

6-896-78



Some of the 69 summer students who arrived at Brookhaven on Monday and will be onsite until August 18.

Summer Students On BNL Campus

If you were among the 69 summer research students who came to BNL on June 4th or 5th, your arrival had been foreseen 30 years ago.

In 1948, George B. Pegram, representing the nine sponsoring Universities, wrote, "the present undersupply of workers in nuclear science and engineering is critical, and the only way to bring it to an end is to train young men." The sponsors envisioned a laboratory which, "would in no way take over the educational functions of the Universities, but would... allow... students to engage at the laboratory in research of a type too extensive to be carried on at the Universities."

The vision was formalized and de-chauvinized in 1952 when the Summer Student Program was initiated. Since that time, the number of applicants has been about 600 per year, out of which approximately 100 young men and women are chosen to participate as research assistants.

To ward off any excessively swollen heads, Glenn A. Price, Head of Academic Relations, recently noted that although competition is as rigorous as the figures imply, selections are not made solely on the basis of academic achievement and recommendations. Placement in the program is also contingent on the candidate's interest, and projects already in progress at the Lab.

Dr. Price hopes the summer students will "better understand that research is an inquiry, a searching and not exclusively the lab-type experiments conducted in school courses." He further recommends that students question their supervisors. "Your uninhibitedness," Dr. Price stated, "stimulates the instructors to review certain customary techniques."

The summer students of 1978 represent over 50 different institutions and will work in all of BNL's scientific departments. Kim Snable, College of New Rochelle, '78, is one of this year's participants. Kim had completed no less than four hours of her first day here when she found that she'd be spending two weeks in August in Tennessee. Kim will work from an airplane to "study sulfate species in power plant plumes." Alliteration aside, she is "very enthusiastic" about her assignment.

Janet Olsen, Vassar, '78, will be expanding her biology background by "gaining experience in an in-depth research project in bacteria."

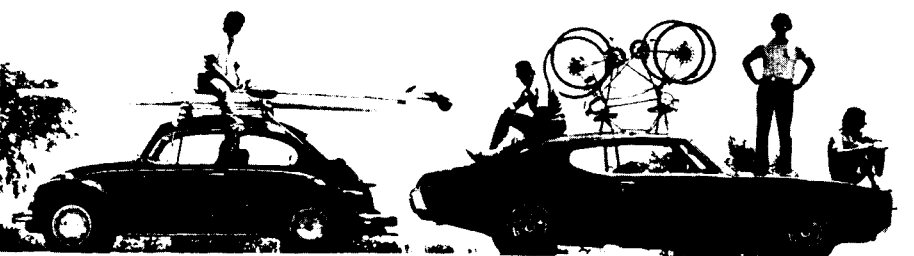
Debbie Zuckerman, Yale, '78, is spending her second consecutive summer at BNL and is "very excited" to be back. She will be working in the Medical Department on a project related to but not the same as her work last year. Debbie hopes to apply her knowledge to nuclear medicine at Boston University.

Mark Hofmann, Swarthmore, '78, has been assigned to the Instrumentation Division where he will use his electrical engineering background to assemble an LS-11 microprocessor. He expects to "gain experience in the research, design and development of electronic instrumentation."

Bob Hazle, University of Rhode Island, '79, hopes to "get as much as possible" from his summer in the Department of Energy and Environment. In addition to "a good summer at the beach," Bob expects to gain guidance in deciding on the type of chemistry and material sciences career he might eventually choose.

When asked to evaluate the program, the
(continued on page 2)

6-899-78



FOUND in front of Compton House (Men's Residence): One (1) windsurfer atop black Beetle and two (2) tenspeeds astride a sedan. Such scenes can mean only that summer, with its attendant student influx, has indeed arrived at BNL. Stan Bajuk, left, a summer research student in the Chemistry department, boards his windsurfer while Gregg Johnstone, seated left, Ira Garelick and Ed Salomon from Rutgers decorate Gregg's car. Gregg, Ira and Ed are working in Safety and Environmental Protection as part of the master's program in health physics.

