can be used to remove more quickly radiopharmaceuticals which have been injected or ingested for medical diagnosis. For one thing, that would reduce radiation exposure.

Premuzic emphasizes that the concept of challenge biosynthesis marks a fundamental change in the way research will be done to develop new natural products. "In non-challenge biosynthesis," he says, "you take whatever the microorganism gives you. In our method, the microorganism responds to a challenge the best way it can to survive. The products are potentially better."

— Mona S. Rowe

Doug Humphrey

For providing exceptional service to BNL, John Gantt (left), President of Welding Metallurgy, Inc., received the BNL Minority Vendor Award of 1983. Presenting the award at the firm's offices in Babylon on October 4 was Tony Salvo, Contracts Administrator, who also acts as Small and Small Disadvantaged Business Liaison Officer. Earl Blanton (right), BNL Affirmative Action Manager, attended the ceremony as did local business and community leaders. Welding Metallurgy has been doing business with BNL for about the last three years, principally the fabrication of surveying stands for CBA, all of which was accomplished beyond expectations, said Salvo. He noted that BNL personnel who worked with Gantt praised his ability to communicate and to more than live up to his commitments. Salvo said the consensus was that Welding Metallurgy, Inc. is one of BNL's top vendors and that "if we had simply a 'vendor of the year' award, Gantt would be a very strong candidate." This is the first such award BNL has made, but it is expected to be given each year and presented during the first week of October, a week which has been designated Minority Enterprise Development Week by President Reagan.



Mort Rosen

One of the unique things about experimentation at the National Synchrotron Light Source is industrial participation. Already Bell Laboratories and IBM have their own beam lines operating at the vacuum ultraviolet ring. And with last week's opening of port U1, the Exxon Corporation came a step closer to joining them. In this photo, the light appears as a thin horizontal slit across port U1. On hand to witness this important milestone were (from left) Joachim Stöhr, Exxon; John McTague, chairman of the NSLS Department; Wolfgang Eberhardt, Exxon; George Hummer, NSLS; Gwyn Williams, NSLS; and Francesco Sette, Exxon. Stöhr and Eberhardt are principal investigators for the Exxon experiment, which, Eberhardt explained, "is designed to help us understand the geometric and electronic structures of catalytic surfaces, as well as the electronic properties of all kinds of new materials. Exxon's research goes far beyond oil. A large part of it is directed towards other sources of energy and new materials." With the opening of port U1, the Exxon team can begin to connect its beam line to the VUV ring, with the aim of beginning experimentation early next year.

Going Places

Mort Rosen

The BNL travel office staff, from left, Pat Johnson, Sylvia Mouzakes, Juanita Beatty and Nancy Gargliardo.

A knowledge of international politics, foreign exchange rates and world geography. Add computer savvy, a memory for details and a friendly smile. That's what the BNL travel office routinely offers those who use its services.

The travel office is staffed by Nancy Gargliardo, Pat Johnson, Juanita Beatty and Sylvia Mouzakes. They make travel arrangements all over the world for employees and guests on Laboratory business. That includes airlines, hotels, rental cars, trains, ferries, even visas and passports for certain countries.

Today, a travel agent's job is remarkably complicated. Nancy Gargliardo, the group's supervisor, recalls the 11 years working for her father's travel agency before she came to BNL. "Everyone went by ship in those days. Now there are so many airline companies. And with price deregulation, fares are all over. They can even change three times a day for the same trip."

To save the Lab money, the women work like detectives, solving case after case of how to get from here to there the cheapest way. They rely on an intimate knowledge of how the travel system works.

For example, when they book a traveler to London and back, the round trip airfare might be $1200. But if they split the trip in half, one way fare to London might be $600, and one way fare back to New York might be $500. The rate of exchange between the U.S. dollar and the British pound could account for a savings of $100.

Information like that is available in a computer hooked up to terminals on each woman's desk. The computer is actually located in Oklahoma, and owned by a major airline, which rents computer service. Every flight in the world is in the computer's memory, along with a list of hotels and car rental services. Airfares and foreign exchange rates are updated continuously.

But while the computer is a storehouse of information, it has to be asked the right questions to be useful. As Pat Johnson says, "I consider the computer an extension of me, but it can't do my job for me."

Sometimes a computer can't help at all. That was the case recently when a Lab employee was scheduled to take a trip to Moscow. His tickets on Aeroflot were prepaid by the Russian government. Since Aeroflot has not been allowed to land in the U.S. since the Russians moved into Afghanistan, the man was booked on a flight out of Canada. No problem.

Then came the Korean plane incident, and Aeroflot was banned in Canada. After many phone calls and help from a sympathetic Boris at the Aeroflot office in Manhattan, the BNL travel office made arrangements for the employee to leave from Montreal on Czechoslovakian Airlines via Prague into Moscow. The office also made courtesy arrangements for a traveler from Argonne Lab trying to go to the same Moscow meeting.

Most of the time, they route people to more routine destinations. Washington, D.C. tops the list. Also high are San Francisco (Stanford, SLAC and Jet Propulsion Lab), Geneva (CERN) and Vienna (International Atomic Energy Agency). New on the list is Beijing, China.

Geography is important. On Juanita Beatty's first day at work, she was given a map of Europe. Back then, she could identify only a few major airports. Now she knows them all.

The travel reps are also becoming more familiar with foreign languages. Says Beatty, "Even though you pronounce 'Jülich' 'Ulich,' you'd better know how to spell it, or you will never get anyone there."

All the women have stacks of maps, which come in handy when making arrangements for visitors from lesser-known third-world countries. And even as well as they know the United States, they occasionally have to send an employee to an unfamiliar locale, such as Orcas Island, Washington.

