

BULLETIN BOARD

Volume 21, Number 33

Published by the BNL Public Relations Office

August 24, 1967

BNL's Retirement Plan Retirement Options

The past two articles on the BNL Retirement Plan have dealt with the various aspects of accumulating a sufficient retirement income, immediate vesting privileges and death benefits before retirement. Now let us examine the factors involved in determining the amount of income you will receive from both TIAA and CREF after you retire.

The accumulation you have built up in TIAA will be paid back to you as a guaranteed lifetime income which will not vary except for extra dividends. The amounts of TIAA income you receive each month will primarily depend on your age and life expectancy at retirement (based on life insurance actuarial tables) and the particular retirement option you select. If you select an option which includes income benefits for your wife in case of your death, her age and life expectancy will also be considered.

During your retirement the unpaid balance of your TIAA accumulation will be credited with interest each year. Currently, the total interest rate being paid on retirement accumulation by TIAA is 5¼%.

You will also receive a lifetime annuity income from CREF. However, that income will vary from year to year as it reflects the performance of CREF's common stock holdings.

When you retire, the CREF "Accumulation Units" you have purchased during your working years will be converted to a certain number of "Annuity Units." The same basic factors (life expectancy and retirement option) employed in determining your TIAA income will be used in establishing the number of CREF annuity units you will have.

The actual income you receive from CREF will depend on both the number of annuity units you have, and the value of each unit. While the number of annuity units will remain constant throughout your retirement, the value of each unit will change once each year as it reflects the changing market values of CREF's common stock and the dividends received from each stock.

From 1956 to 1966 the value of the CREF annuity unit increased from \$18.51 to \$30.43. During this 10 year period the annual retirement income of a CREF participant with 150 fixed annuity units would have increased from \$2,776.50 to \$4,564.50.

The variable annuity's history of success in providing a retirement income which is more aligned to changes in the cost of living is no doubt the chief reason why 87% of all TIAA contributors and 94% of TIAA contributors at Brookhaven Laboratory are now participating in CREF.

Retirement Income Options.

Listed below are some of the basic retirement income options available to AA-CREF participants. Just before you retire, you will be advised of the income amounts available under each option. At that time you may decide which option is most suitable for you. Please note that all of the options except the single life annuity

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Lyle Borst Breaks Ground for Reactor 8-54-67



Lyle Borst, chairman of the Nuclear Reactor Project, breaks ground on Rutherford Hill for BNL's first large research reactor.

BNL Golfers Win Trophy at Purdue

The BERA-BGA team that was sent to the National Industrial Golf Championship Tournament at Lafayette, Indiana last weekend, brought home a trophy that will be displayed in the cafeteria next week.

The team, consisting of BNL champions Charles Flood, Joseph Cardamone, Bill Tunny and James Tveekrem, won first place in the match for distance.

The trophy reads: For the Team that Travelled the Farthest.

交互磁場同步加速機

How do you translate "Alternating Gradient Synchrotron" into Mandarin Chinese? This is just one of the questions that required an immediate answer in order to prepare the Brookhaven Spectrum for overseas showing.

As reported in a previous issue of the *Bulletin Board*, the Brookhaven Spectrum, the 25-minute sound and color film summarizing the scientific activities of BNL, has been selected as an entry in several film festivals because it is an outstanding example of cinema artistry. Recently, the United States Information Agency has selected the Brookhaven Spectrum for exhibition to a more extensive overseas audience, in each case with an appropriate native language sound track replacing the original "Americanese."

The translation into most European languages is not too difficult since these languages generally have direct equivalents for our scientific vocabulary or have root words derived from the same source as ours from which suitable equivalents can be constructed. But how do you manufacture a scientific vocabulary for a language lacking Greek and Roman root words? Especially difficult is the problem of making up acceptable words for an Oriental language using ideograms where it is not permissible to invent a new ideogram.

This problem was forcibly brought to the attention of the Information Division when a Chinese translator of the USIA requested help in preparing a Mandarin Chinese script for the film which will be shown in Taiwan (Formosa). The obvious answer is to get in touch with a Chinese scientist here at BNL and ask him for help. Unfortunately, the only one immediately available confessed that the texts he used to study physics while at school in Taiwan were all written in English. There were no presently used equivalents for anti-matter, bubble chamber, or Alternating Gradient Synchrotron.

