

BULLETIN BOARD

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Tennis Tournament Registration Open, Play Begins July 11

The 1966 BNL Tennis Tournament is scheduled to get under way in early July. Entries are being accepted for Men's and Ladies' Singles, Men's Doubles and Mixed Doubles.

Simple elimination (one loss and out) will be held in each event, provided there are enough entries. Participants will play one match each week, with the date, time and courts to be mutually agreed upon by the opponents.

Tournament play will begin the week of July 11.

The deadline for entries is July 7. A fee of fifty cents per person for each event entered must accompany the registration.

Register at the Recreation Office in the Gym.

DALU Election Set for June 30.

Directly Affiliated Local Union No. 24426 will hold an election for the office of president on Thursday, June 30, at the Knights of Columbus Hall, Railroad Avenue, Patchogue.

The polls will be open from 1 p.m. to 8 p.m. The candidates are: Charles Geonie, George Spatzier, Jim Ryan, Joseph O'Reilly, and Edward Hansen.

If a run-off election is necessary, it will be held the following Wednesday, July 6

Visiting the Lab



200 BeV BRIEFING - Commissioner James T. Ramey of the AEC (left) chats with T. Keith Glennan, AUI President during the Commissioner's visit. The Commissioner heard BNL and utilities representatives argue the Lab's case for the proposed 200 BeV accelerator.

Photo by Bob Walton

Brookhaven Lecture Series

Wednesday, June 29 at 8 p.m.
Lecture Hall

Some Mechanisms Of Meson Creation

Dr. E.O. Salant, Physics Department will present No. 58 in the Brookhaven Lecture Series. Following the basic premise of the Series, Dr. Salant will direct his talk to the scientist who is not a specialist in particle physics; he will begin by defining terms and establishing common reference points.

The lecture will center around the pion, and the essential elements of pion production. Key topics will include bombardment, types of collision, distribution of energy during collisions, and the statistical mechanics.

A buffet supper (\$3.25) will be served at the Brookhaven Center before the lecture beginning at 6 p.m. Reservations should be made at least one day in advance by calling Ext. 2453.

Chemonuclear Reactors For Water Treatment Suggested by BNL Paper Delivered at ANS

Atomic energy already driving electrical generating plants, merchant ships and warships, auxiliary power units for satellites, and nuclear rocket engines - may also be put to work purifying drinking water and controlling pollution in streams and lakes.

In a paper presented at the ANS meeting, Morris Beller and Meyer Steinberg of the Nuclear Engineering Department proposed the use of ozone produced in a "chemonuclear reactor," - a nuclear reactor in which chemicals are produced by the action of radiation on a gas stream - for water treatment.

Ozone, a form of oxygen in which the molecules consist of three atoms, is a strong oxidizer and is widely used as a bleaching agent and as a disinfectant. The usual method of ozone production is to subject ordinary oxygen - the two-atom variety found in the atmosphere - to an electrical spark.

Chernick, Corngold Honored At ANS Meeting in Denver

Nuclear scientists and engineers from across the country - and from many foreign countries - are in Denver this week to attend the Twelfth Annual Meeting of the American Nuclear Society.

The approximately 1200 attendees are meeting in 54 sessions to hear more than 350 technical papers describing the latest evidence of nuclear research and nuclear engineering applications.

The American Nuclear Society is a non-profit scientific and educational organization founded in 1954. Its 7000 members include research scientists and engineers, corporation executives, university professors, students, and physicians.

BNL is represented by the 10 papers given by staff members; and Dr. Noel Corngold and Mr. Jack Chernick who were given ANS awards.

Dr. Corngold, a physicist, who heads the Theoretical Reactor Physics Group of the Nuclear Engineering Department, was doubly honored by the Society. He was awarded a

Certificate of Merit for his outstanding contributions to the field of reactor physics; and he was raised to the grade of "Fellow of the American Nuclear Society."

Dr. Corngold is cited in the Certificate "for his contributions to physical



Dr. Corngold Mr. Chernick

insight into neutronic problems, particularly through analytical investigations of: neutron moderation, resonance capture, thermalization, and the clarification of the results of pulsed experiments."

