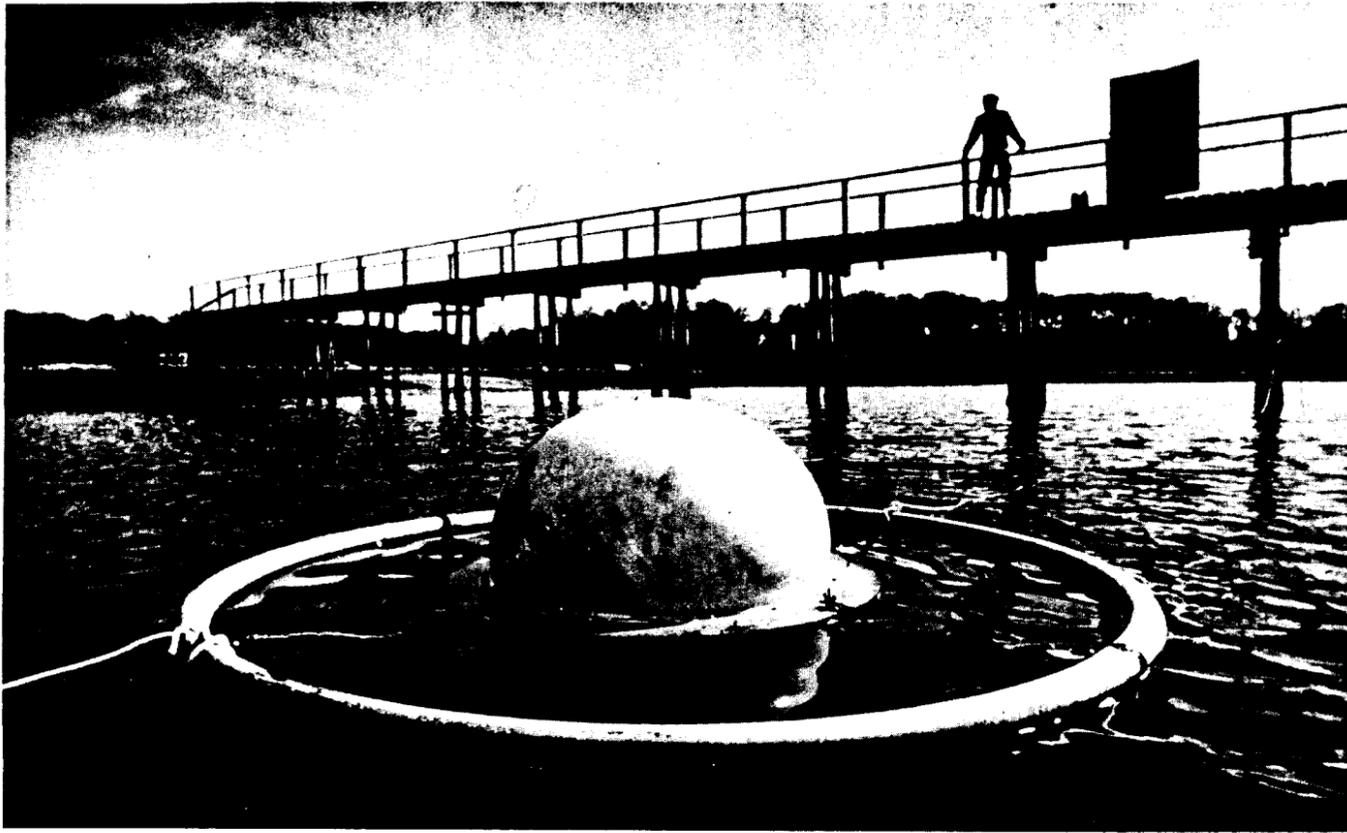




## Ecology Probe At Flax Pond



This inverted dome is filled with nitrogen which, over time is displaced by oxygen being released from the marsh waters. The oxygen release is measured by a probe inside the dome which leads to an instrument in the

metal cabinet on the bridge. Also in the cabinet are instruments which measure water temperature and tidal flow.

Story on page 2

## Fish Kill

Brookhaven scientists and State and County officials are trying to determine the cause of a fish and vegetation kill in the swampy headwaters of the Peconic River at the eastern end of the Lab site.

