

Experiment At Brookhaven's AGS Leads To Nobel Prize For Ting

Professor Samuel C.C. Ting of MIT, head of the research team which discovered the J-particle at Brookhaven in November 1974, and Professor Burton Richter of Stanford, who simultaneously announced the discovery of the same particle which he called psi, will share the 1976 Nobel Prize for physics.

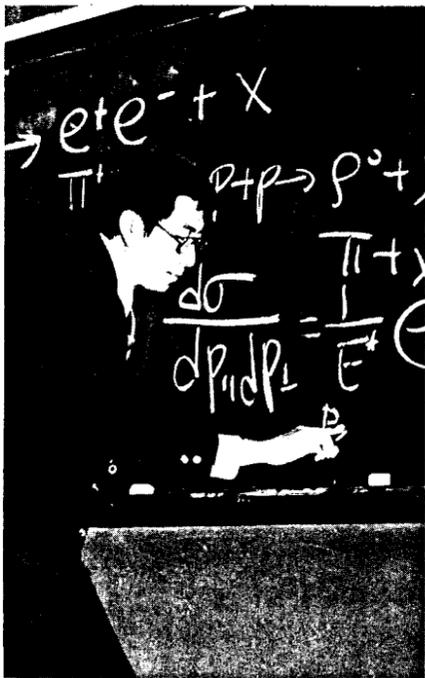
On learning of the award, Laboratory Director George Vineyard said, "We are extremely pleased that these important and exciting discoveries have been recognized by the award of a Nobel prize, the most coveted award in physics. Professor Ting and his group from MIT, together with Dr. Y.Y. Lee of our staff, carried out their crucial experiment at the AGS at Brookhaven, while Dr. Richter and his collaborators were working at SLAC. This prize was clearly very much deserved. A whole new area of investigations has been opened up and deeper understanding of the constituents of matter has emerged.

"I should also like to point out that these brilliant advances are made possible by the work of many people. Besides the group of physicists who participated in the experiments, equally important was the crew who operated the AGS, the physicists, engineers, and technicians who upgraded the machine over a period of years to its present high level of capabilities, and not to be forgotten, those who originally conceived and built it."

Ting's experiment was shielded by 10,000 tons of concrete, 25 tons of lead, five tons of uranium and five tons of borax soap. The particles were detected by 10,000 gold-plated wires, each with its own amplifier and recording system. Each time the particle detector was in operation, it took the efforts of six physicists to man the detectors and monitor the computer controlled system.

William Wallenmeyer, Assistant Director for High Energy Physics of ERDA's Division of Physical Research telegraphed Laboratory Director George Vineyard to say: "We are enthusiastic on the rapid recognition by the Nobel Committee of the outstanding nature of the recent work on the J/psi particle. Please accept our congratulations for BNL's major role in that discovery. With warmest regards from all of us at ERDA."

Y.Y. Lee, an experimental physicist who was the Brookhaven member of the historic team, is proud to have participated in that exciting discovery. But now the experiment is over, the apparatus is dismantled and



Samuel Ting, co-winner of the 1976 Nobel Prize for physics, explains his discovery of a new elementary particle at a Brookhaven symposium in November 1974.

"we have all gone our separate ways," he says. Ting is now engaged in research at CERN and Lee is collaborating on another experiment at Brookhaven. "High energy physicists are like nomads," he says. "We are always going from one place to another."

In 1974 the detection of this new hadron (a particle subject to the nuclear force) was hailed around the world as a spectacular event in elementary particle physics. It upset some theories and gave credence to others. The charm theory was given particular impetus. According to Professor Sheldon Glashow of Harvard, writing July 18, 1976, in *The New York Times*, "Today it is generally (but not unanimously) agreed that the new hadron is made up of one charmed quark and one charmed antiquark. The charm theory required that the new hadron be one member of a family of particles, and roughly predicted the properties of the other members. Experimenters responded in the spring of 1975 by discovering these predicted particles, thus further confirming the charm interpretation. . . . As a result of the discovery of psi-J and its kin, the quark model has become orthodox philosophy."

Nicholas Samios, chairman of the Physics Department, noted that this is the first such award for experimental work performed at the AGS, and he commented on the importance of the Ting/Richter findings: "These heavy particles, approximately three times the mass of the nucleon with exceptionally long lifetimes (of the order of one thousand times longer than ordinary hadrons of similar mass) are indicative of a new phenomenon, a new quantum number. Where previously the spectroscopy of mesons and baryons could be modified utilizing the concepts of baryon number, charge, isospin and strangeness, the discovery of these new particles demonstrated the inadequacy and incompleteness of such descriptions. Charm, a new ingredient analogous to strangeness, which had been introduced by Bjorken and Glashow to negate difficulties in the strange and non-strange neutral current interactions, affords a natural explanation of the properties of the J/psi particle.

"Subsequently a family of psi's with hidden charm have been uncovered at Stanford; bare charm of the baryon variety (particles denoted Λ_c and Σ_c) at BNL; boson charm (D and D* particles) at Stanford and anti-baryon charm ($\bar{\Lambda}_c$ and $\bar{\Sigma}_c$) at FermiLab. The pioneering experiments of Drs. Ting, Richter, and collaborators as