It's 50 Letters For Tandem

On Monday, the Tandem Van de Graaff personnel celebrated the very recent publication of the 50th Letter reporting experimental results obtained at the facility. Letter journals contain "short communications dealing with important new discoveries of topics of high current interest in rapidly changing fields of research" and have provided the vehicle for publication of the most exciting results in physics.

In July 1969, the first beams were obtained from the Tandem, and in November 1970, the first Letter, reporting on lifetimes of levels in ^{38}Ar , was published in the journal *Physics Letters* by G. Engelbertink, Keith Jones, John Olness, and Ernest Warburton of BNL. Two weeks ago the fiftieth Letter reporting experimental results obtained at the Tandem was published in *Physical Review Letters*. The subject was the "Population of Resonant $^{12}\text{C} + ^{12}\text{C}$ States via the Reaction $^{12}\text{C}(^{16}\text{O}, \alpha)^{24}\text{Mg}$ " and reported results obtained by A. Lazzarini, E. Cosman, A. Sperduto, S. Steadman, W. Thoms and G. Young, a user group from MIT.

The Brookhaven Tandem facility has provided nuclear experimenters with the capability of a great variety of energetic, high quality heavy ion beams. These beams have been skillfully exploited for a continuing series of significant discoveries.

New isotopes far from the valley of stability were produced and their important characteristics examined. Energetic heavy ion beams of the Tandem have served to reveal what happens in the nuclear realm of high angular momenta. How large masses of nuclear matter interact with one another, exchange particles, energy, and angular momenta have been questions in the frontier of nuclear physics addressed by Tandem research. Recent work has demonstrated the widespread occurrence of nuclear orbiting in heavy systems. By passing heavy ion beams through thin foils, atoms largely denuded of their electrons are produced and permit study of phenomena of interest to astrophysics and solid state physics as well as the applied technology of fu-

sion devices. These fields have been the subjects of the Letters.

The Tandem Van de Graaff facility is available to University and other interested outside experimentalists. Of the fifty Letters published since 1970, approximately one-third are by BNL scientists, one-third by outside users, and one-third are the result of collaborations between outside and BNL experimenters.

In addition to these fifty Letters there are many other publications resulting from work at the Tandem, as well as from work by members of the Tandem Research group not using the Tandem facility. These number some twenty additional Letters and over 200 articles in *The Physical Review* and other journals.

The Tandem has been one of the most productive facilities in the American nuclear physics community during these years. Letters on research at BNL published in these years account for close to eight per cent of the total number of experimental nuclear physics Letters published by U.S. laboratories - a fraction large compared to the BNL Tandem share of the National nuclear physics budget.

On Tour This Weekend

The featured mini-tour on Saturday and Sunday will be the Tandem Van de Graaff Accelerator Facility, the world's highest energy Van de Graaff system. Brookhaven is the only place where two of these accelerators are used together to do nuclear experiments. Scientists will be on hand to explain how atomic nuclei are accelerated and to demonstrate some of the experiments in which these particles are used. Tour hours are 10 a.m. to 4 p.m.

EXHIBIT CENTER



At Session IV of the symposium in Berkner Hall, Dr. T. Akazawa, Nagoya University, Japan, presented his paper on "Structural Aspects of Ribulose 1,5-Bisphosphate Carboxylase."

Biology Sponsors 30th Symposium

The 30th Brookhaven Symposium in Biology, held at Brookhaven last week, attracted about 150 scientists from various universities, laboratories and private industry, both in the United States and abroad. This year's symposium focused on photosynthetic carbon assimilation. Invited papers and a poster session for relevant contributed papers covered a wide range of fields, from agronomy to x-ray crystallography. Conference proceedings are expected to be published this fall.



During an afternoon break, symposium chairman, Harold W. Siegelman, conducted a tour of some of the Biology Department laboratories. Here he is showing visitors how marine algae is grown at Brookhaven.