It was not very difficult to invent words for anti-matter and bubble chamber. The Chinese already had words for the ideas involved. It was easy to combine the words for "on the contrary" with the words for "matter" to get anti-matter. "Bubble" and "tank" made an acceptable bubble chamber. But the Alternating Gradient Synchrotron was a problem.

After much thought the newly invented designation for this particle accelerator became: "reciprocal magnetic field together step add haste machine." Although some purists may object to this designation as being less than technically correct, is it satisfactory as a label for a particular machine. And thus the AGS will be known throughout Taiwan.

Graphite Reactor Ground Broken 20 Years Ago

On August 11, 1947, ground was broken for the first chain-reacting atomic pile built for scientific research and peacetime application. Brookhaven Laboratory was about to embark into the atomic era with a "Clinton-type air-cooled unit, constructed of graphite and unenriched uranium metal."

The Reactor Group was at that time housed in T-197, where alterations were being made in order to provide room for the offices and laboratories needed for the planning work. Graphite and uranium had been "released" for building the pile, and preliminary designs for the "Hot Lab" had been completed.

Two weeks before, on August 1, the new US post office at Upton had been opened, and cachets were available to all employees. About the same time, one of the major oil companies published a new map of Long Island, and for the first time Brookhaven National Laboratory was located and named on the map.

New additions to the staff included Dr. Leland J. Haworth, as assistant director in charge of the Nuclear Reactor Project, and the Accelerator Project. Joining the Physics Department were Ralph P. Shutt and Allan Thorndike.

I.I. Rabi and H.C. Urey visited BNL for the month of August, and J.R. Oppenheimer came for a shorter visit.

A new organization known as the Association of Brookhaven Scientists was being formed, and included on the Interim Planning Committee were C. Williams, M. Fox, and L. Gemmill.

Librarian John Binnington announced that the 1300 books on the shelves would be available for all employees.

In the social columns of *Isotopes* we learned that Gordon Stubbins of AEC was raising chinchillas. Everett Heinze had solved his transportation problem by finding a car. Bob Brouwer had a birthday on July 8, and Ken Rose started work on his new house in Bellport.

John Cross of Transportation reported a loss of 2 pounds for each softball game he played. Lisenard Suydam was assisting in the Housing Section after 5 years in the Coast Guard.

In the Scientific Progress Report of July 1, 1947, most departments reported that "progress" was being made in plans to start research, but that "real progress" would begin with moves to new quarters or arrival of new staff members.

The Medical Department was described by F.W. Sunderman as being still in the "gestational" stage. Plans were being made to restore the temporary hospital buildings

(continued on Page 2)



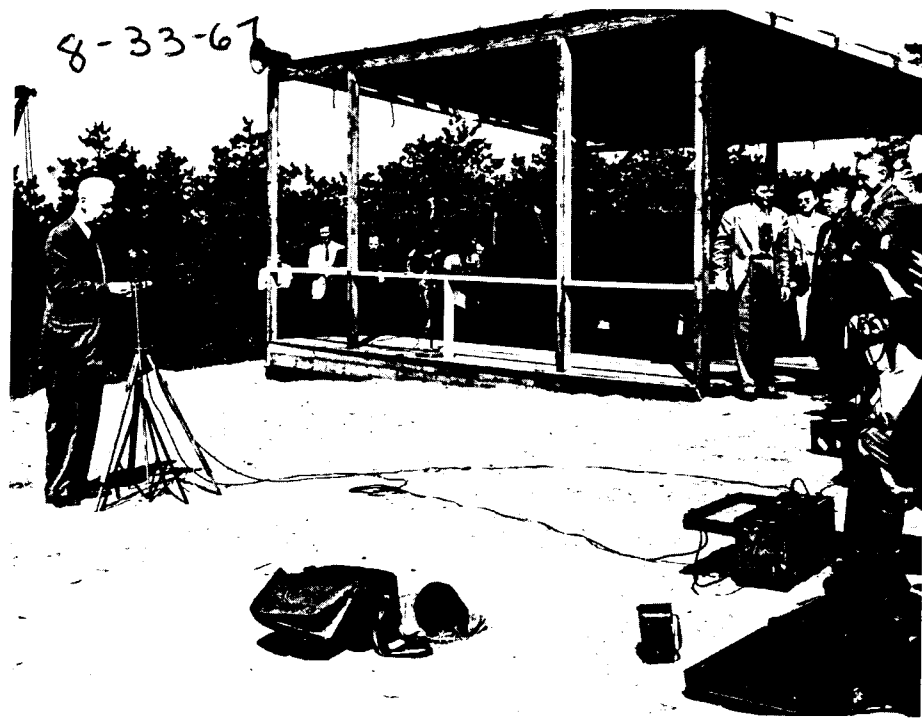
Harold C. Urey (left) and I.I. Rabi (right) both Nobel Prize laureates are shown in conversation at BNL during the groundbreaking ceremony.