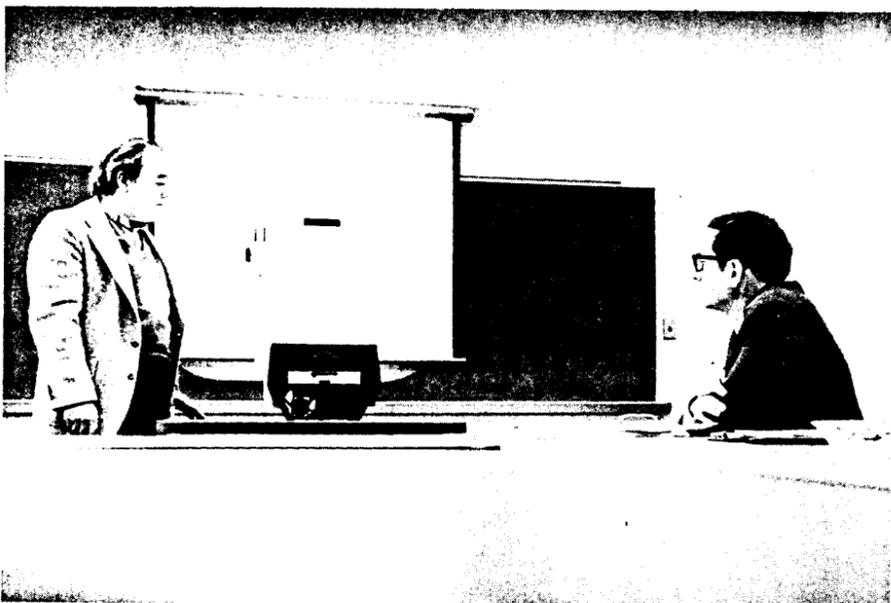
well as the dedicated efforts of the AGS and SPEAR staffs which brought such endeavors to fruition have opened up this whole new field of charm spectroscopy. Verification of and details of such a spectroscopy of particles are now being actively pursued with a variety of techniques at these laboratories with possibly more astonishing results awaiting to be uncovered."

Earlier this year, Ting and Richter received the E.O. Lawrence Memorial Award and were cited for "powerful new experimental techniques that have extended the range of validity of quantum electrodynamics, determined the properties of vector mesons and culminated in the discovery of new particles of matter."

Another man in the spotlight this week, Dr. William N. Lipscomb, Jr. of Harvard, the winner of the Nobel Prize for chemistry, is also well known at Brookhaven. Dr. Lipscomb who was honored for his studies on the structure and bonding mechanisms of boranes, was a member of the Visiting Committee for the Chemistry Department from 1963 to 1965 and chaired that committee in 1965.



At a press conference at Brookhaven on November 11, 1974, Samuel Ting (left) and Ronald Rau, Associate Director for High Energy Physics (right), introduce part of the BNL/MIT group that discovered the J-particle.



Herbert Kouts discusses some Laboratory research programs with Dr. Robert Summers, Chief, Plans and Programs of ERDA's Office of Field Operations, who visited the Laboratory on Tuesday.

Kouts To Head Fusion Energy Project

Herbert J.C. Kouts has been appointed head of the Brookhaven Fusion Energy Project, a new interdepartmental effort to coordinate the Laboratory's programs in this area. He will work closely with W.E. Winsche, Associate Director for Energy and with the chairmen of the Accelerator, Applied Science and Physics Departments in the coordination and development of fusion energy research. Kouts, a member of the scientific staff since 1950, is a senior scientist of the Department of Applied Science. He has recently returned from a tour of duty in Washington as Director of Nuclear Regulatory Research for the U.S. Nuclear Regulatory Commission, and previously as Director of the Division of Reactor Safety Research of the U.S. Atomic Energy Commission.

Former Semester Student A New Lab Member

Louise Hicks, a former student collaborator in the Brookhaven Semester Program, has become the first Semester Student to be hired by the Laboratory in the nine-year history of the program.

Ms. Hicks joined the Applied Mathematics staff three months ago as one of eight computer analysts in Systems Programming.

In the fall of 1973, she worked for Dr. James Powell, a nuclear engineer in Applied Science, who served as her advisor. On learning of her return to BNL he stated, "She did a very good job as a student. We're glad to have her back."

"In 1973 we were attempting to measure deflection on bridges by taking a series of photographs. This project involved measuring movements of a few thousands of an inch. Louise's job was to analyze the statistical results. She wrote a paper titled 'The Rate of Deformation on the Engineering Structure of Bridges' which helped us a great deal. We wish her the best."

For Ms. Hicks, "the best" has always been her life's objective.

"I've always applied myself no matter what the circumstances were. I had the philosophy that with hard work and persistence I could accomplish anything."

Born in Clarksdale, Mississippi, some 25 years ago, she is from a Baptist family that at one time totaled 13 including her par-

ents. Her father, Willie is a retired carpenter and part-time farmer.

"When some of the older children had to stop school and work, I held on the philosophy that I'd get a job I'd be comfortable with and enjoy."

According to Ms. Hicks: "It was in the eighth grade that I began to set goals for myself. That year I built a rocket ship out of galvanized steel," she recalled, "with a spaceman walking up the side of it. The project won first prize in local and county competition and second in state."

In the old South where most women went to school to become teachers or secretaries, Ms. Hicks' dream of becoming a computer programmer met with surprisingly little resistance from the elders in the family. Somehow, between saxophone lessons, track meets, choir rehearsals, and an after-school laundry job, she found time for mathematics.

"It was during my senior year in high school that I became serious about the immediate future. I wanted a life that was meaningful and pleasurable. Moreover, I wanted to help other members of my family and take some of the financial burden off of my parents.

"My mother would always encourage us to 'go to school and get your education'. So, I became the first of eleven to graduate from college."

She added, "I felt the world was approaching large-scale automation and I wanted to be a part of this change."

(Continued on page 2)

Good Seats Still Available



John Czachor (center), Accelerator, purchased the first ticket from Blanche Laskee (left) and Marj Stoeckel (right) to BERA's *Very Special Event '76*, which will feature Lionel Hampton and Pat Cooper on Sunday, November 7. "The Hamp," who introduced the marimba to jazz, will bring along vocalist Sandy Patton, "Bo Jangles" tap dancer Bunny Briggs, and his world-famous Inner Circle Orchestra. Just back from three weeks at the Grand Hotel in Las Vegas, Pat Cooper got his start on such TV shows as Ed Sullivan, Johnny Carson, Mike Douglas, and Merv Griffin. His stories, jokes and patter about Italian life will open each show. A wine and cheese intermission is included in the price of \$17.76 per couple or \$9 per person, and cash bars will also be open. Since Berkner Hall has only 450 permanent seats, don't procrastinate. Good seats are still left for both the 4 p.m. and 7 p.m. shows, and for your convenience tickets will be sold at the Bank today between 11:30 a.m.-1:30 p.m. At other times, they can be purchased at the Recreation Office (Ext. 2873) in Personnel.