Dying water vegetation noticed last Thursday by health physicists during a routine check at a monitoring station, was the first indication that something was wrong. Later, while searching for more dying vegetation, a few dead fish were found. By Saturday, the dead fish count was close to 100.

The areas is a mile east of the Lab's sewer treatment plant. Sewage is treated and filtered through sand beds where it meets the waters of the Peconic. From the Lab, the Peconic River flows toward Riverhead where it empties into the Great Peconic Bay.

Radiation has been ruled out as the cause of the kill. The severity of the kill peaked Saturday and things are returning to normal but the cause has not yet been determined.

Samples of water and aquatic life have been taken from the kill area and are being analyzed by Lab scientists and by the New York State Department of Conservation and the Suffolk County Department of Environmental Control. The kill area, which is between a quarter-mile and a half-mile long, is totally within the Lab boundaries.

## Historic First For F.I.D.

The Flying Image Digitizer (F.I.D.) for reading bubble chamber film has reached operational status as films for the first experiment are being processed. The occasion was celebrated Thursday, May 16, by the New Group in the Physics Department. After the workday, champagne was served and the F.I.D. was put through its paces by the operators.

The F.I.D. is able to digitize 35mm film from conventional chambers like the "80-inch" and 70mm film from super chambers like the "7-ft." Any object recorded on film as a collection of points and lines can be digitized. The location of bubble images is digitized at an accuracy of a few microns and adjacent bubbles are resolved when they are separated by one bubble diameter of about thirty microns. In the design, Monty Montag, mechanical engineer, made frequent use of air bearings to obtain the required measurement accuracy and minimize the maintenance costs.

Electrical engineer Richard Hogue, using original concepts, assembled the hardware and wrote the computer programs to control two stepping motors used to drive film.

An orchestration of three computers is used for the F.I.D. The smallest, a PDP11, is dedicated to controlling the F.I.D. according to instruction-messages received from a master control program that executes in an XDS Sigma-7 time-shared

## Van Slyke Award

The recipient of this year's Van Slyke Award in Clinical Chemistry is Norman G. Anderson, director of the Molecular Anatomy Program at Oak Ridge National Laboratory.

The award is presented annually by the New York Metropolitan Section of the American Association of Clinical Chemists, Inc. It is given in honor of Donald D. Van Slyke, a scientist who pioneered the use of chemistry for the service and advancement of medicine.

Van Slyke was a Senior Scientist and Assistant Director of Biology and Medicine at Brookhaven from 1949 to 1951. But he remained a Guest of the Laboratory until his death in 1971.

The award, presented on May 7, included a medal, a plaque, and a \$500 honorarium.

computer. Upon command, the PDP11 causes the F.I.D. to send the digitized points over its Brooknet connection to one of the CDC6600 computers at the Central Scientific Computing Facility.

Up to 150 events can be digitized per hour by the F.I.D. depending on the details of the film format and the requirements of the experiment. The first experiment is starting at forty events per hour.

The F.I.D. concept was invented by Minato Kawaguti of the University of Tokyo, a former member of the Applied Mathematics Department. The project was led by senior physicist Paul Hough until August 1973, when he took sabbatical leave. Physicist Dick Strand has supervised the project since that time.



Eighteen members and alumni of the Physics Department gather around the projector station of the Flying Image Digitizer. Standing, left-right: Terence Meehan, Karl Abrams, James Scharenquivel, Anne-Marie Cnops, Benjamin Rosen, Carson Daniels, Paul Hough, Barbara Smith, Monty Montag, Joseph Scheliga. Seated, left-right: Frank Crifasi, Yan Pong Yu, Martin Van Lith Jr., Theodore Erickson, Michael Munoz, Shelby Jessup, Edward Frantz. Not present for the picture were Philip Connolly, Richard Hogue, Joseph Nardi.

## BNL To Receive Award

Brookhaven National Laboratory has been selected by the Business and Professional Women's Clubs of New York, Inc. to be awarded for extending opportunities to women. The Laboratory was nominated for the award by the Patchogue Business and Professional Women's Club.