If local lodging is not listed in the computer, the reps resort to other sources of information. Says Sylvia Mouzakes, "I'll call the local Chamber of Commerce, even the tourist bureau. If that doesn't work, I look for the nearest town that has accommodations."

The travel office stays very busy handling BNL official travel. When a large conference comes along, that workload can nearly double because of attendees changing their out-going reservations.

Through the constant flow of business, even when it's an over-load, the work gets done and the traveling gets done. — Mona S. Rowe

Soprano and Violinist in Concert

The 1983-1984 BERA Concert Series continues on Friday, October 21, with a joint recital by two outstanding young artists, soprano Beverly Hoch and violinist Daniel Phillips. They will appear on stage in Berkner Hall at 8:30 p.m., accompanied by pianist Margo Garrett.

Beverly Hoch has distinguished herself as one of today's most gifted concert singers, while also continuing a career in opera. She was a regional winner of the Metropolitan Opera Auditions in 1977 and, in 1979, made her New York debut as a winner of the Young Concert Artists International Auditions. She has appeared as guest artist with Pinchas Zukerman and the St. Paul Chamber Orchestra at Carnegie Hall and the Kennedy Center in Washington, DC, and in the Haydn/Stravinsky Festival with the Chamber Music Society of Lincoln Center. This past season, she appeared at the 1982 Spoleto Festivals in Charleston, South Carolina and in Italy.

Daniel Phillips was winner of the Young Concert Artists International Auditions in 1976 and the prestigious Michaels Award of Young Concert Artists in 1978. He has appeared with many orchestras, including the Pittsburgh, Hartford and St. Louis symphonies. He also frequently performs chamber music and has appeared with the Chamber Music Society of Lincoln Center, at the Spoleto Festivals, Santa Fe Chamber Music Festival, Mostly Mozart Festival at Lincoln Center, and in performances and recordings with TASHI and Music from Marlboro.

For the concert on October 21, Hoch and Phillips will combine their vocal and instrumental talents in four songs by Gustav Holst. They will be accompanied by Garrett for works by Handel, Alexander Alabiev and Adolphe Adam/Gustav Schmidt. Also accompanied by Garrett, Phillips will perform the works of Saint-Saëns and Mozart, and Hoch will sing the music of Mozart and Rachmaninoff.

Tickets for the performance will be sold at the door the night of the concert. General admission is $7; students and senior citizens are $4; and those under 18, $3. General admission block tickets, at $5 a ticket for a minimum of five tickets, are also still available. Block tickets are good at any of the remaining concerts.

Beverly Hoch

Daniel Phillips

FAS Director To Speak at BNL

Jeremy Stone, Director of the Federation of American Scientists (FAS) will present a Physics colloquium on Tuesday, October 11 at 3:30 p.m. in the large seminar room of the Physics Department. Stone will speak on "Calculus of Arms Proposals: Salt, Start & Builddown." The colloquium is co-sponsored by the Discussion Group on Nuclear Arms.

Stone has been Director of the FAS since 1970. He is also a member of the Council on Foreign Affairs and the International Institute for Strategic Studies. He is the author of "Containing the Arms Race, Some Concrete Proposals," and "Strategic Persuasion." He received his Ph.D. in mathematics from Stanford in 1960.

Winner's Circle

For his suggestion that padding be installed on the side walls of the gymnasium, Daniel Costa of the Medical Department has become the newest recipient of an award from the Employee Suggestion System.

Implementation of Costa's suggestion will significantly improve safety conditions in the gymnasium, particularly for basketball players. Because his is an intangible idea — one for which the benefits cannot be directly translated into dollars and cents — Costa received the minimum award of $25.

Arrivals & Departures

Arrivals

Christa A. Brite	NSLS
John Bura	Plant Eng.
John F. Damone	NSLS
David H. Dowell	Physics
Andreas E. Gocksch	Physics
Robert L. Hall	DAS
Deborah M. Rodhouse	DAS
Sandra B. Salinas	Medical

Departures

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

Leonard S. Baker	Accelerator
Giovanni Ciarrocchi	Biology
Thomas J. Emge	Chemistry
Anita C. Giovannelli	Medical
Robert G. Grego	Personnel
Robert Gremme	DNE
Patricia A. Hilton	Budget Ofc.
Peter Kemeny	DNE
Alan C. McLaughlin	Biology
Abdel-Hamid Moudden	Physics
Miriam H. Rafailovich	Physics
Louise S. Silver	Biology
Gilbert G. Spira	DNE
Olav Steinsvoll	Physics
Hee J. Yoo	DNE

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Letters To The Editor

To The Editor:

The article on solar energy, September 23, was most interesting and informative, except that I am puzzled by the payout times. For example, the article says that a solar water heater might cost $50 per square foot to install and would save $2.50 per square foot per year on oil. Therefore, it would have a payout time of 20 years. However, this neglects the cost of interest on the investment which, at a modest 10%, would be $5 per year. Could it be that they make it up on area?

— Faithful Reader

John Andrews replies:

At today's interest rates, and in the absence of tax consequences, buying a solar hot water system with borrowed money is generally not a paying proposition. Assuming 10% interest (and if you can get a 10% loan, let me know) you would pay $5 per year in interest. In addition, a certain amount would have to be allocated for maintenance. An estimate of $1/ft^2$, or 2% of the purchase price, has been used for this, but I think this is low. Also, in addition to the interest, the principal of the loan has to be paid back. Assuming a 10-year amortization period, this comes to $3.14. The total annual payment is then $5 + $1 + $3.14, or $9.14 per square foot, in order to save $2.50.