Second Award Presented By W.C. Hamilton Fund

Raymond G. Teller, a graduate student in chemistry at the University of Southern California, has been named the second recipient of the Walter C. Hamilton Memorial Scholarship.

Teller, who is expected to arrive at Brookhaven on Monday, will spend the next two months working at the HFBR on neutron diffraction studies of transition-metal hydride complexes under the direction of Thomas F. Koetzle. This research is part of a collaboration between Robert Bau's group at USC and the Brookhaven structural chemistry group.

Now in his second year of graduate work at USC, Teller received his B.S. degree in chemistry from the University of Illinois in 1969.

The Walter C. Hamilton Memorial Fund was established under AUI auspices to honor the memory of the late Walter Hamilton, a senior staff member of the Chemistry Department from 1955 until his



Raymond Teller

death in 1973. The scholarships are competitive and are awarded to students who wish to pursue neutron diffraction studies. The first award was made in the fall of 1974 to Dag Semmingsen, a graduate student at the University of Norway.

Cooking Exchange

On Wednesday, October 27, the Cooking Exchange will proudly present a delicious demonstration of Japanese cooking by several of the Japanese ladies visiting the Lab. There will be a delightful clear soup, the proper Japanese way to prepare rice, tatsutaage (marinated fried chicken), nitsuke of squid, yokan and awayukikan (fantastic desserts), and, of course, tempura. These are only a few delights we will get to sample.

Everyone is welcome! Just bring yourself, your children (babysitting is provided at 25¢/child) and 75¢ to cover the cost of ingredients.

That's Wednesday, October 27, at 12:30 p.m. in the Recreation Building.

BNL Lecture

"Prospects for Fusion Power," by James Powell, DAS, October 27, 8 p.m., Berkner Hall.

I.B.E.W. Meeting

Local 2230 I.B.E.W. will hold its regular monthly meeting on October 28, 1976, at 8 p.m. in the Knights of Columbus Hall, Railroad Ave., Patchogue. There will also be an afternoon meeting at 2 p.m. for shift workers in the Union office at 31 Oak St., Patchogue. On the agenda will be regular business, committee reports and President's report.

Trip To New York City

The Hospitality Committee is planning a group railroad trip to the city on Wednesday, November 3. Departure will be at 8:32 a.m. from the Patchogue LIRR Station. The round trip fare for adults is \$2.45, children under 6 years ride free.

Reserve a ticket by sending your fare through the U.S. mail to P.O. Box 322, Upton, New York, no later than October 28. Make checks payable to "Cash." Refunds will be made only if cancellations are received before noon on October 29.

Film Service Changes Hours

Effective Monday, October 25, the BERA Sales & Services Office located in the Cafeteria will be open from 11 a.m. to 3 p.m.

For the convenience of employees who wish to drop off film for processing at times other than during open hours, a box will be placed outside the office for that purpose.

For any questions regarding this change, call Ext. 3347.

Service Awards



Dr. E.P. Cronkite, chairman of the Medical Department, (rear) recently presented service awards to Junichi Iwai, M.D. (10 years) and to Martha Heine (20 years).

Former Student

(Cont'd)

After graduating in the top ten percentile in Clarksdale Senior High's first integrated class, Ms. Hicks decided that Talladega College in Alabama was the best school to attend. It was not too far nor too close to home, had a good science program, and was in the South.

"I put myself through college with campus jobs and summer work in Chicago where I lived with relatives. There, I worked in jobs ranging from a nurses' aide to a packer in a Crackerjacks factory."

A member of Delta Sigma Theta sorority, she received an award of \$150 from the organization as a partial scholarship during her senior year.

"I was so eager to explore and experiment in the realm of mathematics that I went to Oak Ridge National Laboratory in Tennessee. In 1973, I worked as a Summer Trainee in the Division of Neutron Physics. That fall I came to BNL as a Semester Student. The program had been in operation about six years and I loved it."

After a semester of research, the students presented papers at BNL. The formal pre-



Louise Hicks

sentation was sponsored by the Lab at Texas College in Tyler, Texas.

"I was a member of Beta Kappa Chi (a scientific honor society) which qualified me to participate in a convention sponsored by the science departments of various U.S. colleges in New Orleans the following year. I was selected to appear, and presented the paper I'd researched here." The project won first place in the physics category.

Following graduation from college in June, 1974, Ms. Hicks went to work for IBM in Kingston, New York.

"I was a systems programmer at IBM for two years but wanted to come back to BNL. I'd made many friends during my stay as a student and visited from time to time.

"I like it here because I'm more or less independent with my own schedule. The incentive to produce has to come from within. I must say that I've had quite an experience here."

BNL's efforts to provide for its employees' intellectual and social development apparently brought another gain for Ms. Hicks. While studying as a Semester Student she met Paul Akins, an electrician in the AGS. The two plan to marry in late November.

— Yvonne Horne

Cafeteria Menu

Week Ending October 29, 1976

Monday, October 25	
Tomato Bouillon Soup	
Franks & Baked Beans	1.05
Barbecued Fresh Ham & 1 veg.	1.30
Tuesday, October 26	
Cream of Chicken Soup	
Chopped Steak & 1 veg.	11.0
Chinese Pepper Steak on Rice	1.25
Wednesday, October 27	
Shrimp Chow Mein on Rice	1.10
Special	
Cup of Split Pea Soup	
Corned Beef & Cabbage	
Boiled Potato or Mashed Turnip	
Choice of Pie	
Small Beverage	\$1.87 plus tax
Thursday, October 28	
Puree of Mongol	
Spanish Omelet & fr. fr.	1.10
Short Ribs of Beef	1.30
Friday, October 29	
Clam & Celery Soup	
Seafood Cakes & Spaghetti	1.05
Pot Roast & 1 veg.	1.30



The Middle Atlantic States Section of the Air Pollution Control Association, held its semi-annual technical conference at the Laboratory last week. The meeting was devoted to alternate forms of energy, in particular, sun, sea and wind. In his welcoming address, Associate Director Victor Bond outlined the Laboratory's various research approaches to energy production. Floyd Linton (standing) Presiding Officer of the Suffolk County Legislature and guest speaker at lunch, spoke for a rational local energy policy which should include alternate energy sources.