Assistant Director R.C. Anderson will accept the award on behalf of the Laboratory on Saturday, May 25, at the Granit Hotel and Country Club in Kerhonkson, New York.

## Official & Special Events

Wednesday, May 29

Biology Symposium (May 29-31)

Monday, June 3

Summer Workshop on Particle Physics with Polarized Targets (June 3-7).

Tuesday, June 4

Long Island Communicators Tour

Wednesday, June 5

122nd BNL Lecture - G. Danby, 8:30 p.m., Berkner Hall

Thursday, June 6

High Energy Advisory Committee Meeting (June 6-7)

Friday, June 7

Magnet Discussion Meeting (June 7-8)

Tuesday, June 11

Cross Section Working Evaluation Group Meeting (June 11-13)

Wednesday, June 12

Navy Meeting - 7:30 p.m., Berkner Hall

Friday, June 14

High Energy Discussion Group Meeting

## Selected Reading

New Sci. 62, April 4, 1974

Pipelines across Alaska. B. Sage. 10-12

Importing the lessons of Swedish workers. N. Valéry. 27-8

Sci. Amer. 230, May 1974

Nuclear strategy and nuclear weapons. B.E. Carter. 20-31

Smithsonian 5, May 1974

Early warnings of future disaster. A 28-year may carry clues of serious illness or even death before our time. M.H. Cadwalader. 88-90

Environment 16, May 1974

Censoring nuclear debate. S. Novick. 18-20 +

## Diners Note

The Center Club will be closed Sunday May 26th, the day preceding Memorial Day. However, it will be open on Monday evening, May 27th.

The Cafeteria will be open from 9:00 a.m. until 2:00 p.m. on Saturday, Sunday and Monday, May 25th, 26th and 27th.

The Vended Food Service in Building 912 is in operation continuously.

## Don't Stop Now!

Last Fall and Winter, employees were asked to save energy by controlling the heating of their offices and laboratories by setting the thermostats to not more than 68°F. The Laboratory Energy Conservation Committee was formed with Energy Conservation Coordinators in each department. Our efforts in this program resulted in a considerable savings in fuel oil and electrical energy, helping to minimize the skyrocketing cost of these supplies.

Now the Laboratory is asking all employees to save energy on air conditioning. For comfort cooling, i.e., personal comfort not related to experiments or sensitive equipment, employees are asked not to cool their offices or laboratories to lower than 78°F.

Since air conditioners come in a wide variety of forms, shapes and sizes operating on different principles, a simple setting of the thermostat may not be the answer to maximum energy savings. If there are any doubts or questions, they should be referred to the departmental administrator or Energy Conservation Coordinator.

All air conditioners have some form of a refrigeration unit to lower the temperature of the air. In a simple window unit the refrigeration device consists of a refrigerant compressor driven by an electric motor.

Some air conditioners have the added function of humidity control. This is done by lowering the air temperature below the comfort range to remove moisture and then by use of more energy, reheating to the desired value.

The following rules should be observed for the three main types of air conditioners installed in the Laboratory.

### During Working Hours

For areas that are cooled by window-type air conditioning units or self-contained packaged air conditioning units without reheat:

1. Do not turn units on until space temperature is 78°F or higher.
2. If units have fan speed control, set at low speed. During the warmest period of summer, usually when outside temperature is 85°F or higher, it will be necessary to run the fan at high speed. On some units it is labeled as "Hi-Cool" and "Lo-Cool."
3. If units have calibrated thermostat, set at 78°F. Units with a "WARMER-COLDER" type labeling on thermostat, adjust control until unit maintains 78°F in space as registered on a desk or wall thermometer.

For areas that are cooled from a central system with reheat control (steam, hot

(Continued on page 2)



The primary vegetation in the marsh is *Spartina alterniflora* which dominates the intertidal zone. Because this grass is the principal source for utilizing the sun's energy, all of the life in the pond depends on it. In the Fall, this grass naturally dies and becomes thatch which carpets much of the marsh area.

## Two-Year Wetlands Study Nears End



Neal Tempel (foreground) and Dave Juers check a benthic chamber which measures the metabolism of organisms in the sediment (benthos) of Flax Pond. The instrument was designed and built by Tempel as were many of the sampling devices used in the Flax Pond study.

