



Cicadas Emerge After 17 Years

In early June, 1957, thousands of 17-year Cicadas (*Magicicada septendecim*) suddenly appeared in the scrub oak forests at BNL and areas to the south. The descendants of this swarm are expected to occur in the same area during the next week or two. Different swarms of this unique insect emerge at other locations on Long Island in other years but always on the same 17 year schedule.

The adult is a robust, heavy-bodied insect over an inch long with a blunt head and tapering abdomen. It is largely black but the bulging eyes and major veins in the transparent wing are red. A W-shaped mark in each wing is also characteristic.

The mature larvae come out of the ground during the night after spending 17 years in a grub-like form sucking juices from the roots of trees. After they ascend a short distance up a tree trunk or other support, their larval skin splits up the back and the adult cicadas emerge. After drying, they crawl or fly higher into the oaks where the males begin their incessant songs produced by drum-like organs on the abdomen. The collective noise from a large swarm pervades the air with a persistent drone or hum which is difficult to localize but audible for some distance and particularly loud during the heat of the day.

The adults do not eat and only live for two or three weeks. After mating, the females pierce the bark of slender twigs with their saw-like ovipositor or piercer and deposit long rows of small oval white eggs in the wood. These twigs may be weakened so that they will later break in the wind and die giving an unsightly appearance to the trees but no permanent damage is done.

When the eggs hatch several weeks later, the tiny larvae fall to the ground, burrow into the soil and attach themselves to a root. There they spend the next seventeen years, sucking plant juices, growing slowly and preparing for their own brief appearance above ground.

Although many uninformed people become alarmed at the sudden appearance of a swarm of cicadas and the noise may become annoying when their emergence takes place near homes, their harmless nature and short life span make control measures unnecessary and undesirable. Instead, we should value the privilege of observing such a unique creature, knowing that the next opportunity will not come for nearly another generation.

BNL Needs Your Blood On June 26 and 27

Yes, BNL does need your blood when the Bloodmobile of the Greater New York Blood Program visits the Laboratory on Wednesday and Thursday, June 26 and 27.

If a sufficient number of Laboratory employees and their families donate blood, every employee and his family will be eligible to receive an unlimited amount of blood, in case of need, within one full year. You, your spouse, dependent children, parents, parent-in-law, grandparents, and grandparents-in-law are covered.

When the Bloodmobile visited BNL last year, over 600 donors answered the call to give. This year, we have set the ambitious goal of 1,000 pints for the two-day Bloodmobile visit. Since there are now approximately 2500 people employed at the Laboratory, with everyone's help and generosity this goal should certainly be attainable.

Laboratory Director George Vineyard has sent a letter to all employees explaining this year's Blood Program and asking for your continued cooperation. There are Bloodmobile posters located in prominent places on the Lab site. There will be reminders in future issues of the *Bulletin* to return your pledge card by June 14. The message is clear: the success of this year's blood drive depends on you - each and every employee of the Laboratory. In order for BNL employees and their families to have an unlimited supply of that life-giving substance in time of need, we need your blood!

Picnic Time!



Director George H. Vineyard buys two tickets to the Lab Picnic from Marge Stoeckel, Special Events Committee member. In addition to being available at the Cafeteria during the noon hour, tickets are also on sale in most Departments and Divisions. Ten years ago the last Lab picnic was held, and attended by 3000 employees and family members. This year the festivities will start at 1 p.m. and last through 9 p.m. Tickets are priced at \$3.00 for those over 13 years of age, and \$1.00 for the youngsters. As in the past, babes in arms are free. Mr. Ms. contest details are printed on page 2.

Fish Kill Cause Still Undetermined

In spite of efforts by a team of State, County, and Laboratory scientists to determine the cause of the recent fish-kill on the headwaters of the Peconic River inside the Brookhaven Laboratory boundaries, no conclusive evidence has been uncovered.

Efforts within the Laboratory have been under the direction of a committee headed by Robert Powell, Reactor, supported by Andrew Hull, Health Physics; James Cumming, Chemistry; and Geoffrey Hind, Biology. Preliminary results of the investigation have confirmed that the incident was not caused by radiation. In addition, it was further determined that operation of the Spray Irrigation Project was not a cause.

Investigation is narrowing to the area of a release of some chemical agent to the Laboratory's sewage system.