Form Revised

Employees are asked to note that Capital Equipment Change Form, Form 1828 (S-82702) has been revised. The new form, Form 1828A is available at Stationery, Bldg. T-86.

Official & Special Events

Tuesday, October 26
Cross Section Working Evaluation Group Meeting (26-28)

Wednesday, October 27
Navy Meeting
BNL Lecture

Tuesday, November 2
Election Day

Wednesday, November 3
Navy Meeting
Cryogenic Refrigeration Workshop (3-4)

Sunday, November 7
BERA Special Event

Final Performance

"Last of the Red Hot Lovers" tonight and tomorrow night, 8:30 p.m., Stage II. Tickets \$3.00 and \$2.00.

Selected Reading

- New Sci. 71, August 26, 1976
Raw deal for inventors? A. Hope. 430-1
- Man of two worlds: Profile of Abdus Salam, brilliant quark hunter and advocate of Third World. R. Walgate. 444-6
- New Sci. 71, September 2, 1976
Are researchers trustworthy? I. St. James-Roberts. 481-3
- Hypnosis explained, or how to escalate suggestibility. N. Humphrey. 485-6
- Phys. Today 29, July 1976
Two hundred years of American physics. 23-31
- Franklin's physics. 32-7
- Rowland's physics. 39-45

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Catskills Backpack Trip

An enthusiastic group of 17 hardy campers braved winter weather to undertake an adventurous Catskills Backpack Trip to the top of Hunter Mountain on the weekend of October 16. Everybody enjoyed the BNL Mountain Club outing as high spirits prevailed against sub-freezing temperatures and ferocious winds.

Before sunrise on Saturday a car convoy left the Lab and everyone met at 10 a.m. at Stony Clove Notch in the eastern Catskills. A dozen of the hikers ascended Hunter Mountain via the "airline route" - a rugged, steep 3.5-mile section of the Devil's Path, while a small band took the "scenic route" - an easy 7.2-mile trek along Spruce-ton Trail and other jeep trails. Although cloudy skies persisted, no rain or snow befouled the trip. Up here the trees were mostly bare affording fine views of surrounding peaks and the few remaining leaves lent a touch of color to the woods.

By mid-afternoon the whole group met at the summit lean-to (elevation 4000 feet) where upon "tent city" (10 tents) was erected followed by a side trip to the spring. Nearby the ranger fire tower offered a superb panoramic view of the Catskills. Supper time at the lean-to turned into the big social event of the day featuring a variety of goodies like freeze-dried dinners, whole wheat sandwiches and wine. Even a blazing smoky fire in the evening wasn't enough to dispel the freezing cold, so everyone crawled into sleeping bags by 8:30 while the wind roared through the fir trees overhead. For a while the stars were shining.

The BNL Mountain Club people were the only ones camped atop Hunter Mountain that weekend (probably the only ones crazy enough to want to anyway). They consisted of an assortment of jolly folks, including a few first-time backpackers, weekend campers, and inveterate mountain stompers. Only a couple of minor problems popped up - one tent collapsed in the middle of the night, and one hiker developed knee troubles the second day.

It was mighty chilly (25°) the next morning, and after a hot breakfast, the campers began the return hike back down the mountain. This day the majority of hikers traveled the 7.2-mile "scenic route," passing several streams full of little cascades, and pausing at a splendid waterfall. To celebrate a successful end to the journey, all gathered at a cafe in Tannerville for a round of beers and sandwiches. Despite a lot of cold noses and tired feet, everybody was happy after the trip which is the ultimate measure of success.

The backpackers were: Steve D'Ambrosio, Darcy David, Don David, Doreen DeLise, Joanne DeLise, Cleve Dodge, John Elmore, Cliff Glass, Dolores Krupski, Mary Pat O'Brien, Henry Pfister, Dave Potter, Roger Tanner, Peter Tuhy, Kathy Tuoky, Dennis Weygand, and Norman Yelin.

Although the outings program is traditionally skimpy during the winter season, a few BNL Mountain Club trips are in the works, for which announcements will be forthcoming. —Pete Tuhy

Arrivals & Departures

Arrivals

Marilyn C. Dahl	App. Science
Neva C. Delihias	App. Science
John E. Duggan	Plant Engrg.
Ling Ling Juang	App. Science
Kyung S. Lee	App. Science
Noreen T. Sarsfield	App. Science
Manomohan Subudhi	App. Science
Fusao Takusagawa	Chemistry
Edith E. Thornhill	Director's Office
Thomas J. Vicale	App. Science
Ronald P. Webster	App. Science

Departures

Himan Sternlicht	Biology
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Winners of the 1976 BNL Police Marksman awards are, from left, P.O. Michael McAllister "Bullseye Shooter," Captain George Baer, Jr., "Aggregate" (donated as an annual award by Captain E. Eichler), P.O. Thomas Iarocci "Combat Shooter" and P.O. Joyce Robinson "Most Improved Shooter."

Sports News

Football

In the championship game of the unbeaten, Roga prevailed to regain their championship title that they lost last year. Les Lawrence came out of retirement, after a two year absence, to catch 3 touchdown passes for Roga. "Quick" Jim Garrison played excellent defense for Roga, intercepting 2 important passes. Roga quarterback, Lou Snead, was on target all evening as he kept his team moving with pinpoint passes to the likes of Bob Schuman, Ted Daniels, Wayne Smith, Mike Losquadro and Les. Stan Gilbert, Leroy James, Bob Rowley and Ed Taylor also played important parts in a great team effort.

Charlie Johnson and Bob Jansson scored touchdowns for the Slow Pokes.

The Old Timers beat the Chickens 18-6. Walt Reams threw T.D. passes to Jack Brennan, Gordon Smith and Dick Tache. Jerry Levine had a T.D. interception for the Chickens.