6-244-78

Arrivals & Departures

Arrivals

Patrick M. Calabrese..... Accelerator
 Edmond J. Desmond..... Biology
 Frank Flegar..... Central Shops
 Annmarie T. Grassfield..... Contr. & Proc.
 John H. Heiser..... Nuclear Energy
 Sven A. Landstrom..... Plant Engrg.
 Donald S. Makowiecki..... Physics
 Frances E. Nusz..... Supply & Materiel

Departures

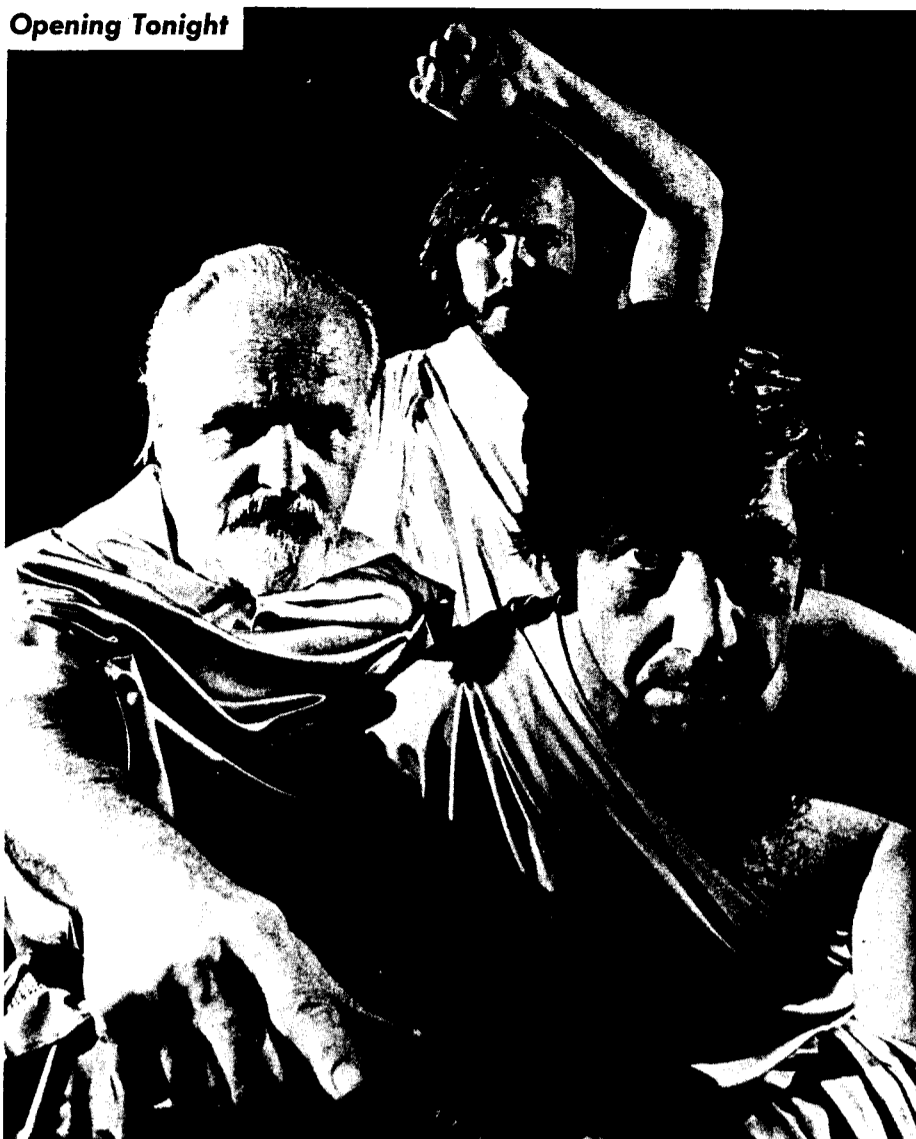
Thomas T. Boles..... Biology
 Anthony J. Catanese..... App. Math
 Janis T. Fritts..... Energy & Env.