Taxes can have a great effect on this. Between tax credits and the fact that you can deduct interest payments on your tax return, this $9.14 payment could be reduced to about $4.

Peter Horton

Tyrell Wilson, firefighter in the Safeguards and Emergency Services Division, harvested this giant Hubbard squash from his backyard garden. The squash weighs in at 29 pounds, almost three times the weight of an average Hubbard. This is the first year Wilson has planted Hubbards, and he did it in a clever way. He put the plants in old tires filled with yard clippings, manure and dirt. As the plants grew and spread, the tires marked the roots for easy watering. Wilson's garden is 60 by 200 feet and produces large amounts of over ten varieties of vegetables. Early this summer, for example, he picked about five one-gallon pails of string beans. He freezes some vegetables for winter eating and gives the rest away to relatives and friends.

Marital Study

Couples who plan to marry during the next three months, i.e., up to December 31, 1983, and are residents of Suffolk County, are wanted for a research study at SUNY, Stony Brook. The ongoing study is being conducted by the Psychology Department and is expected to contribute to present knowledge of marriage and the family. Participants will receive $40 immediately and $120 for further participation in the survey. For more information, call the Marital Research Program at (516) 246-3405.

NYC Train Trip

The Hospitality Committee is planning a group railroad trip to New York City on Wednesday, October 19. Departure will be at 7:55 a.m. from the Patchogue LIRR station. Round-trip fare for adults is $3.50; children under five years ride free.

Reserve a ticket by sending your fare through the U.S. mail to BNL, P.O. Box 322, Upton, New York 11973. Please do not send cash. Checks or money orders, payable to BNL, must be received by Thursday, October 13. Put the date of the trip, your BNL life number and your phone number on the back of your check or money order. Your tickets will be given to you at the railroad station on the day of the trip. Refunds will be made only if cancellations are received by the Monday morning preceding the trip.

Badminton

Now that the outdoor tennis season is ending, it's time to think of badminton. The ladder tournament will start in mid-October and new players are encouraged to add their names to the roster posted in the gym beside the badminton courts. All levels of ability are represented, so join the fun. For information on club activities, call Jack Detweiler, Ext. 4054, or Bill Love, Ext. 3996.

BNL Singles Club

A meeting will be held at 5:15 p.m. on Tuesday, October 11, in Room C, Berkner Hall. All interested parties are welcome. Any questions, call Chuck Watson, Ext. 5317.

The Birds Return

The birds are returning to Christmas Island, six months after they abandoned that mid-Pacific atoll, the National Science Foundation (NSF) announced recently.

Last April, the Bulletin summarized an NSF report that Dr. Ralph W. Schreiber, curator of ornithology at the Natural History Museum of Los Angeles County, California, had discovered that almost the entire bird population of the island — about 17 million — had disappeared. He attributed the mass abandonment to El Nino, a warm equatorial current associated with changes in wind patterns, salinity, ocean currents and sea levels. The changes caused by this El Nino were so drastic that the fish population left the area. Their food supply gone, the birds either starved to death or left also.

But now they are beginning to go back. During a 10-day June visit to Christmas Island, Schreiber found that most of the 18 species have returned in small numbers. And three of the species — the Black Noddy Terns, Crested Terns and Lesser Frigatebirds — are breeding in numbers that approach the island population prior to the start of the mass abandonment.

It's not too late! Ticket sales extended through today!

Dinner Theater and Dance
A BERA Special Event for 1983
Berkner Hall
Friday, October 14 and Saturday, October 15

Program for the Evening:

6:30 p.m.	***Cocktail Time (Cash Bar)***
7:30 p.m.	***Dinner is Served (Five-course meal with choice of Prime Ribs of Beef or Chicken Cordon Bleu entree, includes wine)***
9:00 p.m.	***Show Time (In the Auditorium — "Murder at the Howard Johnson's")***
to 1:30 a.m.	***Dancing (Music by "We the People")***

Tickets will not be available at the door.

Cooking Exchange

"Cooking with Sauces" is the topic for the Cooking Exchange meeting on Wednesday, October 12. Included in the recipes to be demonstrated and tasted are the versatile French Béarnaise sauce, a strong Mexican tequila sauce for steak, and a chocolate dessert sauce.

The Cooking Exchange is open to all BNL employees, visitors and their families. Meetings are held on the second and fourth Wednesdays of each month from 12:30 to 2:30 p.m. at the Recreation Bldg. For the $1 admission fee, those present receive copies of the recipes prepared and a sample of each dish, along with coffee and tea. Babysitting is provided at 50¢ per child.

For more information, call Jane Shero, 286-0925, or Dee Polychronakos, 744-3578.

Bowling

Red/Green League

High games were bowled by J. Medaris 223, R. Adams 214, K. Riker 212, N. Tyler 206, J. Muller 201.

Purple League

D. Adams had games of 211/248 for a 628 scratch series, B. Belligan 200, E. Zukowski 195, K. Kissel 174, D. Miesell 186, S. Asselta converted the 4/7/9/10 and J. Petro the 3/7/10.

Pink League

High games were rolled by D. Johnson 189/204 for a 549 scratch series, M-G Meier 507 scratch series.