The Tee-Dees beat the Sweathogs 26-20 in an overtime game. A John Carew pass to Jim Guppy was the winning T.D. Other Tee-Dees T.D.'s were by Hahle, Weygand, Greene and Guppy. The Sweathogs were again led by Petricek who had 3 T.D.'s. Warren Uhl had the other Hog T.D.

Standings

	W	L
Roga	5	0
Slow Pokes	4	1
Old Timers	2	3
Sweathogs	2	3
Tee-Dees	2	3
Chickens	0	5

Bike Race Results

Brisk, chilly winds and an overcast sky was the setting for the fall bicycle race. Weather and competition with several fund-raising marathons throughout the Island conspired to keep attendance low, with a preponderance of juniors. Of the 11 racers, only three were 16 or over.

Following a single bunch start, six racers formed a lead group which remained intact all the way around the course, splitting up in the final sprint beginning at the Lab entrance. The deficiency in strong pacers resulted in a three minutes slower time than last fall's race which was held in similar weather. Results are as follows:

Junior Men	Time
Chris Hodor	51:28
Damian Emery	51:29
Eric Britton	51:35
Lawrence Emery	60:13
Bob Castleman	63:44
James Watson	63:45
Junior Women	
Maureen Mc Nerney	70:56
Joanne Adams	75:53
Senior Men	
Philip Watson	51:18
Ray Brown	51:48
Veteran Men	
Gerry Morgan	51:31

The BNL Radio Club did their usual professional job of monitoring the race. Thanks are due Herman Geist and Cindy Morgan for registration and timing, and Jean Bussiere for refreshments.

**'76 Race Results
10 Kilometers**

Male Under 16		
1 Tom McElligott		35:50
2 Glen Pappas		37:03
3 Andrew P. Mc Nerney		38:12
4 Jacob Kann		39:30
5 Damian Emery		39:36
6 Michael Endres		44:00
7 Tom Friel		46:00
Male 16-19		
1 Michael Kropp		35:35
2 Louis Gaglio		38:20
3 Paul Hnizdo		39:05
4 Don Endres		42:16
5 Edward Hildenbrand		43:05
Female 20-29		
1 Margaret Way		45:43
2 Francis Caruso		50:43
Male 20-29		
1 Bob Rindfleisch		34:15
2 James Sweeney		34:50
3 Larry Farrell		35:35
4 Thomas Layden		45:54
Male 30-39		
1 Dan Bray		38:43
2 Andrew J. Mc Nerney (AGS)		39:32
3 James Guppy (DAS)		40:42
4 Stephen Keshner		45:11
5 Steve Shapiro (Phys)		46:35
6 Ed Gill (Accelerator)		47:04
7 Dennis Nordstrom (PR)		49:12
8 George Greene (DAS)		50:18
Male 40-49		
1 Tony Keavey		38:30
2 William Clendennen		39:15
3 John Elmore (MED)		40:38
4 Dan Cornish (ERDA)		44:09
5 John Axe (Phys)		46:20
6 Frank Endres (Security)		46:40
7 Sol Pearlstein (DAS)		51:03
Male 50 and Over		
1 Don MacKenzie (DAS)		41:24
2 Vincent Hays		50:48
3 Peter Rathvon (AUI)		51:15

Five BNL Runners To Compete In N.Y.C. Marathon

On Sunday morning October 24, five BNL runners will line up with over 2000 others at the toll plaza in Staten Island.

At the sound of the gun they will head for the Verrazano-Narrows Bridge and begin the 26-mile, 385-yard run that will take them through all five boroughs, finishing in Central Park near the Tavern on the Green.

The five BNL participants are: Bob Bari, DAS; John Beerman, DAS; Paul Kupferman, AMD; Gus Prince, DAS; and Bob Tucker, Physical Review.

They will be in the company of five of the world's top marathoners including Ian Thompson, Great Britain; Ron Hill, Great Britain; Bill Rogers, Boston, Massachusetts; Frank Shorter, 1972 gold medalist from Boulder, Colorado; and Akio Usami, Japan.

The race will attract marathoners from as many as 30 states and a dozen countries. Kenya and Ethiopia will send teams if funding becomes available. Neither ran in the Montreal Olympics because of the boycott, and it is possible that times in this race will exceed those at the '76 Olympics. Invitations have been sent to Olympic marathon champion Walemur Cierpinski of East Germany and the 5 km and 10 km champion Lasse Viren of Finland.

Bowling

Red League

A great team effort this week by the '76'ers, with the highest team series of the season to date, 3069 pins. R. Larsen again missed his club award by one mark with a 588 scratch series. High games for the night were R. Larsen 247, J. Connelly 214/202, J. Scesny 214, J. Usher 209, F. Stahman 205, P. Klotz 204, F. Hohmann 200.

Green League

The Pick-Ups moved into first place as they took eight points from the Anachems. The Sparks by blanking the Sandbaggers for eleven points moved into a tie for first place. The Super Cools had a good night as they took eleven from the Designers. G. Speidell had a 208 and B. Belligan 217/222. The Blue Jays and Charley Browns just about split as the Blue Jays got the six points. For the Charley Browns, "Wrong Alley" Fales had a 203 game.

Black & Blue League

Congratulations to "Handsome" Budd Pollock on his 678 club award with a 684 gross series. Included was a 209 game. Liz Bull rolled a 173 for the only other high game reported this week. Arlene Hohmann converted the 3-7-10 split. High gross pots were won by Terry Bugala 225 and Bill Kristiansen 228.

Pink League

10/5/76: High games for the night were H. Keeley 194, M. Brenner 185/170, C. Beckner 178, K. Conkling 177, M. Stoeckel 176/170, L. Boyd 173, C. Holland 170. The Pinsplitters and Gutter Getters are tied for the lead.

10/12/76: The Pinsplitters have taken the lead by winning 7. High games were M. Stoeckel 179, C. Holland 177, M. Brenner 172, C. Beckner 171.

Good News For Net Fans

BERA has purchased four reserved tickets for each of the Nets home games for the 1976-77 season. These tickets will go on sale at the BERA Sales & Services Office on Monday, October 25, at 11:30 a.m.