Selected Reading

- New Sci. 62, April 11, 1974
Government of energy. M. Kenward. 70-2
Rocky mountain high. (Technique of biofeedback) M. Hurrell. 73-4
- Science 184, May 17, 1974
Kissing on science: Making the linkage with diplomacy. N. Wade. 780-1
Energy storage (I): Using electricity more efficiently. A.L. Robinson. 785-7
- Science 184, May 24, 1974
Budget and the National Cancer Program. F.J. Rauscher, Jr. 871-5
Low marks for AEC's breeder reactor study. J. Walsh. 877-8
Energy storage (II): Developing advanced technologies. A.L. Robinson. 884-7

Danby To Lecture On S/C AGS Magnet

Gordon Danby, Accelerator, will deliver the 122nd Brookhaven Lecture on Wednesday, June 5, at 8:30 p.m. in Berkner Hall. The title of his lecture is "The 8° Superconducting Magnet on the AGS Primary Beam," in which Danby will talk about an operational large superconducting magnet in a primary proton beam.

Superconductivity is widely believed to be relevant to the future of both science and technology, in such areas as super-energy accelerators, power generation and transmission, and magnetically suspended vehicles. In some cases the reason for using superconductivity is reduced cost or power consumption; in others, superconductivity may provide the only practical possibility for some contemplated device.

A 40 kG bending magnet of 4 meters length is operating routinely in the primary beam of the AGS, bending the protons through 8° in the new North Area External Beam. This provides a first for BNL in several areas. It is the largest accelerator type superconducting magnet in operation. It is the only one exposed to the potentially intense heating of the primary beam. And finally, the entire AGS program is routinely committed to depend on this device which is designed for automated operation.

This project has met all its design goals. Although designed without models, the magnet units were constructed with a precision comparable to the best conventional magnets.

Danby will describe pictorially the development and assembly of this device, including the setbacks, frustrations, and joys of the people who build untried devices on a production schedule. Future possibilities and their possible significance will also be discussed.

Gordon T. Danby was born and educated in Canada. Following a Ph.D. from McGill University and a brief stint in Operations Research, he came to BNL in 1957. He participated in the construction of the AGS, but after it was operational switched to support of its physics program. This ongoing involvement has continued to the present, principally in the development of experimental beam magnet systems. In addition, Danby has been involved in activities on the AGS itself, including study and control of beam orbital properties, and the first external proton beam.

Danby participated with the Columbia Group in the 2-neutrino discovery experiments. He and his co-workers have made several contributions to the accelerator art, notably a detailed study prior to the construction of the multi-hundred Gev accelerators. The study showed that a considerably more flexible and optically superior machine could be constructed using a beam transport or separated function type of lattice, with reduced cost. Since that time, proposed machines universally use this concept.

Danby's recent work has concentrated on cryogenic and superconducting technology and its relevance to high energy physics, in addition to some involvement with magnetic confinement for fusion energy devices.

Danby and J.R. Powell of DAS invented the magnetically levitated and propelled trains which are being developed in several countries, and they have continued for over a decade to pioneer in this field.

Gordon Danby lives in Wading River with his wife Jane and their two children - Jennifer, 10 and Judd, 7. Danby was for many years a member of the school board, and he and his wife are involved in civic and conservation activities.

Official & Special Events

- Monday, June 3
Summer Workshop on Particle Physics with Polarized Targets (June 3-7)
- Tuesday, June 4
Long Island Communicators Tour
- Wednesday, June 5
122nd BNL Lecture - G. Danby, 8:30 p.m., Berkner Hall
- Thursday, June 6
High Energy Advisory Committee Meeting (June 6-7)
- Friday, June 7
Magnet Discussion Meeting (June 7-8)
- Tuesday, June 11
Cross Section Working Evaluation Group Meeting (June 11-13)
- Wednesday, June 12
Navy Meeting - 7:30 p.m., Berkner Hall
- Friday, June 14
High Energy Discussion Group Meeting
- Monday, June 17
APS Summer Study on Radiation Damage (June 17-28)
- Wednesday, June 19
Navy Meeting - 7:30 p.m. Berkner Hall
- Thursday, June 20
BERA Art Show - Rooms B & C, Berkner Hall (June 20-July 2)

Piano Concert Cancelled

The piano concert by Louis Robert Harson and William Daghlian, scheduled for June 12, has been cancelled.

Hospitality News

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

Please come and bring the children.



Susan A. Michael



George R. Eleazer



Jean W. Hsieh



Teri B. Pearlstein



Linda S. Barton



Terry L. Edwards



Aileen C. Reilly



John K. Sailor



Cara L. Cohn

**AUI Scholarship
Winners Announced**

AUI Trustee Scholarships have been awarded to 12 children of BNL employees. The winners of the 1974 scholarships are:

Linda Sue Barton of East Patchogue, the daughter of Mark Q. Barton, AGS. She is a graduate of Bellport High School and will attend M.I.T.