Graphite Reactor (continued)
on site to their original purpose "in the near future."

Dr. F.P. Cowan reported that "The place of the Health-Physics group in the laboratory organization has not yet been definitely determined." However, a chain of stations for monitoring background radiation was being established.

During this first summer of 1947, Brookhaven National Laboratory had passed from the subcritical to the supercritical in size, and had already begun to make its mark on the scientific world.

AEC Commissioner Sumner T. Pike addresses the crowd of employees and guests at the groundbreaking.



Options (continued from page 1)

option provide income for your beneficiary in the event of your early death.

A SINGLE LIFE ANNUITY - pays you an income as long as you live. This method provides a larger monthly income for you than the other options, with all payments ceasing at your death. If you have no dependents when you retire, you may want to select this method.

A SURVIVOR ANNUITY - pays you a lifetime income which is smaller than the Single Life Annuity. If your wife lives longer than you, she continues to receive an income for the rest of her life. The amount continuing to the survivor depends on which of these three options you choose:

1. *Two-thirds Benefit to Survivor* with 10-year Guarantee. At the death of either you or your wife, the payments are reduced to 2/3 the amount that would have been paid if both had lived, continuing to the survivor for life. If both annuitants die within the first 10 years of payment, the 2/3 amount is continued to a named beneficiary for the balance of the 10-year period.

2. *Full Benefit to Survivor*. Under this option, the full income continues as long as either you or your wife is living.

3. *Half Benefits to Second Annuitant*. The full income continues as long as you live, and if your wife survives you she receives for life one-half the income you would have received if you had lived. If she dies first, the full income continues to you for life.

For a man aged 65 whose wife is about 2 years younger, the 2/3 to Survivor option pays about 13% less than the Single Life Annuity would pay the husband alone. The Full Benefit option pays about 21% less; the Half Benefit option 12% less.

10 OR 20 YEARS CERTAIN AND LIFE - pays you an income as long as you live with installments guaranteed to continue during the first 10 or 20 years, as selected, whether you live or die. If you die during the guaranteed period, payments are continued to your beneficiary for the rest of the period. If you live beyond the period, payments go right on for the rest of your life. For a man aged 65, the 10 Year Certain and Life Option pays about 5% less

than the Single Life Annuity; the 20 Year Certain and Life option about 16% less.

INSTALLMENT REFUND - (available in TIAA but not in CREF) pays you an income as long as you live. If you die before having received total payments equal to the full accumulation you had when annuity payments began, the income will be continued to your beneficiary until the sum of all payments equals that accumulation amount.

CREF participants may transfer their CREF accumulations to TIAA prior to retirement in order to take full advantage of this option. Otherwise, they may draw their CREF income under one of the other retirement options. For a man aged 65, this option would pay about 12% less than the Single Life Annuity.

This article concludes our 3-part series on the Brookhaven Retirement Plan. This has been a general series, not specifically intended to cover all "fine print" areas of the TIAA-CREF retirement system. If you have any questions regarding any of these areas, please send them to the *Bulletin Board* or contact Personnel Services.

Long Wet Summer Confirmed at BNL

According to Constance Nagel, of the BNL Meteorology Group, you are right if you have suspected that this has been a wet spring and summer.