Tickets are priced at \$7.50 each, including service charge. There will be no restriction on the number of tickets an employee may purchase with the exception of the Nets/Knicks games, which will be limited to a maximum of two tickets per BERA member.

Sale of tickets will be final. No exchanges or refunds will be made at the BERA Sales & Services Office.

Schedule

October		
Wed.	27	Washington
Fri.	29	Indiana
November		
Mon.	1	Cleveland
Wed.	3	Buffalo
Fri.	5	Houston
Wed.	24	San Antonio
Fri.	26	Atlanta
December		
Wed.	1	Phoenix
Fri.	3	Denver
Wed.	8	Knicks
Fri.	10	Detroit
Fri.	17	Milwaukee
Sun.	19	Boston
Wed.	22	New Orleans
Wed.	29	Seattle
January		
Sun.	2	Philadelphia
Fri.	7	Los Angeles
Fri.	14	Atlanta
Wed.	19	Portland
Fri.	21	Washington
Sun.	23	Chicago
Fri.	28	Golden State
Sun.	30	Milwaukee
February		
Wed.	2	Boston
Wed.	9	New Orleans
Fri.	11	Buffalo
Fri.	18	Seattle
Sun.	20	Knicks
Wed.	23	Denver
Fri.	25	Detroit
Sun.	27	Golden State
March		
Wed.	2	Kansas City
Fri.	4	San Antonio
Sun.	6	Houston
Fri.	11	Phoenix
Sun.	13	Los Angeles
Fri.	18	Cleveland
Sun.	20	Philadelphia
Wed.	23	Kansas City
Fri.	25	Portland
April		
Fri.	1	Indiana

Classified Advertisements

Placement Notices

Each week the Personnel Office lists personnel placement requisitions, currently being processed. The purpose of these listings is, first, to give notice of all non-scientific staff positions being filled and, second, to give employees an opportunity to request consideration for themselves through the Personnel Office. In filling vacancies, the Laboratory's objective is to give first consideration to present employees, as follows: employees within the immediate group having the vacancy, employees within the department or division, employees within the Laboratory as a whole.

For further information regarding a placement notice, or to request consideration for an available position, contact Supervisor, Personnel Placement & Development, extension 2874 or 2882.

232. ADMINISTRATIVE SERVICES ASSISTANT - Organize and maintain newly organized group's files and office records; prepare administrative communications with subcontractors and ERDA; expedite in-house and subcontractor reports; organize meetings. Frequent travel will be required to Washington, D.C. for periods of several days at a time on short notice. Department of Applied Science.

233. CARPENTER - Lays out, constructs, modifies and maintains buildings and component parts from construction drawings, rough sketches or verbal instructions. Works with wood, wood substitutes and combination materials and flooring, roofing and wall materials.

Uses hand, portable and fixed tools common to building construction trades. Installs cabinets, door frames, window glass, interior finishes and hangs doors. May perform Cabinetmaker duties as required. Plant Engineering Division.

234. TOOL AND INSTRUMENT MAKER - Three positions. Works on various materials from prints, sketches or verbal instructions. Sets up and operates machine tools, and also performs benchwork, on jobs which require the application of individual ingenuity in solving problems of method, or results required, where previous standards of operation have not been established.

Performs lay-out, preparation, set-up, measurement, assembly and installation.

Makes own tools and performs maintenance incidental to operation of machines. Central Shops Division.

235. SUPERVISOR - Will be responsible for all phases of first-line supervision and coordination of work for employees in cabinet making, sign painting and related crafts. Building Maintenance Group. Plant Engineering Division.

Autos & Auto Supplies

SNOW TIRES - 8-25x14 mounted on Chevy wheels. \$35 pair. Ext. 3148, 325-1961.

73 MG MIDGET - Maroon, new muffler, new front end, am/fm 8-track. \$1600. Ext. 2874.

69 CADILLAC - Sedan de Ville. \$940. Ext. 3267, 473-2594.

HONDA 175 - New, 65 mi, \$500; 3 cycle trailer, \$150, must sell due to death in family. 732-2720.

72 VOLVO - 145S, station wagon, automatic, ps/ac, am/fm, excel cond. \$2500. 473-5063 after 6.

69 OLDSMOBILE 98 - Ps/pb/ac, high mi but good transportation. \$650. Les, Ext. 4074.

71 GRANDVILLE PONTIAC - Ps/pb/ac, low mi, reasonable. Bob, Ext. 4652, 289-0357.

SNOW TIRES - 2 Firestone town & country fiberglass, studded, H78-14, whitewalls, like new. \$25 each. Ext. 3169.

2 RIMS - Fit Dodge or Chrysler. \$10 ea. Ext. 3169.

BUMPER - Step down for '72 Chevy pickup. Bob, 475-4382.

68 VOLVO - 2 dr auto, orig owner. Asking \$750. Ray, 281-3192 after 6.

71 DATSUN 510 - Red 4 dr sedan, std trans, 30 mpg, 2 new steel radials, excel cond. Nancy, Ext. 3404, 744-8487.

72 VEGA HATCHBACK - Body excel, new eng block. J. Davis, Ext. 4504, 473-1523.

73 MG-BGT - Interior excel, mechanically good. \$2500. Cathy, 288-6383 eves.

SNOW TIRE - 650-13, \$20 w/rims; \$18 w/out rim. 744-5871.

2 SNOW TIRES - 78-13, good cond. \$25 for pair. Carol, Ext. 2345.

69 FORD PICKUP - ¾ ton standard, clean, low price. 727-4676.

65 CHEVY - Biscayne station wagon, 140,000 mi, runs good, std shift, ps, rebt carb, clutch, brakes, new batt, trailer hitch. \$150. Ralph, Ext. 4615, 744-8921.

72 CUTLASS - Good cond, must see. Sundays, 751-8918.

70 PONTIAC BONNEVILLE - Auto, ps/pb/pw/p trunk/ac, excel cond, 18 mpg, new steel belted radials. \$1200. Joan, Ext. 4393, 399-2084.