Cafeteria Menu

Week Ending June 16, 1978

Monday, June 12	
Tomato vegetable soup	(cup) .30
	(bowl) .40
Bratwurst w/red cabbage	1.25
Knickerbocker sandwich w/cole slaw and chips	1.25
Hot Deli - Pastrami	(on bread) 1.15
	(on roll) 1.25
Tuesday, June 13	
Cream of potato soup	(cup) .30
	(bowl) .40
Meatloaf and 1 veg.	1.20
Macaroni and cheese and 1 veg.	1.10
Hot Deli - Corned Beef	(on bread) 1.25
	(on roll) 1.35
Wednesday, June 14	
Vegetable beef	(cup) .30
	(bowl) .40
Tuna noodle casserole	1.20
Lemon baked chicken and 1 veg.	1.20
Hot Deli - Veal and peppers hero	1.25
Thursday, June 15	
Chicken noodle soup	(cup) .30
	(bowl) .40
Sweet and sour pork on rice	1.30
Salisbury steak w/1 veg.	1.25
Hot Deli - Baked Virginia ham	(on bread) 1.25
	(on roll) 1.35
Friday, June 16	
New England clam chowder	(cup) .40
	(bowl) .50
Broiled filet w/1 veg.	1.20
Roast sirloin of beef and 1 veg.	1.40
Hot Deli - Meatballs and peppers hero	1.25

Opening Tonight



The Theatre Group's production of "Tiger at the Gates" opens tonight June 9 at 8:30 p.m. in Berkner Hall. Other performances are scheduled for June 10, 16 and 17. Featured in the cast are (from left) Richard Perry (Priam), Dennis Weygand (Hector) and Gus Basile (Abenos). Some of the other 22 members of the cast are Bob Phillips, Stan Lowell, David Dew-Hughes, Kurt Fuchel, Ruth Basile, Marc Rosenthal, Tom Davis, Donald Malloy, Dick Rothe and Jeanne Skully.

Tickets are \$3 for employees and guests; \$2 for those over 65 and under 18. They are on sale at lunchtime in the cafeteria or available in the following buildings via:

Helen Keeley	911A	AGS
Paula Hughes	902A	ISA
Gail Thompson	490	Medical
Irene Steele	463	Biology
Pat Kavanagh	750	HFBR
Gail Williams	460	Directors Office
Sharon Smith	510A	Physics

AUI-IBEW Negotiations

The labor contract between Associated Universities, Inc. and Local Union 2230 of the International Brotherhood of Electrical Workers expires July 31, 1978. The first negotiation session took place June 1 at the Brookhaven Center.

Members of the Laboratory Negotiations Committee are: D. Davis, W. Walker, J. Washburne, W. Webster, and J. White.

Members of the Union Negotiations Committee are: C. Geonie, F. Candiano, C. Hobson, D. Johnstone, J. O'Reilly, R. Farmer, L. Morris, G. Dioguardo, S. Gracia, S. Strelecki, J. Salvato, F. Norton, and the IBEW International Representative.

Student Arrivals (Cont'd)

"Group of '71" sent along the following remarks: "An excellent program providing outstanding opportunities;" "One of the best boosts to my academic career;" and "I am not engaged in research because I am doing religious work. . .;" "I have encouraged my students to pursue it."

Overall, past participants are extremely enthusiastic: "I have thought about it frequently since I left;" "I still correspond with several friends I made at BNL;" "Increased self-confidence;" "I started to play around with the computer myself and learned a little on my own"; "One's mind, rather than resources, became the limiting factor." And finally, "Thanks for the fine experience!"

Student stipends and partial travel reimbursement are provided by the Department of Energy's Office of Intergovernmental and Institutional Relations.

—Rosanne Pagano

(Rosanne Pagano is a summer student in the Public Relations Office.)

Theatre Group Meeting

The Theatre Group will hold its annual election of officers at a meeting on Wednesday, June 21, at 8 p.m., in Berkner Hall. Everyone is welcome.