By the end of the summer, George Woodwell's Ecology Group will have completed their two-year, NSF-funded study of Flax Pond, an estuarine marsh on the North Shore of Long Island. Preliminary results already show that the marsh functions differently than they expected at the onset of the study.

Contrary to previous belief, Flax Pond is a heterotrophic marsh, meaning that it consumes more nutrients and energy than it produces. This conclusion was reached by examining the exchange of carbon and other nutrients between the marsh and other ecosystems, including the Long Island Sound and the atmosphere.

The bulk of the atmospheric studies and field work is being done by Neal Tempel, while the chemical analysis of dissolved and particulate carbon and other nutrients coming in and out of the channel with the tides is Dave Whitney's area. The whole study constitutes the most complete one of its kind ever done.

Now that the study is almost completed, what happens next? According to George Woodwell, they will continue to study the workings of the marsh but in more specialized areas and on a less intensive basis.

They would also like to look at other marshes in the area to see if they function similarly to Flax Pond. Since their NSF funding will have run out by then, they will continue, using AEC funds, says Woodwell.



Dave Whitney of the Ecology Group in Biology, uses an atomic absorption spectrophotometer to measure calcium levels in a sample of seawater. Up until a month ago he was taking water samples once a week throughout one tidal cycle in the channel connecting Flax Pond to the Long Island Sound. He has been analyzing the samples for dissolved and particulate carbon and other nutrients such as nitrogen, phosphorus, potassium, magnesium, calcium and sulphur. This summer he plans to concentrate on the nutrients in the sediments of the marsh.



The water volume in the marsh has increased enough since the beginning of the study to make the boat a vital means of transportation. Neal Tempel used to be able to wade out to his monitoring stations but now the water is over his head. This is due to a sill at the entrance of the channel continuously building up by a large mussel population and creating a dam.

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### Arrivals & Departures

#### Arrivals

William C. Fritz.....Applied Math  
Jeanne M. Weber.....Applied Science

#### Departures

Carol A. Beckner.....Tech. Information  
Odelli Ozer.....Applied Science

#### In Memoriam

Howard M. Golding, a retired BNL employee who worked in Plant Engineering, died on 5/9/74.

## Save Energy

(continued)

water or electric) and self-contained packaged air conditioning units with reheat:

1. Set thermostats at 72° F. Note: The space thermostat controls the reheat not the central cooling system. Setting the room thermostat at 78° F will cause the reheat coils to reheat the air using additional energy. In addition, those systems which recirculate the air, the higher space temperature will put an additional load on the central cooling system.
2. In those buildings, where the central cooling is for human comfort only, Plant Engineering will raise the control set point of the central cooling system to be consistent with a 78° F space temperature.

For areas that have fan-coil units with dual heating and cooling ability supplied from a central source:

1. Do not turn units on until space temperature is 78° F or higher.
2. Units with fan speed control, set at low speed. During the warmest period of the summer, usually when outside temperature is 85° F or higher, it will usually be necessary to run fan at high speed.
3. Units with a calibrated thermostat set at 78° F. Units with a "WARMER-COLDER" type labeling on thermostat, adjust thermostat control until unit maintains 78° F in space as registered on a desk or wall thermometer.

### During Off-Hours

1. Where air conditioning units are used for human comfort only, they should be turned off when the space is not occupied.
2. On all other systems, no change to thermostat setting should be made.

## Perimeter Run and "Bike-a-thon"

This spring's events will take place on Sunday, June 9, starting at 11 a.m. There have been so many requests for a 5-mile run as well as the 10-mile perimeter course that plans have been made to work in a 5-mile event.

The distance for the bike race will be 17.5 miles, over the same course as last fall. The Radio Club will provide communications for the events.

All events will be open to Lab employees and their immediate family members. Further details will appear in future issues of the *Brookhaven Bulletin*.