Cafeteria Menu

Week Ending October 14, 1983

Monday, October 10		
Turkey noodle soup	(cup)	.65
	(bowl)	.75
Ham & broccoli crepes & 1 veg.		1.85
Eggplant Parmesan & 1 veg.		1.95
Hot Deli: Turkey breast	(bread)	1.95
	(roll)	2.10
Tuesday, October 11		
Vegetable soup	(cup)	.65
	(bowl)	.75
Top round of beef & 1 veg.		2.05
Pork chow mein on rice		1.85
Hot Deli: Pastrami	(bread)	1.85
	(roll)	2.00
Wednesday, October 12		
Tomato rice soup	(cup)	.65
	(bowl)	.75
Veal patty Parmesan & 1 veg.		1.95
or w/spaghetti		2.15
Scalloped ham & potatoes w/1 veg.		1.85
Hot Deli: Swedish meatball hero		1.95
Thursday, October 13		
Old fashioned bean soup	(cup)	.65
	(bowl)	.75
Chicken quarter in mushroom & wine sauce & 1 veg.		1.90
Kielbasi & sauerkraut		1.90
Hot Deli: Top round of beef	(bread)	1.95
	(roll)	2.10
Friday, October 14		
Fish chowder	(cup)	.65
	(bowl)	.75
Fish and chips		1.85
Meatcakes & onions w/1 veg.		1.85
Hot Deli: clam boat		1.95

Golf

The final BGA tournament and End of the Year Awards Dinner will be held at the Flagg Country Club on Friday, October 21. The tournament will start at noon, with foursomes beginning simultaneously at various tees. The tournament will be followed by a hot and cold buffet dinner. The entry fee for BGA members is $10 and for non-members, $20. This includes greens fee, tournament entry fee, and cost of the dinner. It does not include the use of an electric cart or a hand cart. The deadline for signing up for the tournament is noon, Friday, October 14. Entry fees must be sent by that date to Bob Mills, Bldg. 901 (Ext. 5043). Checks should be made payable to the BERA Golf Association.

Motorcycle Club

A meeting will be held on Monday, October 10, at 5:15 p.m., at the Recreation Bldg. Plans will be made for a foliage trip on the weekend of the 15th and 16th.

Racquetball

Racquetball players are getting ready to start the season on October 13. They will play in Farmingville on Thursdays from 6-7 p.m., and old hands and new players are invited to sign up. Call Bill Carapezza on Ext. 7145.

Runners' Corner

The BNL Roadrunners Club will sponsor the 12th Annual Fall Races on Sunday, October 16. Included will be the 30 km (18.6 mile) pace run, a 5 km (3.1 mile) and a 10 km (6.2 mile) fun run. The 30 km race is particularly popular with runners preparing for the NY Marathon, or the Marine Corps Marathon.

There is no registration fee, but all runners must check in at Berkner Hall. The 30 km run starts at 8:30 a.m. with check-in time between 7:30 and 8:15 a.m. The 5 and 10 km runs start at 9:30 a.m. with a check-in time between 8:00 and 9:15 a.m.

As usual, no watches may be worn in the 30 km run since the winners (male and female) will be decided by the runner whose finishing time is closest to his or her predicted time given at registration.

Jack Baer Memorial Awards will be given to the first BERA male and female finishers in the 10 km. Refreshments will be provided for all participants, and accurate time/place posted at finish.

Volunteers are needed to assist with these events. For information, call Jeanne Penoyar, Ext. 2614, Bill Thomlinson, Ext. 3937, or Gus Prince, Ext. 5079.

Classified Advertisements

Autos & Auto Supplies

79 CADILLAC - Sedan Deville, mint cond., fully loaded, many deluxe extras, $8,000, must see. Ext. 7114 or 736-1837 between 6 & 9 p.m.

73 VW SUPER BEETLE - low mi., good cond., $1,200. Ted, Ext. 3062 or 473-2519.

70 TOYOTA COROLLA WAGON - runs, $200. Don, 286-1205.

67 CHEVY PARTS - or whole. Steve, 981-4681.

77 GRANADA - immaculate, $2,800 or best offer. Lou, 283-6338 eves.

74 VW - semi. auto., 65,000 mi., Sanyo am/fm cassette player, new battery, excel. cond., $1,500 firm. 281-5827 after 6 p.m.

CAR RADIO - Blaupunkt CR-2000, am/fm stereo cassette, auto reverse, ASU, $200. Ext. 7226.

66 MUSTANG - new paint, exhaust system, tires, asking $2,300; 1968 21' Trotwood travel trailer, $2,950. 363-6845.

75 HONDA MOTORCYCLE - CB400 Four w/windshield & extras, $695; Honda 550 Four, $950. 467-8563.

79 ELDORADO BIARRITY - low miles, excel. cond., $8,500. 221-3732.

74 DODGE COLT - needs engine, $375; 1974 Thunderbird wheels, 15", $12/ea. Tony, 732-3338.

TIRES - F78x14 on 5-hole rims for Ford Torino, 2/$15; large screw type whole car bumper jack, $10. Ext. 3059 or 744-7242.

77 MALIBU WAGON - auto., a/c, p/s, p/b, $1,950. Harry, Ext. 3080 or 282-3096 eves.

78 CADILLAC ELDORADO - all options, excel. cond., 51,000 mi., black, make offer. 473-4948 eves & weekends.

79 DATSUN PICK-UP - 4 cyl., 4 spd., regular gas, am/fm cassette. 878-9331 after 4 p.m.

79 FORD LTD - loaded, air, custom paint, $3,900; 1969 Plymouth Fury, runs like new, $400. 928-4487.

61 VW - $325 + extra parts; steel belted tires, P21575R15, 2/$10. Ken, 281-5565.

TIRES - (3) P-155 80R 13", (1) A-78 13", (1) BR-70 13". Mike, Ext. 3658.