Some Tips On the Rips

A summer at Brookhaven without excursions to the ocean is like a day without wine. The Great South Beach, so easily reached via William Floyd Parkway and the Smith Point Bridge (toll \$.75) is one of the most pleasant in the world. It doesn't quite present the perfect wave for surfers, but, come July, the water is most inviting. The unshingled beach and open paths in the swale offer tranquil walking or strenuous jogging. It offers splendid solitude or the most frenetic social activity.

For the inlander or newcomer, a word about swimming in the ocean may be appropriate. Heavy surf should be left to strong and experienced swimmers. In moderate surf, diving seaward under the breakers is not only exhilarating, but safer than trying to bob over or to confront them.

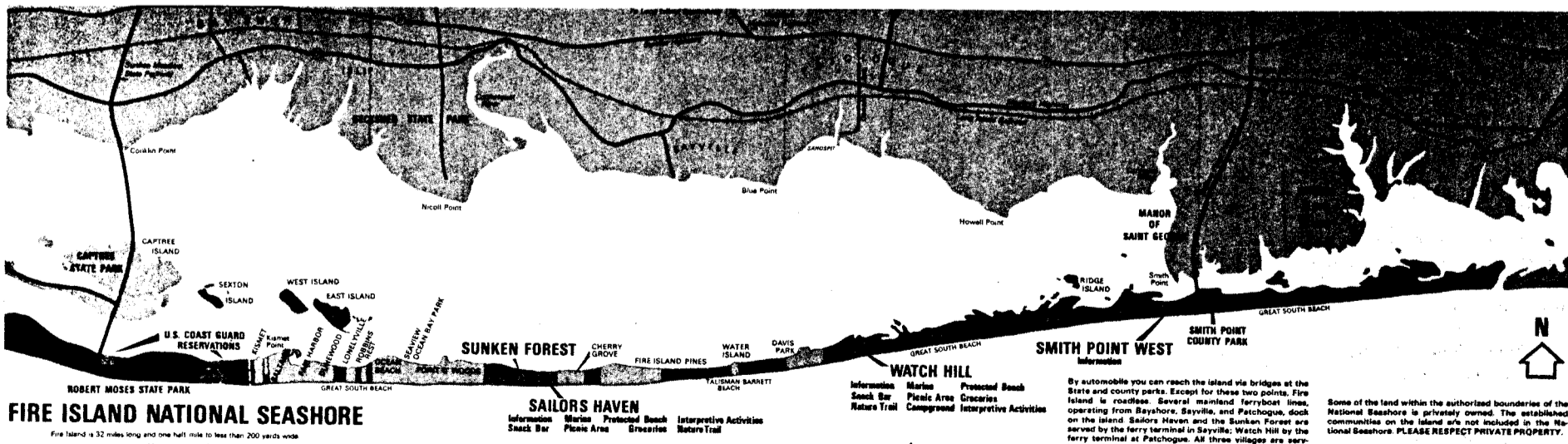
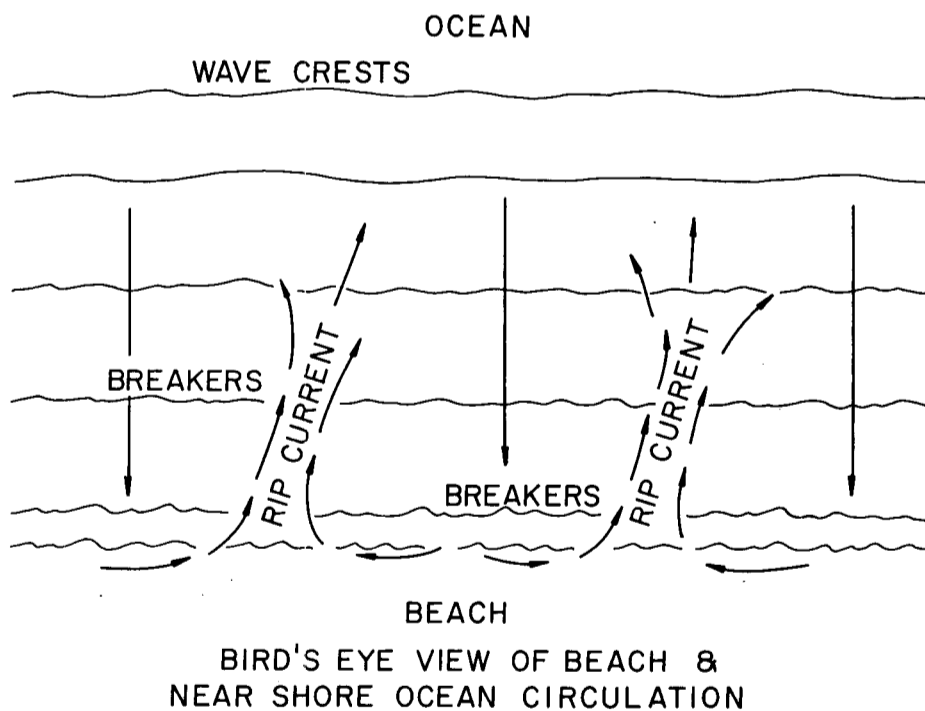
On occasion, the surf sets up a circulation resulting in rip currents which can be dangerous. These rips are relatively narrow, high speed currents which return to the ocean the water brought shoreward by