Between June 15 and August 15, on 42 days out of a possible 61, rain fell at BNL. The month of April was the only one so far this year that had a precipitation record close to the 16-year average.

The following is a summary of the BNL precipitation from March 1, through August 15, 1967

	Total, in.	Average for BNL, in.	No. of days Precipitation
March 1	8.18	4.88	15
April	4.14	4.32	13
May	7.98	3.34	15
June	5.30	2.50	10
July	6.01	3.37	23
Aug. 15	2.18	4.80	11

Swimming Pool Schedule

The pool will operate under its present schedule - Monday thru Friday from 2:30 till 9:30 - until August 31. The pool will be closed from September 1 until mid October for maintenance repairs. Watch the *Bulletin Board* for further schedule announcements.

Here and There

Stanley Osher (Applied Math) lectured at MIT, Aug. 15 on "Systems of Difference Equations with Generalized Homogeneous Boundary Conditions."

Louis P. Remsberg, Jr. (Chemistry) will attend the 4th Informal European Conference on the Interactions of High Energy Particles and Complex Nuclei to be held in Røros, Norway, Aug. 27-Sept. 1.

Dr. & Mrs. M. Goldhaber, Joseph Weneser, Joseph Friedes, and Andrew Sunyar will leave on Aug. 31 to attend the International Conference on Nuclear Structure to be held in Tokyo, Japan, Sept. 7-13.

Leo H. Baetsle, of CEN, Mol, Belgium, will be visiting at the Laboratory for discussions on chemical analysis on Aug. 28.

On Aug. 25, the Committee on the Organization of Youth Scientific Activities will tour the Laboratory.

Reginald Ryan of the Australian Atomic Energy Establishment will visit the Laboratory on Aug. 28 for discussions on electronic circuit development.

On Aug. 8, 1967, U.S. Patent No. 3,335,061 was issued for Method of Operating A Breeder Reactor. The inventors are Warren E. Winsche and Melvin M. Levine, both of the Nuclear Engineering Department.

Letters To The Editor

Dear Sir:
Please accept our gratitude for the many prayers, kindnesses, and cards we received at the time of our recent loss. Without all of you kind people we don't know how we could have made it through these hours of darkness.
Sincerely,
Cy, Millie and Linda Fink

Arrivals & Departures

Arrivals	
Hans F. Abendroth	Physics
Charles A. Nielson	Physics
William F. Taylor	Accelerator
Anton Tomic	Mech. Eng.
Ronald G. Walter	Accelerator
Departures	
Audrey L. Bangel	Purchasing
Robert P. Ducey	Nuc. Eng.
Charles W. Huffine, Jr.	Accelerator
John D. Kelley	Chemistry
Robert J. Medina	Plant Maint.
Robert J. Motto	Physics
William H. Penning	Plant Maint.
Alan R. Poletti	Physics
Medford S. Webster	Physics

Hospitality News

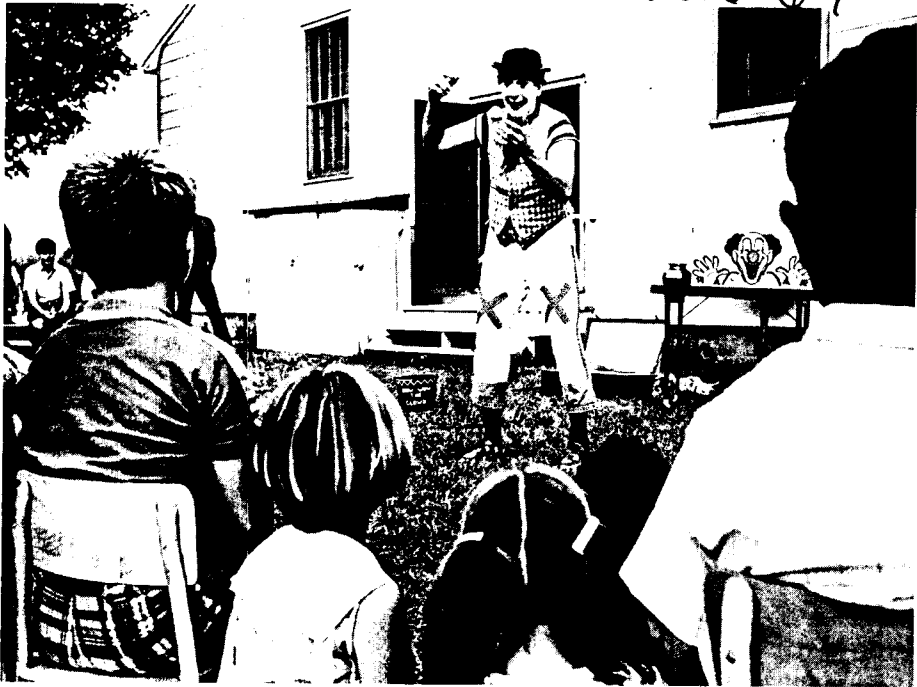
A Hospitality Committee "Coffee" meeting will be held on Monday, August 28, in the Recreation Hall in the Apartment Area. Refreshments will be served. Time: 10:30 to 12:00 noon.