Cara Lee Cohn, the daughter of Stanton H. Cohn, Medical. She resides in Smithtown, attends Smithtown High School East, and will go to Yale University in the fall.

Terry Lynn Edwards, daughter of Paul G. Edwards, H.P. & S., lives in Mattituck and is attending Mattituck High School. After graduation she will enter Muhlenberg College.

Patrick Michael Frantz, son of Edward A. Frantz, Physics, lives in Centereach and attends Centereach High School. He will continue his studies at Rochester Institute of Technology this fall.

Stephen Pierre Grand attends the International School of Geneva while his father, Pierre Grand, Accelerator, is at CERN. He has not decided on a college as yet.

Susan Ann Michael, daughter of Paul Michael, DAS, attends Ward Melville High School and lives in Setauket. She will be going to the State University of New York at Albany.

Teri Beth Pearlstein, who resides in Port Jefferson, is the daughter of Sol Pearlstein, DAS. She is a student at Earl L. Vandermeulen High School and will attend Wellesley College.

Drazen Prelec, the son of Krsto Prelec, Accelerator, lives in Stony Brook and attends Earl L. Vandermeulen High School. He will enter Harvard College this fall.

Aileen Claire Reilly, daughter of James J. Reilly, DAS, resides in Bellport. She will attend Princeton University after her graduation from Seton Hall.

John K. Sailor, son of Vance L. Sailor, DAS, lives in East Patchogue and attends Bellport Senior High School. He will go to Amherst College.

George R. Eleazer, son of George Eleazer, Sr., BNL Fire Department, resides in Bellport and is a student at the Choate School. He will attend Tufts University this fall.



Drazen Prelec



Patrick M. Frantz

Jean Weng Hsieh, daughter of Hank Hsieh, AGS, lives in Ronkonkoma and attends the Connetquot High School. She will enter Rensselaer Polytechnic Institute after her graduation.

A total of 14 scholarships were awarded by AUI this year. Of these, 10 were given to children of regular BNL employees, two Affirmative Action Scholarships were awarded to children of minority employees at BNL, and two were presented to children of NRAO employees.

The scholarships were granted on the basis of academic excellence and independent of financial need. Each scholarship provides \$900 a year for up to four years or until the requirements for a bachelors degree are completed.

We Goofed!



In last week's *Bulletin*, the name of Physicist Dick Strand, who is supervisor of the FID project and wrote the *Bulletin* article about it, was inadvertently omitted from the photo caption. In this photo taken at the control panel of the FID, Strand is standing, third from left.

Biology Symposium

The 26th Brookhaven Symposium in Biology, hosted 113 scientists representing institutions throughout the United States and various parts of the world.

Close to 25 speakers reviewed current research on the processing of ribonucleic acid (RNA), this year's symposium theme. The three-day Symposium, which began on May 29, was held in Berkner Hall.

The Symposium was organized by John Dunn, Chairman of the Symposium Committee, Peter Carlson, Sanford Lacks and William Studier of BNL's Biology Department.

**Perimeter Run and
Cycle Race June 9**

As stated in the last two issues of the *Brookhaven Bulletin*, the 10-mile run, 5-mile run, and 17.5-mile cycle race, open to employees and immediate family members, will be held on June 9. However, because of the increased complexity of running three events at once, an earlier starting time was thought advisable, and this is now set as 10 a.m.

Entry forms should be filled out and returned to Georgia Irving with the 50¢ entry fee, preferably before the day of the events. Forms can be obtained from Georgia, the *Bulletin* office, or one of the committee members - John Aggus, John Axe, Don MacKenzie, or Gus Prince.

Old Faces in New Jobs

Starting Monday, Louis Harson, John Iulo, and Abe Seifert of Plant Engineering will be working at the Lab under new titles. This follows their promotions which become effective June 1.

Harson, whose previous title was Superintendent of Architecture and Structure, will become Principal Architect. His new responsibilities will include the long-range planning of the Laboratory regarding buildings, service facilities, and site planning. He will also be responsible for architectural concepts, analysis and goals. Harson and his wife, Audrey, live in Poquott, N.Y. and have two children, Lou and Hope. He came to the Lab in September, 1963 from New York City where he was Chief Draftsman at the Nationwide Department Store.