70 PONTIAC BONNEVILLE - New radials, tape deck, & converter, very good cond. Asking \$1000. Bill Frank, 732-8216.

71 PLYMOUTH - Sat Custom 318, auto, ac, all power, excel, 45,000 orig mi, new tires. Ext. 2982, 588-1713.

73 JEEP - CJ5, 6 cyl, 33,000 mi, warn hubs, gauges, rear seat, trailer hitch, excel. 732-1298.

73 FIAT - 128, standard, good cond, 35,000 orig mi, must sell. Asking \$800 or best offer. 345-2285/246-8780.

68 FORD - Station wagon, runs well, high mi. 286-0497 after 3.

67 CADILLAC - Sedan de Ville, very good cond. Ext. 3828, 751-7250.

68 FORD COUNTRY WAGON - Sedan 302 V8, automatic, ps, very good mechanical & interior. \$395. 727-7304, Rick.

65 PLYMOUTH - Good running cond, good tires. \$300. Ext. 4592, Tom.

TIRE - L78-15 whitewall, as new. \$15. 473-5585.

TIRES W/RIMS - Set of 4 for CJ jeep, little used. \$10 ea. 473-5585.

68 CORVETTE - 327 cu in, 4 spd, Cragar mags, good cond, am/fm. John, Ext. 3696, 281-2346 after 5.

HOLLY CARB - 650 double pumper, brand new, still in box. \$100. Mike, 878-2486.

68 CHEVY - Not perfect but usable, make me an offer. Wells, Ext. 2540, 878-4214.

Boats & Marine Supplies

15' FIBERGLASS BOAT - Motor & trailer. \$175. Ext. 4539.

22' GARVEY - Decked over w/'75 50 hp Merc, good cond, will sell separately. \$1300. 286-8517.

3 HP EVINRUDE - Long shaft, runs well. \$75. Kinne, Ext. 3334.

21' JERSEY SKIFF - 200 hp, fresh water cooled, Navy top, make offer. Ron, Ext. 4082, 289-1003, 597-6265.

PLYWOOD DINGHY - Good cond, needs a coat of paint. \$75. Ext. 3593.

OUTBOARD - British Seagull, 2½ hp, 40 + long shaft, used less than 12 hrs, excel cond. \$280 new, sell \$200. C. Nauman, Ext. 3412, 286-3764 eves.

26' LUHRS - V-8, head, outriggers, depth recorder, full canvas, etc. \$900. 281-6293.

30' 1961 LUHRS - 1970 Palmer 225, tuna tower, fly bridge, fighting chair, flushdown, AM & CB radios, Ratheon depth recorder, 2 ginpoles, stereo, etc. \$3,900. 281-6293.

Miscellaneous

CASSETTE RECORDER - \$22; AC adaptor, \$9; women's jeans, size 11-12, \$12. Tutor, Ext. 4147, after 5, Ext. 3200.

COLOR TV - Needs work, but I don't know how much. Make me an offer. Wells, Ext. 2540, 878-4214.

ELEC MOTOR - 1 hp, 220/440 Vac, brand new. \$30. Walt K., Ext. 4514.

ANTIQUA RADIO - Console Philco, mid 20's, excel orig cond, plays superbly, box of new spare tubes. \$75 firm. Walt, Ext. 4514.

12" B&W TV - Portable, 3 mos old, leaving country, must sell. \$60. Avail Nov 8. Shigeo Koyama, Ext. 2305.

MEDITERRANEAN CHANDELIER - \$40; accordion, 120 bass, \$60 or best offer. Linda, Ext. 3168, 727-7304.

AM/FM 8-TRACK - Panasonic portable, elec or batt operated. Pat, Ext. 3168.

15" BIKE - Child's w/training wheels, ideal first bike. \$20. Ext. 3593.

CB RADIO - 4 channel base station, \$35; stereo amp, 40 watt, tube type w/extra tubes, \$35. Ext. 3593.

SILVER TEA SERVICE - Never used. 727-0082.

CREE TRAVEL TRAILER - Gas refrig, stove w/oven, self-contained. \$1250. 475-1111.

PINE CAPT'S BED - Excel cond, fits regular twin mattress, \$70; chrome standing lamp w/glass table, \$10. 698-3856.

RCA B&W TV - Colonial console, excel cond, \$70. Georgia, Ext. 2318.

10 SPEED BICYCLE - Wheels only, front, \$10; rear, \$15; excel cond, aluminum hubs; auto ac complete, \$10. Ext. 3898.

CHANNEL MASTER ROTOR - \$15, F. Mignone, 281-9504.

BICYCLE - Motobecane, 10 speed, hardly used. \$180. H. Atkins, Ext. 3590.

MOBILE HOME - 12x60, 2 bedrm, fully carpeted, screened porch, excel cond, Hobe Sound, Florida. \$9000. 475-5206.

BOX SPRING - Queen size, Sealy Posturpedic, excel cond. \$45. C. Nauman, Ext. 3412, 286-3764 eves.

WASHER & DRYER - \$125 for both; sewing machine, portable, \$45. 878-0922 after 5.

74 CHIBI - Bridgestone, 5.8 hp, 58 cc mini cycle, great shape, fast. \$135 firm. Bill, 281-5855.

MAGNETIC CARTRIDGE - Shure supertrack type II, very good cond, \$40. Hans, Ext. 4581, 281-5563.

AR TURNTABLE - & M91E cartridge, \$70; Gralab timer, \$20; almost antique music stand, \$35; children's walkers & car seat. Allan, Ext. 3369.

SCHOOL DESK - W/attached chair. 732-1298.

YARD SALE - Lots of goodies, Sat & Sun, Oct 23 & 24, 10-4, Middle Island Blvd, just off Whiskey Rd, Middle Island. 924-3528.

GARAGE SALE - Oct 23 & 24, 10-4, toys, clothes, misc, 19 Woodland Rd, Miller Place.

WINTER COAT - New, never been worn, black Borgana w/gary collar, cuffs, borderline hem, size 16, \$90. Jeanne Weber, Ext. 2003, 472-0086 after 4.