73 CONTINENTAL - runs well, full power, $500. 473-7739.

TRAILER HITCH - for pick-up, class 3, 10,000 lbs., used very little, $85. 286-8242.

78 OLDS CUTLASS SUPREME - excel. cond., 47K mi., small V-8, all opts. 727-0771 after 5 p.m.

76 AUDI FOX - excel. mech. cond., $1,750; 1978 Datsun 280Z, $6,800. Ext. 2831.

76 DATSUN 280Z - new tires, am/fm tape, a/c, spokes, $4,100. Ext. 3065.

80 SUZUKI - GS1000G, full fairing, lowers, many extras, black, asking $3,500. Dan, 277-1284.

77 BUICK SKYHAWK - V-6, 4 spd., a/c, p/s, am/fm cassette, new steel radials, 472-4684 after 7 p.m.

74 FIAT - 128, 4 dr., needs some work but runs well, 74,000 mi., $400. 979-8033 after 5 p.m.

79 HONDA ACCORD LX - fully equipped, am/fm cassette, a/c, p/s, p/b, excel. cond. Debbie, 928-0043.

79 OLDS CUTLASS - loaded, excel. cond., low mi., $5,700. Arnold, 735-7627 after 5 p.m.

VEGA MOTOR - steel sleeve, auto. trans., completely rebuilt. 744-9785.

75 HARLEY SPORTSTER - black, custom wheels, asking $2,850; Honda chopper, 750cc, asking $1,250. 473-9180 after 5 p.m.

83 PULSAR - 7,700 mi., 4 mos. old, must sell, fully equipped, black w/red pinstripe. 732-6678.

RADIAL TIRES - (2) R14, good, $15/ea. Sandy, Ext. 4933 or 369-2065 after 5 p.m.

71 DATSUN - 240Z, completely restored; 1974 Jeep Cherokee, 4x4, 36,000 mi., on rebuilt engine, $1,800. 281-0122.

70 OLDS CUTLASS - poor body, good engine and trans., $250. Ext. 3763.

67 DODGE CORONET - sedan, runs well, $425. Ext. 4821 or 727-1412.

69 PLYMOUTH STATION WAGON - good cond., good tires, $399. 475-4596.

VW PARTS - brand new, wholesale prices, call for needs. Augie, Ext. 2419 or 289-4211 eves.

75 DODGE DART - 6 cyl., very good cond., auto., a/c, 2 dr., am/fm 8-track, asking $1,500. Higuchi, Ext. 3531.

68 TRIUMPH - model 250, 6 cyl., wire wheels, roll bar, $1,500. 929-8475 eves.

82 MOTORCYCLE - KZ440, like new, 1,000 mi., $1,650 or best offer. 924-0960.

78 MOTORCYCLE - KZ400, rack, saddle seat, roll bars, new tire, chain, sprockets, dealer main., 12K, $875. Ext. 7148.

78 MAZDA PICKUP - excel. cond., 59K mi., w/radio, 6 rims. Bill, Ext. 4421 or 744-3926.

63-1/2 FORD GALAXIE 500 - new tires, exhaust system, 289 V8, manual trans., very good cond. Mike, Ext. 4988.

80 HONDA 400 - Super Sport w/windscreen & luggage rack, asking $1,000. 878-1124.

78 PLYMOUTH HORIZON - 4 dr. hatchback, a/t, p/s, am/fm, 65,000 mi., $1,980 firm. Richard, Ext. 3534 or 286-3178.

77 AMC HORNET - a/t, p/b, p/s, a/c, am/fm stereo, $1,300. Jim, Ext. 3761 or Marie, Ext. 3786.

69 AMC AMBASSADOR - 4 dr. sedan, $295; 1975 Buick Suburban Loader, w/extras, good cond. Vinny, 473-0312.

75 PLYMOUTH VALIANT - auto., p/s, p/b, a/c, 4 dr. Ext. 4134.

80 CHEVY MALIBU - auto., p/b, p/s, 4 dr., low mi., $3,100; 1974 Ford F-350 with 1979 Holmes back 4-wheel drive camper pkg., $3,600. 744-5224.

74 CORVETTE - 4 spd., p/s, p/b, power windows, excel. cond., white/saddle, $7,000. 286-2221.

71 OLDS 98 - 4 dr., a/c, all power, good trans., $500; 27' camper/trailer, sleeps 8, a/c, $4,500. 732-2778.

71 CHRYSLER - 4 dr. sedan, new trans., rebuilt engine, clean, good cond., $650. Ext. 4084 or 878-1060.

79 BUICK RIVIERA - mint cond., has every option incl. computerized dash, all beige, $9,000. Ext. 7009.

76 DODGE ASPEN - 4 dr., 6 cyl., p/s, 68,000 mi., reliable, $1,700. 744-6804.

70 OLDS CUTLASS SUPREME - excel. trans. with very good gas mi., must see, $575. Jeff, 351-1017 after 7 p.m.

75 FORD TORINO WAGON - good cond., 8 cyl., auto., a/c, p/s, p/b, l/r, 87,000 mi., $1,500. Ext. 3290.

67 TOYOTA LAND CRUISER - 4-wheel drive, restored, new wide track tires, new paint, $2,500; 1970 Mustang, 6 cyl., 57,000 mi. Joe, 744-3509.