the wind and breaking waves. These currents are distinctly different from the so-called undertow which occurs at, and is confined to, the lip of the beach. They are not always easy to detect at sea level and must be treated with respect.

Surfers have come to use rip currents to return quickly out to the line of fresh breakers. However, anyone caught unwittingly in such a current should not try to swim directly to shore, but swim parallel to the beach until out of the current, and then to the beach. Remember also the extra buoyancy of salt water which makes floating a practical means of regaining breath and composure.

For most, the sun proves a greater hazard than the sea. Use of sunscreen lotions (especially on children) and hats, and the consumption of copious supplies of suitable beverages to combat dehydration, will make being at the beach comfortable, as well as safe. Enjoy!

—R.C. Anderson



One of the most beautiful barrier beaches in the world, Fire Island is 32 miles long and one-half mile to less than 200 yards wide. Still relatively unspoiled and isolated, it is a combination of fine-grained quartz sand, twisted pines, marshes, wildlife, and dunes dotted with beach plum, wild rose, beach grass and poison ivy. Whipped into existence by wind and waves, it could also disappear by the same means. About the only thing that is prohibited on the beach is running on the dunes. As their fragile vegetation protects the existence of the entire island, visitors are cautioned to leave them undisturbed. Besides swimming in the

ocean and strolling on the beach, visitors may cast in the surf for striped bass, bluefish, mackerel, weakfish and fluke. On the bayside, many other fish may be caught and treading for clams is popular. Guided nature walks are offered through the maritime Sunken Forest, a unique retreat from sun and sand. Although the eastern end of the island may be reached by automobile across Smith Point Bridge, regular ferry service is also available from Bay Shore, Sayville and Patchogue to points west.

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Service Awards June

The following employees will receive service awards during the month of June:

Thirty Years

Andrew Brems, Jr...... P & GA
Ernest M. Guettinger..... Reactor
James H. Klein..... Nuclear Energy
Walter Sinuk..... Accelerator
Daniel Stelmaschuk..... Plant Engineering
Michael F. Zukas..... Reactor

Twenty-Five Years

Roger R. Adams..... Accelerator
Frances B. Cammaroto..... Director's Office
Gerald Farber..... Energy and Environment
Michael P. McKenna..... Reactor

Twenty Years

Carl H. Distenfeld..... Safety & Env. Protec.
Sanford N. Earle..... Director's Office
Alexander J. Elia..... Instrumentation
Donald M. Gilzinger..... Accelerator
Edward Leitgeb..... Plant Engineering
Joseph Murray..... Plant Engineering
Albert M. Roberts..... Physics
John C. Sammis..... Central Shops
William P. Schirmer..... Accelerator

Ten Years

Antoinette Fridae..... Energy & Environment
Patrick R. Gilleeny..... Instrumentation
Richard T. Imossi..... Physics
Ivan J. Muzinich..... Physics
Thomas J. Reisig..... Supply and Materiel

New York Train Trip

The Hospitality Committee is planning a group railroad trip to the city on Wednesday, June 21, 1978. Departure will be at 8:32 a.m. from the Patchogue LIRR station. Round-trip fare for adults is \$2.45, children under six years ride free.