### Cafeteria Menu

Week Ending May 31, 1974

<b>Monday, May 27</b>	Snack Bar open from 9:00 a.m. to 2:00 p.m.	
<b>Tuesday, May 28</b>	Navy Bean Soup	
	Spanish Omelet & French Fries	.95
	Curried Lamb on Rice	1.10
<b>Wednesday, May 29</b>	Beef Barley Broth	
	Roast Fresh Ham & 1 Veg.	1.10
	Spaghetti w/Meat Sauce & all the Garlic Bread	1.00
<b>Thursday, May 30</b>	Turkey Noodle Soup	
	Broiled Chicken Livers & 1 Veg.	1.00
	Braised Beef a la Mode & 1 Veg.	1.20
<b>Friday, May 31</b>	Clam Celery Bisque	
	Baked Filet & 1 Veg.	1.05
	Meat Loaf & 1 Veg.	1.00

## Re-cycled Trophies

Do you have any old trophies collecting dust in your attic? If so, now is your chance to do some spring cleaning by donating them to a group which will really get some use out of them.

The Boy Scouts of America would be more than happy to accept any old trophies and recondition them for use in Boy Scout activities. All types are acceptable and the condition they are in is unimportant. Donations are not limited to trophies with male figurines; female figurines will do just as well.

The person behind this campaign to recycle old trophies is George Gurdish, Secretary of the Green League of the BERA Bowlers. If you would like to donate a trophy, contact him at Ext. 2486 or at 727-7724 in the evenings.

## LIRR Schedule Change

Changes in the Long Island Railroad Time Table, effective on May 20th, necessitate changes in the Laboratory Bus Schedule.

The a.m. bus will wait at the Patchogue station for the train scheduled to arrive at 9:43 a.m. This train leaves Penn Station in NYC at 8:10 a.m. and leaves Jamaica Station at 8:35 a.m.

The p.m. bus will leave the Administration Building promptly at 3:45 p.m. for the Yaphank Station to meet the 3:59 p.m. train. As a prompt departure is necessary to meet the train, those wishing to take the bus should arrive at the Administration no later than 3:40 p.m. This train arrives at Jamaica at 5:47 p.m. and at Penn Station at 6:11 p.m.

## Letters To The Editor

Dear Sir:

In reference to the controversy over the definition of the word hobo, I would like to say that according to Webster's Seventh New Collegiate Dictionary both Ms. Conlin and Mr. Trigg are correct. Webster's provides two definitions for hobo: "1: a migratory work 2a: a homeless, usually penniless vagrant: tramp b: a bum." This, I think, should solve the hobo controversy.

—A Wanderer

## CREF Unit Values

1973			
January	\$50.36	February	\$47.11
March	46.44	April	43.69
May	42.06	June	41.40
July	44.80	August	44.06
September	46.63	October	47.06
November	41.30	December	42.61
1974			
January	\$40.75	February	40.83
March	39.32	April	\$37.58

## Hospitality News

The Hospitality Committee morning coffee will be held on Tuesday, June 4, from 10:00 a.m. to noon in Apartment 10C. Mmes Bozzo, Villalobos-Pietrini, and Zanzi will discuss different regions of Latin America.

Please come and bring the children.

## Piano Duo In Concert

On Wednesday, June 12, a piano concert will be presented at 8:30 p.m. in Berkner Hall. The artists will be Louis Robert Harson and William Daghlian.

Mr. Harson began his musical career at the age of seven and gave his first public performance two years later. After winning the "Frederic Chopin" award in 1970, he continued his musical education at the State University of New York at Stony Brook with S. Carlock. He performed recitals at SUNY and was encouraged to pursue his studies at the Manhattan School of Music, where he studied with Constance Keene and Dalmo Karra. In addition, he has also studied with W. Daghlian, participated in Master Classes of Abram Chasins and performed in several American cities.

Lou is the son of Louis A. Harson, Principal Architect of BNL's Plant Engineering Division, who resides in the Village of Poquott on the north shore of Long Island.



William Daghlian (left) and Louis Robert Harson.

Mr. Daghlian, a native of Sao Paulo, Brazil, also began his musical studies at the age of seven and made his public performance a year later. He subsequently studied with and became assistant to Anna Stella Schic, herself a former pupil of Marguerite Long, Edwin Fischer and Villa-Lobos. Prior to continuing his education in the United States, Mr. Daghlian also studied with Isabel Mourao. In the U.S., he attended the Juilliard and Manhattan Schools of Music under the tutorage of Alton Jones and Dalmo Carra. Mr. Daghlian has performed in both North and South America and is presently devoting himself to teaching.