79 PLYMOUTH VOLARE - 6 cyl., 56,000 mi., excel. cond., asking $2,400. Tsuchiya, Ext. 3531.

80 BMW MOTORCYCLE - R65, 1,000 mi., new battery, $2,750. John, Ext. 4973 or 781-3715.

79 TOYOTA CELICA GT - liftback, p/s, p/b, a/c, am/fm stereo, 45,000 mi., $4,500 firm. Ext. 2598 or 365-4692.

82 CAMARO - 11,500 mi., V-6 engine, auto., 25 mpg., a/c, p/s, p/b, cloth inter., excel. cond., $8,000. Ext. 3515 or 924-0010.

72 FIAT 128 - runs well, looks o.k., needs minor repairs. 929-8513.

SOFT TOP - for Chevy Blazer, excel. cond. w/hardware, $125. Ken, Ext. 2350 or 732-7944.

74 CHEVY PICKUP - good shape, $800; 1981 Kawasaki 440, black, low mi., take over payments. Greg, 289-6519 after 6 p.m.

80-1/2 VW SCIROCCO - 5 spd., sunroof, am/fm, good cond., 47,000 mi., must sell, asking $5,000. Gary, Ext. 2066 or 924-7480.

80 DODGE RAM - cap, low mi., excel. cond., many extras, $5,600 or best offer. 234-9630.

72 AUDI ENGINE - & 4 speed trans., in car, must be picked up, $100. Ext. 2476.

77 HONDA CVCC - 4 spd., rebuilt eng., excel. cond. Ext. 2075.

82 CHEVY 1/2 TON PICKUP - short box, mint cond., $6,800. Paul, Ext. 2476 or 751-2149 after 6.

82 DATSUN 210 - 5 spd., 2 dr., 21,000 mi., excel. cond., asking $4,400. Paul, Ext. 2264 or 941-9055.

67 CADILLAC SEDAN DEVILLE - 100,000 mi., mech. very good, body needs work, need muffler, $280. Ext. 3828 or 751-7250.

72 FORD PINTO - $400. Mike, Ext. 4293 or 567-9362

68 VOLVO 142S - 4 spd., rebuilt eng., runs well. Ext. 2781, or 286-0745.

77 BMW 320I - $7,500. Ext. 7918, or 286-0898 after 5:30 p.m.

Boats & Marine Supplies

16' SEA SPRITE - 1978, 85 HP motor w/elec. start, runs well, complete pkg. 821-9280.

15' STUERY RUNABOUT - 40 HP Evinrude outboard, trailer, all in good cond., $495. 878-0175.

8' SAILING PRAM - with 3 HP outboard, mast boom, hard sail board, rudder & anchor, $500. 286-1192.

15-1/2' FIBERGLASS TRI-HULL - 1981, 65 HP Mercury, in water, can demonstrate, asking $2,000. 399-5316 or 399-4122.

19' BAYLINER CAPRI - 1982, 125 HP Volvo Penta, I/O, full canvas, trailer. 289-1627 or Ext. 2900 after 5 p.m.

19' THUNDERBIRD - all glass, sit down cabin, navy top, 105 HP Chrysler. Ext. 2075.

16' EVINRUDE - 115 Johnson, 1982 Dilly galv. trailer, $2,000; 1981 Evinrude, 6 HP, $500. Ext. 2705 or 289-9581.

15' SILVERLINE RUNABOUT - glass, rebuilt 33 HP Johnson, Little Dude tilt-trailer, all for $900. Terry, Ext. 7148.

18-1/2' SAILBOAT - sloop, alum. spars, 6 HP outboard, stainless rigging, fiberglass over wood, $750. 929-8475 eves.

14' ADVANCE SAILBOAT - fiberglass, full sails, asking $1,000. Gerry or Dee, 878-1124.

BOAT TRAILER TONGUE JACK - $20. Ext. 4312.

SCALLOP DREDGES - (4), complete w/ropes, good cond., $50/ea. 929-8662 after 6 p.m.

8' SAILIING PRAM - 3 HP outboard, oars, mast, boom, hard sail, $500. 286-1192.

26' CABIN CRUISER - 105 HP, f.w.c., sleeps 4, fully equipped, self-contained, extras, $3,600. 286-1192.

Lost & Found

LOST - hearing aid, behind the ear type, tan color, $20 reward. Ext. 4841.

Yard Sales

SHOREHAM - 4 Seaview Ledge, Sat. & Sun. Oct. 8-9, rain or shine, 9 a.m.-4 p.m. 744-6804.

CENTER MORICHES - 121 Union Ave. (turn right at light in town), Sat. Oct. 8, 9:30-4:30.

STONY BROOK - 18 Stafford La. (Strathmore - off Nicholls Rd.), Sat. & Sun. Oct 8-9, 10-4.

SHIRLEY - Appel Dr. E., Sat. Oct. 22 only. 399-4122.

Miscellaneous

SLIDE ON CAMPER - for 8' bed pick-up, stove, sink, lights, dinette, cabinets, $500. 928-8709.

7' SNOW PLOW - needs paint, $100. 363-6845.

ELECTRIC BIKE - 1983, 3-wheel, only 12 mi. Vinny, 473-0312.

KINDLING WOOD - 100 lb. size bags, $ per bag. 751-6418.

CIGARETTES - Benson & Hedges 100's, 12 pkgs/$8.50. Ext. 2492.

RECLINERS - identical pair, Wallaway units, 2-1/2 yrs. old, Herculon plaid, camel color, cost $250/ea., sell for $125/pr. 654-5888.

KITCHEN TABLE - 32" round butcher block, 2 chairs, good cond., $50. Linda, 924-7476.

TRUMPET - Couesnon (Paris), with case, very good cond., $100. Ken, 281-5565.

WOMEN'S WOODS - nos. 1 & 3, Wilson Patty Berg, registered, like new, $20. Ext. 7226.