To be a "Fellow" is a token of professional esteem and recognition reserved for acknowledged attainment in science or engineering; by notable original research or invention; by technical leadership of substantial scope; or by outstanding leadership as a teacher. Dr. Corngold's citation reads, "for advances in the theory of neutron thermalization and resonance escape probability that are in the highest tradition of scientific scholarship."

Mr. Chernick was named co-winner of the American Nuclear Society Special Award for 1966. He is Associate Head for Theoretical Physics of the Reactor Physics Division of the Nuclear Engineering Department. The \$1000 prize is shared with Professor Mark Nelkin of Cornell University.

In his citation, Mr. Chernick was honored "for contributions to important physics problems of reactors, including resonance capture, reactor kinetics, and the interpretation of integral experimental data; for his investigations of many novel reactor designs; and for his continuing leadership in the development of reactor

New York City consumes approximately one billion gallons of water

See Reactor, page 2

See ANS Meeting, page 2

Chernick, Corngold Given Awards During ANS Meeting in Denver

physics and physicists of the highest quality." His colleagues credit him with a "school" of highly qualified and carefully trained people.

First Marvin Fox Award To Irving Kaplan, MIT Engineer

Irving Kaplan was selected by ANS to receive the first Marvin Fox Award - a special medal named after the late Dr. Fox, who died in 1965.

Dr. Fox, who bore the major responsibility for the design, construction and startup of the Graphite Reactor, was Chairman of the Reactor Division from 1952 to 1957.

Dr. Kaplan, currently Professor of Nuclear Engineering at Massachusetts Institute of Technology, headed the Reactor Physics Division of the Nuclear Engineering Department here until 1957. At present he is a Departmental Consultant and was last year's Chairman of the Visiting Committee.

N.Y. Offers Land, Power, As 200-BeV Inducement

New York is prepared to spend some \$20 million to make the Lab attractive as the site for the 200-BeV accelerator.

In a letter to AEC Chairman Seaborg, Governor Rockefeller informed the AEC that the state had allocated \$3.7 million for land acquisition, and that \$17.6 million would be invested in a LILCO nuclear power plant which would provide low-cost electricity to run the machine. Both these expenditures are contingent on the Lab being chosen as the accelerator site.



IT'S A MOBILE HOME - The helium trailer alongside the HFBR has been commandeered by a pair of sparrows who feel that it's a fine place to bring up the children. The two *Passer Domesticus* in the nest seem quite at home.

Photo by Mort Rosen

In a citation accompanying the medal, Kaplan is credited "... as leader and organizer of reactor physics at Brookhaven National Laboratory, in which capacity he worked fruitfully with Marvin Fox and many others; as teacher; and, specifically, as Special Lecturer at the Twelfth Annual Meeting of the Society where his topic was 'Simple Models for the Analysis of Fast Reactors.' "

Ozone Reactor . . .

Continued from page 1

each day. To purify this much water by adding two parts of ozone per million parts of water would require 8.5 tons of ozone per day. A nuclear reactor providing 1.8 billion watts of thermal power could produce this amount of ozone. Since only a small fraction of the energy delivered to the gas stream entering the reactor is actually absorbed to produce ozone, sufficient energy would still be available to produce more than 200 million additional gallons of water by desalinization of sea water at a cost of thirty-three cents per 1000 gallons.

This cost, which includes the costs of ozone production, is competitive with the costs of providing this amount of water by conventional means. Reactor-produced ozone should be pure and non-radioactive, and should offer no biological hazard.

For water pollution abatement, large quantities of ozone are necessary. For example, the daily flow of the Hudson River is approximately 5 billion gallons per day. Assuming that an ozone concentration of 30 parts per million parts of water is required to adequately sterilize the water and to decompose undesirable wastes and effluents, 600 tons per day of ozone are needed. For production of this magnitude, a specialized, highly-efficient "fission fragment" reactor appears most economical. In this type reactor, the gas stream is passed through extremely thin fuel elements of an uranium alloy. As the uranium atoms "fission" or split, the highly-energetic fragments are ejected into the gas stream. The energy from these particles is directly imparted to the gas, and ozone is formed. Before the ozone could be used, the radioactive fission fragments would have to be removed.