The program will include works by W.A. Mozart, Bach-Busoni, F. Schubert and Gottschalk. Two of the pieces will be arranged for four hands.

There will be no charge for admission to the concert, but any donations will be graciously accepted.

## Rifle & Pistol Club

Members: Do attend our June 12th meeting. We will be discussing our proposed revised constitution.

## College Tour



Kurt Fuchel (Applied Math) welcomed a group of 37 students from the Math Computer Science Club of Staten Island Community College, and 5 from Bates College, who visited the Lab on May 15.

## Softball

Dick Ruffing

The 1974 softball season opened last week, and with the cooperation of the weatherman we were able to complete a full schedule for the week.

### Brookhaven League

Last year's league champs started out the season with a 17-7 win over S & M. George Oldham had a good night with the bat, as he went 4 for 5 and drove in 4 runs. In the bottom of the 6th the Blue Jays pulled off a triple play with George Harris the recipient of the 3rd out. The play was 1-6-3-5. Seems like George wandered off 3rd base inspecting the foul line - perhaps to see if he could paint a straighter line - and there was the third baseman applying the tag to George for the 3rd out.

In the second game of the evening the Old Timers pulled out the heavy bats and outslugged Metallurgy 20-9. Don Cassidy had a home run for the Old Timers.

### National League

The Ravens, a new team in the league, defeated the Circuits 6-5 in a very tight ball game. The Circuits were handicapped by the presence of only 8 players.

Poor defense by the Bio Meds and strong hitting by last year's Laboratory league champs, the Bubble Boys, provided a 19 to 4 victory for the Bubble Boys.

### Laboratory League

No scores were reported on the outcome of the games played between the Converts and the Charlie Browns and the Phoubars and the Streakers.

### University League

The season began with a 19-8 victory by the Oh-Kays over the Gotchas. It started out as a good game, but the Gotchas began having trouble with their pitchers and couldn't get the ball over the plate. When they did Ed Taylor connected for 3 home runs and Roy Evans with one.

In a game that went 9 innings the Free Agents defeated the Brookhaven Athletics 16-14. A good game that could have gone either way.

If you want the scores and highlights of your games published try to get the information to me as soon as possible after the game.

## Scotch Doubles

It was a fun filled afternoon and evening of bowling for 52 teams participating in the 2nd Annual Scotch Doubles Tournament held Saturday, May 11, 1974 at the Port Jeff Bowl.

The afternoon began with a half-hour of Crazy Bowling which seemed to put everyone in a Crazy sort of mood. What some teams won't do for a free drink or two (that means you team #10). If you missed the opportunity of rolling the ball over your partner's toes, better luck next year.

Congratulations to the winners!

### 1st place

Sam Miller and Fran Brown

### 2nd place

Carol Eterno and David Doroski

### 3rd place

Dick and Ellie Murgatroyd

### 4th place

Charley Flood and Audrey Blake

## Family Picnic



## Bowling News

Grace Fales

### Green League

Congratulations to the Designers, this year's league champions, and also to the Bubble Boys, who finished second. Results of the Sweeps were: High gross series: W. Rasmussen 883; 248 gross game; C. Neuls 852, and third, J. Sauls 846. F. Green was awarded high gross game for his 247. League awards for high achievements this year are as follows: Average: Ed Meier 179; Scratch Series: Lew Jacobson 638; Gross Series: Arnold Kreisberg 727; Scratch Game: Bob Jones 267; Gross Game: George Guydish 296; high team gross series: Sandbaggers 3180; and most improved bowler: Norman Fewell, plus 15 pins.

### Pink League

Carol Beckner has left our ranks to relocate in Utah. We all wish her health, wealth, and happiness. She will really be missed on the lanes next year. Good Luck!