ANTIQUE TELEVISION - with radio built in bottom, $75. 732-3338.

DINETTE SET - chrome with smoked glass top, 4 upholstered matching chairs, $250. Susan, 467-8563.

COLONIAL BUFFET & HUTCH - brand new, $300; bedroom set, 7 pieces, with hope chest. 399-5316 or 399-4122.

BROYHILL DINING SET - trestle table w/2 leaves, 2 captain chairs, 4 straight back. chairs. 727-4515.

LARGE PICTURE - Spanish bull fighter, $15. Barbara, Ext. 2456.

BOOK - "First Course in Data Processing," $10. Ext. 4846.

VIOLIN - 1/2 size, with case, $100. Eileen, Ext. 4949 or 924-4922 after 6 p.m.

MCCULLOCH CHAIN SAW - gas, 16", like new, $100; Remington portable typewriter, with case, $45. 286-1062.

HOT POINT REFRIGERATOR - white, top freezer, good cond., $100. 928-0297 eves.

DINING ROOM CHANDELIER - Italian Provincial, (2) hanging occasional lamps, French Provincial, excel. cond. Ext. 4531 or 331-3785.

DRESSES - Mother-O'-Bride, pale blue/rose, size 12, $25 ea.; blue & white prom dress, size 9, $15. 751-2149 after 6 p.m.

CAMERA LENS - 135mm telephoto, Pentax mount, brand new, $65. Ext. 4153 or 732-5829.

TICKETS - (4) American Ballet Co., at SUNY, Stony Brook, Oct. 8, eve., $10 tickets for $8. 473-2473.

LAWN MOWER - Sears, 21", self-propelled, rear bagger, 4HP, $125. 744-9677.

WEDDING GOWN - antique satin, size 10, $75; ice skates, white, size 8, $15. Ext. 2265 or 289-0567 after 6 p.m.

MICROMET FEEDER - with some crystals, $25. 281-8274.

G.E. HAIR DRYER - $20; car radio, fm stereo, Craig, Pioneer model 1901, $50. Lou, Ext. 4364.

INTELLAVOICE - for Intellavision, new, make offer. Bob, Ext. 4254 or 727-1146.

YAMAHA ORGAN - B60-U, deluxe features, many instruments with full accompaniment, 2 yrs. old. Richie, Ext. 2175 or 734-7342.

POOL FILTER - DE, $100; (2) pool covers, (1) solid with pillow, (1) 16x32 solid, $50; pool vacuum with hose, $25. Ext. 3569.

COMMERCIAL SLICER - 1/4 HP, stainless steel, $550. Barbara, 226-2777.

CASEMENT WINDOWS - heavy duty, alum., screens, storms incl., various sizes, $20/ea. Niels, Ext. 4124.

BUNDY FLUTE - excel. cond. w/case, recently tuned, new pads, $110. 732-2249.

ATARI 2600 COMPUTER - incl. 9 cartridges, Ms. Pacman, Phoenix, Pitfall & others, all attachments, excel. cond., best offer. 751-2095.

HAMS - Heath C.W. transceiver HW16, w/V.F.O., ant. tuner, SWR meter, coax switch, complete, $200. 589-2648.

WROUGHT IRON RAILINGS - (2) heavy duty, fancy 3-step, 4' stoop; 1928 Hoosier kitchen cupboard, roll top front, $300 firm. 744-3792.

SKIS - boots, bindings, access., like new, name brands. 689-8665 after 5:30 p.m.

ROUND FORMICA TABLE - 32", (2) chairs, $50; wood corner desk, $15; sofabed, $20. Linda, 924-7476.

GARDEN FURNITURE - lawn mower; spreader; chain saw; roof carrier; alum. ladders; dressers; armchairs; mattresses; much more. 744-6804.

REDWOOD TABLE - 28"x36" with 2 benches, $40; kitchen table with blue chrome legs & 2 chairs, $20. 399-2931.

TV ANTENNA - new, $50; self propelled lawn mower, $125; car roof rack, $20; portable dishwasher, $125. 744-9677.

CHILD'S ROCKING CHAIR - $15; musical lamp, $8; Admiral 19" b&w TV w/stand, $35. Ext. 3369.

NIKKORMAT FT2 CAMERA - with 50mm Nikor lens, extension tubes, excel. cond., $200. 929-8662 after 6 p.m.

GAS HEATER - 75,000 BTU, thermostat controlled, excel. cond. Hugh, Ext. 4669 or 924-3522 after 5 p.m.

LAWN TRACTOR - 36" snow blower, 32" mower deck, skid chains, 8 HP, Simplicity, $550. 473-1967.

HANGING LAMP - $20; wrought iron sconce, holds 8 candles, $15. Lois, Ext. 4904 or 929-4753 after 5 p.m.

COUCH - black, high back and sides, 6-1/2' long, pillows, needs new zippers, orig, $1,500, sell for $800. Ext. 7009.

TV - 19" Zenith, b&w with table. 698-3856.

GUITAR AMP - Fender quad reverb, (4) 12" speakers, $300; Sears 12" chain saw, $75. Joe, Ext. 4661.

SORREL HORSE - chestnut, 16 hands, good for beginner, best offer. Eileen, 727-0143 after 5 p.m.

BASS ACCORDION - student size 120, w/case, imported from Italy, new cond., $250. Jimmy Megna, Ext. 2957.

BURKS WATER PUMP - shallow well, 1/2 HP, $150. Ray, Ext. 4479.

RCA XL-100 COLOR TV - 19", good cond., $85. Tsuchiya, Ext. 3531.