Bridge Group Information

Hoping to interest some of the summer visitors, the Hospitality Committee's Women's Bridge Group will meet as usual every second and fourth Tuesday from 8 p.m. to 11:30 p.m. The next session will be at the Recreation Building in the Apartment Area on June 28. Everyone welcome.

Arrivals & Departures

Arrivals

Schulze, Ursula M.R. Nucl. Engr.
Osher, Stanley J. Applied Math.
Berger, Quinn A. Applied Math.
Sobesky, Joan P. Applied Math.
Yuhas, Ronald M. Applied Math.
Austin, Patricia A. Fiscal
Decelis, Salvator Plant Maint.
Spallitta, Joseph C. Central Shops
Barthold, William C. Plant Maint.
Dunne, William E. Central Shops
Meehan, Bernard F. Security
Novak, Gerard J. Accelerator
Pollard, Laurie T. Central Shops
Salerno, Robert N. Applied Math.
Vilot, Patricia Applied Math.
Alvarez-Rivas, Jose L. Physics
Gellene, Rosemary A. Medical
Cornish, George W., Jr. Accelerator

Departures

O'Shea, Michael F. Mech. Eng.
Moon, Harley W. Medical
Megrue, George H. Chemistry
Elms, Rebecca Fiscal
Hindermann, Lesley Information Div.
Salata, Beth P. Information Div.
Fichtner, Arthur H. Inst. & H.P.
Amante, Alfred A. Reactor

Six Russians Here Today

Six Soviet Medical Tracer Specialists are scheduled to visit the Lab today. They will spend most of their time in the Medical Department where informal presentations and a tour are on the itinerary.

Cafeteria Menu

Week Ending July 1

Monday, June 27	
Roast Beef au jus	.65
Spanish Rice	.60
Apple Pancakes/Bacon	.50
Tuesday, June 28	
Roast Loin of Pork/Dressing	.65
Salisbury Steak/Onions	.65
Lamb Stew/Vegetables	.65
Wednesday, June 29	
Chicken Cacciatore/Rice	.65
Roast Beef Hash	.60
Fried Scallops/Tartar Sauce	.65
Thursday, June 30	
Roast Leg of Lamb/Gravy	.65
Turkey Ala King/Biscuit	.65
Beef Burgundy/Noodles	.65
Friday, July 1	
Salmon Steak/Lemon	.65
Franks & Beans	.55
Baked Chicken/Gravy	.65
Macaroni Peppers & Tomato	.50

More on the Trip to SUNY

The BNL staff wives who wish to go on the tour of Stony Brook Campus on June 29 should call Joan Hennerty, Ext. 493 immediately.

Those taking their own cars (please call also) should meet in front of the gymnasium at SUNY whence the tour bus or buses will leave. Don't forget to bring your own sandwich - coffee and dessert will be served by our hostess at Sunwood.

Cosmic Ray Particles To be Used to 'X-Ray' Early Egyptian Pyramid

As if it were a huge molar in an *avant garde* TV toothpaste commercial, a 4500 year-old Pyramid on the banks of the Nile is going to be "x-rayed" for cavities.

Using muons from cosmic rays and two spark chambers, United Arab Republic Egyptologists and a team of physicists and engineers from Lawrence Radiation Lab will try to determine the validity of an old theory - that the explored burial chambers of the Pharaohs are decoys and that the real crypts are hidden somewhere in the massive stone overhead.

The Chephren Pyramid to be "x-rayed" is one of the three Great Pyramids of Giza, near Cairo. A chamber at the base has been open for a thousand years but there is 470 feet of stone overhead which could contain the real burial chambers.

The immensity of the structures has prevented random exploratory digging into the stone - the base is about 755 feet on each side and covers just under 13 acres.