What Gives Here?



Photo above shows a computer at the BNL Computer Center being examined by a group of students from Chalmers Institute of Technology, Göteborg, Sweden. The group, all Juniors studying mechanical engineering, spent the summer working in the United States. They reassembled in Detroit at the end of their summer, and stopped at BNL on the way back home.
Photo by Rosen

Clown Entertains Small Fry 8-826-67



Bow-Wow the Clown entertains children in the Morning Recreation Program with a magic-variety show at the Family Buffet held at the end of the season.



Awards winners for various contests held during the summer at the Morning Recreation Program are shown: (center) Carol Tidwell; (kneeling, l to r) John Crotty, William Sabine, Mike Daniels, Paul Carter, Jamie Sabine, Feza Akcasu, James Dernbach, Robert Tycko, Ajay Garg; (standing l to r) Mary Dernbach, Mareva Daniels, Ann Tidwell, Nili Ardon, Jennet Peoples, Nur Akcasu, and Ben Tycko. Photos by Humphrey

Theatre Group Tryouts

The BERA Theatre Group will begin auditions for its fall production, "Born Yesterday," next Monday and Wednesday, August 28 and 30. There will be additional tryouts the following Tuesday and Wednesday, September 5 and 6. All auditions will begin at 8 p.m. in the theatre.

Born Yesterday, a comedy set in post-war Washington, will be produced in mid-November. The cast includes five men and three women, all adults, as well as several extras.

Anyone who wants to try out but finds the stated times inconvenient should call Scott Andrus, Ext. 2287, to work out other arrangements. Volunteers, with or without experience, are also being eagerly accepted for backstage production efforts and responsible work on the business side.

Football Notes . . .

You have one day to get your rosters in; August 25th, 1 p.m., applications can be picked up at the Recreation Office. League begins next Thursday, August 31st.

BERA Film Series

Thurs., Aug. 31 - 8 p.m. - Lecture Hall

World Without Sun

Directed by Jacques-Yves Cousteau. This prize-winning color documentary on the human conquest of underwater space is an authentic scientific adventure story of two undersea explorations filmed on the Continental Shelf in the Red Sea. Cousteau's color cameras capture the fantastic beauty and absorbing drama of men at work and play many fathoms beneath the surface of the sea.

Short: Moscow Circus

With vivid costumes and settings, seven acts of comedy, music and daring feats, this film captures the atmosphere of the famous Russian circus. —Harvard Lyman

Movie Tonight: The Trial

Softball

by Bob Carciello

Potsareebies Prevail

New Lab League Champs

The Potsareebies and Mets each winning one of the halves engaged in a duel to determine a Laboratory league champion. Both teams displayed fine defensive plays during this pressure packed ball game. The Pots came through with the clutch hits highlighted by Dan Leahy's two out RBI triple to give the Potsareebies a 5-3 victory and the Lab league pennant.

In the final regular season games in the Laboratory league, we lost count of the number of Mets crossing the plate as the Mets mauled the Charlie Brown Stars 20 + -1. The Potsareebies finished out the regular season by defeating Biology 11-3.