SCREEN WINDOWS - & door for porch; child's car seat; baby crib; playpen; safety gate. 689-9282.

PHONO CARTRIDGES - Shure V15 type 3, used about 50 hrs., $25. Ext. 3828 or 751-7250.

SEARS WASHER & DRYER - 5 yrs. old, excel. cond., $350/pair; (1) 26" boy's bicycle, (1) 24" girl's bicycle; electric blanket. Ext. 3597.

CAMPING FLY - 8x10, $25; Sears pak-a-potti, $25. Ext. 4846.

TI99/4A COMPUTER - 6 games, joysticks, cassette interface cord, voice synthesizer, $200; girl's 16" Columbia bicycle, $35. Bill, Ext. 3847.

8' POOL TABLE - $50; Bassett triple dresser, glass top, mirror, white, $150. Ray, 666-0587.

EPCOT TICKETS - commemorative edition, 2 avail., good anytime, $30/ea. Walt, Ext. 4798.

CRIB WITH CHEST - carriage; strollers; hi-chair; port-a-crib; excel. cond., best offer. Joyce, 473-3070.

MET OPERA TICKETS - (2) La Traviata, Nov. 26; (2) Macbeth, Feb. 4, $35 ea; (2) SUNY concert tickets, Soviet Emigre Orchestra, Dec. 3, $12.50/ea. Manny, Ext. 4470 or 363-6787.

DINING ROOM SET - 3 pc., sliding glass hutch, table w/2 exts., 4 chairs, counter-dish cabinet, all $70; other items. Ext. 3193.

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

ROCKY POINT - 7 mi. to Lab, 2 bdrm. house, very pretty inside & out, quiet neighborhood for single or couple, no pets, $550 plus util. & security. 473-4948 eves & weekends.

SHIRLEY - 1 bdrm. with house privileges, use of washer & dryer incl., $350 mo. 399-4122 or 399-5316.

BERKSHIRES CHALET - 3 hrs. from NYC, 3 bdrms., 2 baths, fully equipped kitchen, elec. heat, deck with spectacular view, near lake, hiking trails, ski areas, cross country skiing on property, weekends or weekly. 929-6946 after 6 p.m.

CORAM - large studio apt., $375/mo. + util., avail. Nov. 1. Louise, Ext. 3405.

N. SHIRLEY - two furnished rooms for couple or one person, reasonable, 5 min. to BNL. 924-0960.

MIDDLE ISLAND - share furnished 3 bdrm. house, wood stove, w/d, dishwasher, garage, avail. 11/83 thru 5/85, split $500 + util. Gary, Ext. 2066 or 924-7480.

For Sale

CENTER MORICHES - 3 acre business property w/Shop, 30'x40'; 2 bdrms. house, l/r, w/w carpeting, near school & shopping. 878-0470.

SHOREHAM - spacious modern ranch house on wooded acre, 5 bdrms., 3 baths, large family room w/fireplace, laundry room, patio, beach rights, $125,000. 744-6804.

RIVERHEAD - mobile home, 12'x60' with 10'x15' extension, w/w carpeting, a/c, major appliances, dishwasher, washer & dryer, shed, family park, $18,000. 727-5475.

Car Pools

PATCHOGUE - additional drivers wanted for 3-man car pool, 8:30-5. Joe, Ext. 4477.

MILLER PLACE - would like to join or start car pool. Mulki, Ext. 2902.

COMMACK - would like to join car pool, 8:00-4:30. Don, Ext. 2043.

Wanted

COUCH - rattan or wicker, fair cond., reasonably priced. Toni, 289-4211 eves.

JEEP - CJ-3, 1945-51 to be restored, parts, manuals, information as to surplus military vehicles. Tony, Ext. 3198.

WOOD WINDOWS - in good cond., size approx. 26x42; used construction lumber for garage shed. Sanchez, Ext. 3848 or 281-6498.

DANFORTH-TYPE ANCHOR - and small outboard for 14' sailboat. Ext. 7190 days or Ext. 3130 eves & weekends.

HOME - for kittens, long-haired, declawed, tiger, neutered, male mouser, gentle, trained. Ext. 2859 or 928-9537.

DINING ROOM TABLE - high back chairs, wood only, old o.k. 744-3792.

GRANDPARENTS - & other adults to participate in classroom fun at Upton Nursery School, more info. 286-0925.

GUITAR LESSONS - on site or off, reasonable. Bill, Ext. 2378.

GUINEA PIG - female, young, short hair, free. 744-1112.

ROOMMATE - to share large 4 bdrm. house, 5 min. from Lab, large grounds, appliances. Jack, 924-3669.

USED MOTORCYCLE RACING BOOTS - for 12 yr. old boy, size 5, reasonable. Bob, Ext. 4672 or 929-4753 after 5 p.m.

SMALL HOUSE - 1-2 bdrms., to rent with stall for horse, Wading River and surrounding areas. Ext. 7009.

SAILING OPPORTUNITY - experienced yachtsman seeks to sail south this fall/winter. Ken, Ext. 7959 or 581-1169 eves.

USED MAGAZINES - for CHPS Medical Center, esp. children's, you bundle, I will pick-up. Joe, Ext. 2897 or 281-7683.

HOUSE - 2 bdrms., to rent, BNL or SUNY areas, small family, reasonable, non-smokers, non-drinkers, no agents. 282-3130 eves.

COMPLETE SINGLE BED - Ext. 4452.

EARLY FORD 302 ENGINE - 351 w/heads & 4 spd. to build. Ric, Ext. 2767 or 2510.

Ads for Services may be posted at the BERA Sales office.

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