In the experiment, spark chambers will be placed in the known subterranean chamber beneath Chephren's Pyramid, and will record cosmic ray mesons reaching the detectors.

Muons which have passed through a cavity in the limestone - such as a hidden chamber - would be relatively more frequent and more energetic than those passing through solid rock. Thus, more of them would reach the spark chambers and the unseen space would show up in the detectors at a comparatively higher rate of incoming particles.

With two spark chambers about a foot apart from each other the scientists believe it will be possible to detect any hidden chamber and to pinpoint its location to within a few yards.

Dr. Van Slyke Awarded Degree by Rockefeller U.

Dr. Donald D. Van Slyke, the 83-year-old Senior Scientist Emeritus, Medical Department, who will soon need a wheelbarrow for his academic honors, was awarded an honorary doctor of science degree, last week, by Rockefeller University.

Undeliverable Mail

The BNL Mail Room (Bldg 179, Ext. 565) is holding mail for the following individuals:

C.M. Abraham
G. Jelic
Herbert R. Lail
Paul W. Savel

Unclaimed mail will be returned to the sender after one week.

Action-Packed Ladies' Softball Draws Astonished Male Fans

Wednesday-night games in the Lab's slow-pitch league were over and some of the guys wandered over to Field 4 to kibitz the Ladies' Softball game.

Smirks soon turned to open-mouthed astonishment: a pitcher for one of the girls' provisional teams was sizzling it in with a delivery that would evoke cries of admiration in even the most jaded South Ozone

Park schoolyard. One jersey-clad slow-baller looked awhile, turned to his buddy and said, "Challenge them? For laughs? I can't hit that stuff."

The second game of the four-game trial period that will determine whether a league is to be formed, brought out seven more girls than the first game.

If enthusiasm remains high, the proposed four-team Ladies' Softball League will start July 6 and continue through August.

Judging from the increasing numbers of onlookers that show up, Ladies Softball, with its unofficial uniform of tight jeans and baggy sweatshirts may turn into the summer's top spectator sport. A lissome, honey-haired catcher, confident that the league will get off the ground, said that her team's uniforms would be "distressed blue jeans with shocking pink sweatshirts."

The second game showed a snappier, more talented level of play than the first game did, as skills dormant since high school and college days were dragged in from limbo.

The final score, 11-8, reflected not only playing superiority but ingenuity; since there is a shortage of umpires, the players take turns calling balls and strikes from behind the plate. The girls have sent out an SOS for umpires.

There is still time; give Dee Skokna, Ext. 2357, a call and sign up.

Sam La Placa Takes Golf's Lustgarten Cup

The Lustgarten Cup Tournament turned out to be a huge success. Some goofs were made, but in general most of the entrants had a ball.

The winner of the Tournament was Sam La Placa. Len Galanter was second, Frank Walsh third and Bill Keating came in fourth.

The winner of the closest to the pin contest was Jerry Weiss and next closest went to Jim Petro.

Future nine hole festivities are being worked on, any suggestions are always welcome and should be sent to the writer at Bldg. 830.

Blind Bogey Golf Winners

After many hours of golf and drawing numbers out of a hat, the winning score was 75. Four fortunate golfers were lucky enough to play the right game to match their "guesstimate" of a handicap to end up with a net of 75. They were as follows: Vic Bond, Dick Britton, George Dio Guardo, and Larry Kukacka. —J. Weiss

One ring to rule them all/ One ring to find them/ One ring to bring them all and in the darkness bind them.

Around the Base Pads . . . by Bob Carciello

Final First Half Standings

Brookhaven League

Team	Won	Lost	Pct.
Old Timers	6	2	.750
Metallurgy	5	3	.625
Blue Jays	5	3	.625
Batmen	4	4	.500
Medical	0	8	.000

Scores last week: Blue Jays 3 - Batmen 2; Metallurgy 4 - Batmen 3; Old Timers 7 - Medical 1.