BOY SCOUT - Shirt, pants, red winter jacket & hat, 1 set size 14, 1 size 16. \$15/set. Annamaria, Ext. 2119.

20' MOTOR HOME - Dodge champion, fully loaded. \$6900. 878-9194.

FM TUNER - Harman/Kardon citation 14 professional fm stereo fm tuner w/dolby n.r., mint cond. \$325. 698-1035.

3 SPEED BICYCLE - Girl's, good cond. \$35. 363-6940 after 5.

STORM & SCREEN - 16 aluminum storm & screen windows. Ext. 3828, 751-7250.

MEN'S RAINCOAT - Size 46L, black/red, zip-out lining, worn twice. Rich Williams, Ext. 4207, 286-0893.

TRANSMITTER - Viking II, Hamerlund receiver, 2 old CB rigs, all good cond. Fred, 698-0373.

DRUM SET - 4-piece, by Ludwig, Hi Hat cymbals in very good cond. \$300. 878-2486.

FREEZER - 22' Sears upright, white, new cond. \$275. 744-1156.

TAPE DECK - Panasonic cassette stereo tape recorder deck, in/out level controls, VU meters, auto shut off at end of tape, excel cond. \$60. 732-5829.

CAR STEREO - Audiovox cassette stereo w/fm radio, mounts under dash, auto eject at end of tape, excel cond. \$55. 732-5829.

DIVERS - Calypso III regulator w/Dacor underwater pressure gauge, USD buoyancy compensator, weight belt & weights. Nancy, Ext. 3404, 744-8487.

MOTORING SET - Aurora model, HO scale, 25' of double track, spirals, crossover's, bridges, etc, 4 cars. \$20. MacKenzie, Ext. 4490, 286-0999.

CLARINET - W/case, Bundy, \$75; flute w/case, Armstrong, \$75; music stand, \$2; tire, 165 SR 13 STT, \$10. Frank, Ext. 4659, 473-9379.

FURNITURE - Chair, table, footstool set, made in Mexico of woven banana leaves. Asking \$85. Jim, Ext. 3550.

DRAPES & BEDSPREAD - Matching soldier boy print, 2 pair drapes, 63" long, double size spread, \$10. Ext. 4362, 744-7667.

Real Estate

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

For Sale

PATCHOGUE - House on lake, 3 bedrm, sunken living rm, basement w/bar, fp, patio, w/w carpeting, 3 refrig, many extras. \$45,000. 475-1504.

SETAUKET - 4 bedrm colonial, 2½ baths, must see. \$53,000. 751-8918 after 5:30.

E PATCHOGUE - 4 lg bedrms, spacious living, fp, lg kitchen, 2 baths, 2-car garage, s/s, ac, 160x237 partially wooded lot. 475-6916.

PATCHOGUE - Roe Blvd area, 2 bedrm stucco colonial, lv rm, w/fp, dining rm, kitchen, 1½ baths, full basement, detached 2-car garage, all appl, w/w carpeting. 289-5435, Ext. 4841.

PATCHOGUE - Roe Blvd area, 3 bedrm ranch on deep plot, wood shingles, fireplace, bay window, full basement, garage & deck. \$43,000. 331-1718.

PATCHOGUE - 3 bedrm ranch, expansion attic, finished basement, most appl, country kitchen, attached garage, exterior maintenance free. \$34,000. 475-7094, Ext. 2290.

N SHIRLEY - 7 rm cape w/cedar shakes, garage, basement, patio, fenced back, landscaped, well-insulated, Mid Is Schs. \$33,500. 924-8813.

MASTIC - 3 bedrm ranch, near Lab, carpeting, appl, 100x150 fenced yard, full basement. \$29,000. Ext. 2042, 399-0374 after 5:30.

CLOSE TO LAB - Widowed, must sell beautiful 4 bedrm, split ranch, 1½ baths, eat-in-kitchen, formal dining rm, family rm, basement, carpeted, patio, barbecue, fenced. Asking \$42,000, reduced to \$37,900, must be seen. 732-2720.

CATSKILLS CHALET - Near Margaretville on good rd, elec, 3 bedrm, Ben Franklin, near ski areas, excel hunting. Joe Mead, Ext. 4255, 289-1831.

MOBILE HOME - 12'x50', 2 bedrm, fully carpeted, unfurn, awning, skirting, excel cond, Peconic River Park, Ext. 4550, 727-1464 after 6.

N SHIRLEY - 4 yrs old, high ranch, 4 bedrms, 2 full baths, panelled family rm, oil heat, ½ acre, 2 sheds, am/fm radio intercom system through house, rented w/excel tenant & pays \$300/mo. Asking \$38,500 or \$17,500 over mortgage. 878-9022 after 5.

SHOREHAM - 4 bedrm contemporary, 2½ baths, full basement, balcony w/water view, treed ¾ acre, beach rights. \$65,000. 744-2268 after 5:30.

ROCKY POINT - Mother/daughter hi ranch, Sound view, 3 bedrm upper, 1 bedrm lower. \$35,000, Herb, Ext. 3403, 473-4757.

Classified Ad Policy

Deadline is 12 noon Monday for publication Friday of the same week.

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

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

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|--|---------------------------------------|---|
| <input type="checkbox"/> For Sale: Auto & Auto Supplies | <input type="checkbox"/> Wanted | Check <input checked="" type="checkbox"/> the heading applying to your ad. Print or type your ad in 20 words or less. |
| <input type="checkbox"/> For Sale: Boats & Marine Supplies | <input type="checkbox"/> Carpools | |
| <input type="checkbox"/> For Sale: Miscellaneous | <input type="checkbox"/> Lost & Found | |
| | <input type="checkbox"/> Services | |

Ads concerning property for sale or rent cannot be accepted on this form. Special Real Estate Ad forms are available at the Office of the Brookhaven Bulletin, Room 111, 40 Brookhaven Avenue.

Employee's Signature Life No. Ext.
(Name & Phone No. To Call)

Send to: Brookhaven Bulletin, Building 460, 40 Brookhaven Avenue (Ext. 2345).