Reserve a ticket by sending your fare through the U.S. mail to P.O. Box 322, Upton, New York 11973, no later than Thursday, June 15. Make checks payable to "Brookhaven National Laboratory." Your tickets will be given to you at the train station. Refunds will be made only if cancellations are received by the Friday preceding the scheduled trip.

Golf Tournament

A large turnout of 52 golfers played in the first BGA tournament at Spring Lake.

George Korhut was a double winner with low gross of 81 and longest drive. Jim Morris won second low gross with a fine 84 followed by Joe Klemish and Mike Iarocci. The low net winner was Joe DePace with a blistering 65. Marshall Bull and Skelly Frei were only one shot back and John Connelly just two shots behind. Frank Lepera was closest to the pin.

Two Hour Pool Closing

A routine training session for BNL life-guards will pre-empt usage of the swimming pool by employees and family members starting at 7:30 p.m. on Wednesday, June 14.

On that evening only, the pool hours will be from 5:00 to 7:30 p.m.

Gym Lockers

Renewals for locker registrations are due no later than Monday, July 9.

If there is anyone who has a registered locker but has not received a notice for renewal from the Personnel Recreation Office, please contact Blanche Laskee, Ext. 2873, as soon as possible.



At top, R.C. Anderson (left) and John Elmore took the badminton doubles championship, and Elmore also copped the singles title. In foreground, Naresh Bhagat who was a close runner-up in both the singles and doubles, plays with "Dutch" Stoenner.

Badminton Wrap-Up

The Badminton season featured the fifth annual ladder tournament and wound up with a closely contested elimination tournament. The defending singles champion, John Elmore, fought off Naresh Bhagat and Ed Platner to take the title for another year.

John Elmore and R.C. Anderson were the winners in doubles with the team of "Dutch" Stoenner and Bhagat a close second.

Ed Platner, playing well in the elimination tournament, gained the finals but lost to the BNL bird beater, John Elmore.

The results of clinics held for the last two years by John Elmore were obvious as seen by the improved quality of playing. Jack Detweiler, under the tutelage of one or two of the more seasoned players advanced from tenth place in 1977 to sixth place in 1978 - the tournament's most improved player.

A fall tournament is planned for men's singles and doubles. Badminton is one of the best conditioning sports. How about it, ladies, we can arrange a tournament for you. Call John Binnington on Ext. 3489.

Radio Club

There will be a meeting of the Radio Club at twelve noon on Monday, June 12, in Room C, Berkner Hall.

This meeting will be devoted to final planning for Field Day. All members interested in participating in the Club's Field Day operations are urged to attend.

For more information, contact George Walczyk, Ext. 4243, or Alan Bieber, Ext. 2924.

Tennis

Advance reservation of Courts 1, 2 and 3, and on-court reservation of Courts 4, 5, and 6 will become effective June 12. Sign-up sheets and governing rules for the advance reservation system are available at the BERA Sales Office, Berkner Hall. Players may reserve today for play on Monday. General rules on priority use of the courts and on-court scheduling will be posted on the bulletin board at courtside.

For the period July 5 through August 25, 3:30 to 4:30 p.m. weekdays, Courts 4 and 5 are for the exclusive use of the Summer Recreation Program.

During the BNL Championship Tennis Tournament (dates yet to be announced) the reservation system will be suspended to allow uninterrupted championship play.

Children's Rec Program

Registrations are now being accepted for the Children's Summer Recreation Program.

The program includes swimming lessons and sports clinics for children of all BNL employees and recreation activities for children of employees living on-site.

A detailed information sheet is attached to the registration application forms which may be picked up at the BERA Film Service Office or at the Personnel Office.

Questions regarding the program may be directed to Blanche Laskee, Ext. 2873.