National League

Team	Won	Lost	Pct.
Phase Outs	7	1	.875
Dirty Sox	6	2	.750
Floorwalkers	3	5	.375
Phoubars	3	5	.375
Bubble Boys	1	7	.125

Scores last week: Phase Outs 6 - Bubble Boys 4; Dirty Sox 13 - Phoubars 0.

Laboratory League

Team	Won	Lost	Pct.
Deadwoods	7	1	.875
Make Ups	5	3	.625
Mets	4	4	.500
Potsareebies	3	5	.375
Mixups	1	7	.125

Scores last week: Deadwoods 13 - Make Ups 6; Make Ups 12 - Deadwoods 11; Deadwoods 22 - Mixups 3; Mets 12 - Potsareebies 11.

Tickets Available

Personnel Services
Recreation Office - 3 Center Street
Daily 9 a.m. - 1 p.m.

Reservation requests, with a 20 percent discount for most shows, are now being taken for the Westbury Music Fair. Among the shows available are "Oliver," "Gentlemen Prefer Blondes," "Camelot," and "Carousel."

Orders must be placed in person at least three days in advance and accompanied by a check made payable to Westbury Music Fair.

Gateway

Reservations, also at a 20 percent discount, are being taken for the Gateway Playhouse in Bellport. The next two scheduled shows are "Oklahoma," June 28-July 10, and "How To Succeed In Business Without Really Trying," July 12-July 31.

Orders must be accompanied by a check made payable to Gateway Playhouse.

Mineola Playhouse

Discount coupons are on hand for "The Boys From Syracuse."

Mets Tickets

Box seats are available for June 28, 30; July 1, 17, 29, 31; August 16, 17, 29, 30, 31.

Happiness is watching one of the people responsible for food service and vending machines on site get stiffed by one of his own coin-ops which failed to deliver and kept the money.

BERA Film Series

Thursday, June 30 at 8:30 p.m.
Lecture Hall

Hallelujah The Hills

We'll let this film rest on it laurels.

"The weirdest, wooziest, wackiest screen comedy . . . a slapstick poem, an intellectual 'Hellzapoppin,' a gloriously fresh experiment and experience in the cinema of the absurd . . . the first cubist comedy of the new world cinema."

—Time Magazine

"Imagine a combination of Huckleberry Finn, Pull My Daisy, The Marx Brothers and the complete works of Douglas Fairbanks, Mary Pickford, and D.W. Griffith,



and you've got it. What have you got? A film which is both deliriously funny and ravishingly lyrical . . . It is a hymn to the joys of youth and friendship."

—The Guardian (London)

"The wildest and wittiest comedy of the holiday season. Plotless and pointless, seemingly without a care for structure or cinematic style, it is infuriatingly unconventional and wholly disarming."

—New York Times

Enough said?

Short: The Golden Fish

An engaging story plus beautiful photography and winning acting by the human and animal cast won this short an Academy Award.

—Peter Leiberman

Movie Tonight

June 23rd, 8:30 p.m. in the Lecture Hall, "Throne of Blood" and the short, "The Adventures of *."

Letters To The Editor

To the Editor:

While returning home after completing the 4 to 12 shift on June 10, I got stuck when my pickup truck boiled over on Longwood Road. One gentleman stopped and found the trouble (leaking radiator drain plug) while another stopped, and returned to the Lab to bring back water. Also, a young lady stopped to ask if she could call anyone for me. All were Lab employees and I want to thank them very much. It's comforting to know that our fellow employees will help out in time of need, especially when shift work necessitates traveling at all hours. Again, thank you all very much.

Daniel Gilliam

Attention Judokas

During the summer months Judo practice will be held at the Dojo on Tuesdays only. (Gymnasium 5:15 p.m.) Summer students are welcome. For information call K. Gedicks, Ext. 2845.

Argonne's Tandem V de G To be Boosted to 3 MeV

Argonne National Laboratory's Tandem Van De Graaff accelerator will receive a million-dollar modification to increase its energy by at least three million electron volts.

As modified, the instrument will be capable of accelerating protons to at least 15 million electron volts.