### Black and Blue League

On Wednesday, May 15th, the Maybe's, the "Good Guys," and the Pinsplitters met for a 3 game Petersen Point round-robin to determine the league champion. By the end of the night the Pinsplitters were the league champs, just edging out the Maybe's in second, and the "Good Guys" in third. To all who participated in the mixed league - have a happy and safe summer and see you all in the fall. P.S. We have just been informed that the Pinsplitters have won the BNL Championship.

## White House?/Black House?

White House?/Black House?, two readings of the Watergate transcripts, will be presented on May 30 at 8 p.m. in the Exhibit Hall.

Are Nixon, Haldeman, Erlichman, Dean, Mitchell all second-rate men who created a shabby mess and let it get away from them, or did Nixon valiantly try to neutralize the errors of his overzealous subordinates for the nation's welfare? The encounters of these men recorded in the Watergate transcripts are open to at least these two interpretations.

Rita Straub and Ron Peierls, with the assistance of Iris Mastrangelo, will present a number of these exchanges as dramatic readings. They will direct their casts with different intents. One will emphasize the venality of the participants; the other, their innocence.

All members of the Laboratory are cordially invited to attend this presentation with their families.

## Cooking Exchange

Jane Love

Come to the last meeting of the year - Quick and Easy Stuff. Take a mix and do magic. See you on the 29th in the Recreation Building at 12:30

International Dinner - June 12 at 5:00 in the Brookhaven Center. Call now to make reservations.

Lee Schwender - 744-5422

Ruth Demmler - 751-6342

Terri Pittenger - 286-9471

Jane Love - 286-1136

## Picnic Time Saturday, June 22

All you can eat - all you can drink - all the fun you can have as you gather together with your family and co-workers.

There will be something for everyone, swimming in the pool, games of chance with prizes for kids, 2 rock bands for the young and those who wish they were, a banjo and guitar band, a square dance with professional caller, archery, golf, camping and cooking demonstrations, cotton candy, sno-cones, hot dogs, sauerkraut, corn on the cob, watermelon, beer and soda. How much you say? - \$3.00 for adults 13 years of age and older, \$1.00 for 12 and under. Babes in arms free.

Tickets on sale until Friday, June 14th and that's it. Sale will close on the 14th. See your favorite gal or guy below and get a good buy for a change. Tickets will also be on sale during the noon hour at the Cafeteria.

Don't forget Mr. & Ms. contest. Plans next week.



Ticket Sellers: Audrey Bangel, Reactor; Lynn Kalbach, Biology; Eena-Mai Franz, Chemistry; Marge Stoeckel, Fiscal; Pat Towey, Physics; Ellie Murgatroyd, Director's Office; Janice Berry, HFBR; Florence Weiss, Purchasing; Grace Fales, S & M; Pat Oster, Accelerator; Kay Hunt, Personnel; Ruth Gonzalez, Applied Math; Doris Pion, Medical; Claire Kirkpatrick, Central Shops; Grace Searles, Hot Lab; Lola Kopp, Meteorology; Art Gannon, Electrical Utilities; Dick Allen, Grounds; William Ruppert, Building Maintenance.

## Service Awards

May

### 25 YEAR

Feigenbaum, Irving L. .... Physics  
Irsa, A. Peter ..... Chemistry  
Pollock, Dorothy S. .... Chemistry  
Der Mateosian, Edward ..... Physics  
Brandon, James B. .... Applied Science  
Fernandez, Edmundo ..... Medical

### 10 YEAR

Blevins, Oscar E. .... Plant Engineering  
Jellett, Elizabeth M. .... Medical  
Hupper, Robert B. .... Plant Engineering  
Pearlstein, Sol ..... Applied Science  
Sluyters, Theodorus J. .... Accelerator  
Howley, Michael J. .... Reactor  
Austin, Worth O., Jr. .... Health Phys. & Safety  
Fuller, Hardie A. .... Central Shops  
Lenz, William E. .... Physics  
White, Arthur J. .... Instrumentation

## Children's Summer Program

Applications are now being accepted for the 1974 Children's Summer Program. The program will be divided into two segments - the morning play sessions, for children of on-site residents, and the afternoon swimming instructions for children of all employees.

Application forms may be picked up at the BERA Sales & Services Office in the Cafeteria.