Batmen Cop Second Half

The Batmen engaged the Old Timers in the first game of the three way tie playoff in the Brookhaven league. In a well played game by both teams, the Batmen eliminated the Old Timers from contention with a 7-3 decision. The Blue Jays drew the bye and met the Batmen to determine a second half winner. Having won the first half, the Birds hoped to wrap it up. The Batmen said "No," and pounded out many singles, doubles, etc., to crush the Blue Jays, 16-2. These two teams will have met again by now to determine a Brookhaven league champion.

Final Second Half Standings

Brookhaven League			
Team	W	L	Pct.
Batmen**	8	2	.800
Blue Jays*	6	3	.667
Old Timers	6	3	.667
Six Packs	2	6	.250
Medical	2	6	.250
Metallurgy	2	6	.250

*First half winners

**Second half winners

National League			
Team	W	L	Pct.
Dirty Sox*	7	1	.875
Phoubars	5	3	.625
Make Ups	4	3	.571
Bubble Boys	4	4	.500
Deadwoods	2	6	.250
Floorwalkers	1	6	.143

*League champions

Laboratory League			
Team	W	L	Pct.
Mets**	7	1	.875
Potsareebies*	6	2	.750
Biology	4	4	.500
Applied Math	3	3	.500
Charlie Brown Stars	1	6	.153
Converts	1	6	.143

*First half winners and league champs

**Second half winners

Big Splash at Aquatic Carnival

As the summer days draw to an end the last of the Pool Special Events has been scheduled for Thursday, August 24th. The 1967 grand finale will be the Aquatic Carnival. Events will begin at 11:15 a.m. and last until 2:15 p.m. All the children who participated in the Morning Recreation Program and the Weekly Swimming Lessons will be admitted free. The following events are scheduled:

1. Inner Tube Derby
2. Relay Races
3. Tug of War
4. Diving Contests
5. Catch Ball-Spring Vault
6. Money Balloon
7. Sprint Events
8. Penny Fetch
9. Watermelon Scrimmage

No Fish Tale . . .



Al Eamotte and Gil Spira of Nuclear Engineering are shown with the head of a 125 pound Mako shark that Spira caught 50 miles south of Fire Island last Sunday. The Mako was caught with a mossbunker for bait on a 120 lb. test line after a 20-minute battle. Besides the Mako the party caught four Thresher sharks of over 200 pounds each.

Fish Tales

by John Tagliavia



It looks as if the bluefish are back to stay this time. From Shinnecock Inlet to Montauk and around as far west as the "Gut" and Gardiners Bay, Blues as big as 17 pounds have left a trail of decimated baitfish and broken tackle. Shagnong Reef at Montauk is worth noting in particular as some of the seasons most outstanding catches were made there last week. It was not uncommon for a boat, after fishing the outgoing tide, to return to the dock with anywhere from 10 to 65 of the husky brutes.

Once again Dick Albert has proved himself to be fisherman "extraordinaire." The following is his tally for four evenings fishing west of Shinnecock Inlet: Wed - 14 blues, 15 bass; Thurs. - 23 bass; Fri. - 24 bass; Sat. - (2 trips) 75 bass. There's no doubt about it Dick, you are the greatest. Dick however did have a little help on several of those memorable days. Tony Bono and Carl Goodzeit racked up their share of that fantastic total. The blues averaged 10 pounds and the bass ran from 3 1/2 to 15 pounds. Dick fishes with very little competition due to the vicious nature of the inlet. His 21 foot double-ender, powered by 18 horses seems to have very little difficulty negotiating the inlet. However, I'm inclined to think the real capability is in those hands on the wheel not the craft itself.

Luckless Lou may soon team up with Dick Amari in a joint boat procuring venture that may well turn the tide for both of them. Although fog for the life of me I can't see why they have trouble taking fish when they have an expert such as Captain Cooch in their own group. One word of warning, "Don't do as he says, do as he does," that is if you're willing to work that hard.

Safety Note . . .

Safety shoes will not be issued on Thursday, September 7.

Ticket Reservations

There are just a few Jet football tickets left at the Recreation Office. So hurry up and put in your bid for what promises to be a most exciting season.

Personnel Services

Recreation Office - 3 Center Street