It's... Cricket

There will be a cricket game at the recreation park this Sunday at 1 p.m. The occasion is to celebrate the christening of our new cricket mat. Come and try a perfect cricket pitch - finally at the lab site. We need umpires and scorekeepers. Spectators are welcome. This is Co-ed cricket. Remember, cricket at BNL is a social sport.

Future BNL cricket activities include a game with Cornell University here on Saturday, June 17, and a cricket picnic on Sunday, July 16. The picnic will be the summer cricket festival! So watch for further notices.

Bicycle Race Results

A cool, breezy and sunny morning offset any possible effect on attendance by the early (8:15) starting time, and 29 entrants turned out for the annual Spring Race. The winning time for the one-lap race was a bit slower than average, and much slower than the all-time record of 42:14 set last spring by Gary West. The two-lap event was cancelled due to a possible conflict with visitor automobile traffic.

Thanks are due the BNL radio club for providing a mobile radio car to follow the racers, and to Hermann Geist, Richard Watson and John Peters for their assistance in running the race.

Overall Position	Senior Men	Time
1	Raymond Brown	47:18
2	Gavin Watson	47:18.5
3	Andy Alburger	47:19
6	Eric Britton	47:30
8	Chris Hodor	47:36
10	Craig Leon	48:12
13	John Pepe	52:21
15	Don Litcher	55:10
16	Norman Rohrig	55:36
24	Edwin Taylor	68:11
Senior Women		
19	Deborah Brown	58:31
Junior Men		
4	James Watson	47:25
5	Ben Peierls	47:25.5
7	Danny Chasman	47:35
9	John Willen	47:40
14	Steven Rowley	54:48
16	Ed Thieberger	55:36
20	Adam Scott	59:23
25	Lindsay Adams	70:12
27	Jay Watson	82:29
Junior Women		
18	Laura Rowley	57:57
Veteran Men		
11	Gerry Morgan	50:41
12	Frank Fridrich	50:42
15	Alan Carroll	55:10
17	Peter Adams	55:38
21	Arthur Scott	60:44
22	Al Deneuve	62:06
23	Ernest Courant	62:09
Veteran Women		
26	Joan Watson	71:08

Softball

League I

Ravens 8 (2-0) Phoubars 2 (1-1)

Bob Brown made some sparkling plays at second base for the winners, as his teammate, Spider Ligon, pitched a strong game.

Titans 16 (1-1) AMD 15 (0-2)

Pete Stillman hit the cycle for the Titans as he went 5 for 5. Bernie Stepnoski also hit well for the winners.

Dirty Sox 10 (2-0) Six Pax 9 (1-1)

The Dirty Sox scored the winning run in the bottom of the seventh inning for the victory. Rick Doran went 4 for 4 for the Sox.

League II

Charlie Browns 11 (0-0) Cardinals 2 (0-1)

Another fine pitching performance by John Spraggins combined with good defense and clutch hitting was the winning combination for last years league IV champs.

NSLS 16 (2-0) Medical 12 (0-1)

ROGA 15 (1-0) Nuke Powers 2 (0-1)

Employee League

Diamonds 15 Who's On First 3

Dotty Lundgren went 3 for 4. Ken Aselta hit 2 home runs and Chuck Carlson hit one home run. All the women played a super defensive game.

Oh Kays 8 Trouble II 5

The Oh Kays had 2 home runs by Alan "Bootie" Woodson and Bob Brown. All-in-all it was pretty good playing on the part of the whole team.

Thrids 25 Turkeys 10

Dave Lieberman went 4 for 5 hitting for the cycle. John Usher also went 4 for 5. The Thrids pounded out 27 hits. Brilliant plays by the women infielders held the Turkeys through the first 5 innings.

Balls & Strikes 10 TNT 5

Just an all around team effort on the part of the Balls & Strikes, especially the women.

Rifle & Pistol Club

All members are urged to attend a meeting of the BNL Rifle & Pistol Club scheduled for Wednesday, June 14, in the Recreation Building.