Iulo will be promoted from Design Engineer to Superintendent of the Architecture Division. His duties will cover the architectural design and detail of all plant projects. This includes study, design, and construction of new buildings as well as operation, maintenance, and repair of existing structures. He came to the Lab in May of 1961 from Hempstead, N.Y. where he was employed by Heidelberger and Associates, Architects. He lives in Yaphank and has two sons, Michael and Stephen.

Seifert will become Senior Structural Engineer. He will be accountable for the basic structural design of all facilities associated with Plant Engineering. He will also be responsible for the structural adequacy of all buildings and other structures such as cranes, towers, and platforms. Seifert resides in Belle Terre with his wife Selma. They have a son Les and a daughter Hilarie. He began his employment at the Lab in April, 1963 after being employed 12 years as a Structural Project Engineer for Consulting Engineers.

Cafeteria Menu

Week Ending June 7, 1974

Monday, June 3	
Cream of Mushroom Soup	
Macaroni & Cheese w/1 Veg.	1.00
Sloppy Joe on Bun & French Fries	1.00
Tuesday, June 4	
Turkey Noodle Soup	
Beef Hash & 1 Veg.	1.00
Chopped Steak & 1 Veg.	1.05
Wednesday, June 5	
Vegetable Soup	
Ham Steak & 1 Veg.	1.05
Broiled Fish & 1 Veg.	1.10
Build Your Own Hero	1.25
	tax incl.
Thursday, June 6	
Puree of Mongol	
Stuffed Cabbage & 1 Veg.	1.00
Shepherd's Pie	1.10
Friday, June 7	
Manhattan Clam Chowder	
Chili con Carne on Rice	1.00
Fish 'n' Chips	1.00

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**Ms/Mr BNL Contest At
BERA Picnic June 22**

Who will be "Ms BNL 1974"? Who will be "Mr. BNL 1974"? Have any ideas? This question will have everyone guessing at Picnic 1974 on June 22. For the first time since 1964, BERA will sponsor a beauty contest to find "Ms BNL" and equal time will go to find a "Mr. BNL."

All departments or activities should find a lovely female in their group and enter her in the contest. Don't wait! Get your group to enter one of the gorgeous girls from BNL. Contest applications on page 4.

Contest Rules

1. Entrant must be a BNL employee (per BERA definition) - married or single.
2. Entrant may be sponsored by any organized group, department, or recreational activity, (such as Ms. Phoubar, Mr. Personnel, Ms. Accelerator, etc.) or may be an individual applicant.
3. Entrants (or sponsor) must file application (signed by entrant) on or before June 14, 1974. Send applications to Audrey Blake, Bldg. 477.
4. Entrant does not have to work in the department or be affiliated with the sponsoring organization.
5. Entrants for "Ms BNL" will be judged in a swim suit at Picnic 1974 (swim suit to be the entrant's choice).
6. Candidates for "Ms BNL" will be judged on appearance and poise only.
7. Three "Mr. BNL's" will be chosen:
 - a) Best physique over 40 years of age
 - b) Best physique under 40 years of age
 - c) Most luxuriant beard.
8. First place beauty winner will receive a trophy and full "Miss BNL" privileges for 1974. There will be one runner up trophy winner.

Contests will be judged by six BNL employees.

Get going guys - get the girls out to enter. Get going girls - get the guys out to enter. NOW!!

Report Available

The following report is now available to the Laboratory Staff and to affiliates of the AEC, AUI, and BNL. Others may purchase it from the National Technical Information Service, U.S. Department of Commerce, 5285 Port Royal Road, Springfield, Virginia 22151. Staff members should call Ext. 3484:

BNL-50412 \$5.45
A Preliminary Neutron Foil Dosimetry Characterization of the BLIP Neutron Facility. August 1973.
Don M. Parkin, N.D. Dudley, R.R. Heinrich and M.J. Fluss

May Retiree



Joseph M. Beitel, Tool & Instrument Maker in the Central Shops Division, who began work at BNL on June 16, 1947, will retire on May 31.

Where JOBS Count



Al Mack (left) and Gladys Mack (no relation) are two of the six people working in AGS as a result of the JOBS Program. The program, which stands for Job Opportunities in the Business Sector, was started as a joint effort between the United States Department of Labor and the National Alliance of Businessmen. Its aim is to offer job training opportunities to individuals who would have difficulties getting these opportunities otherwise. The Program tries to place these individuals in private industry where they can be trained and hopefully retained. It is specifically geared toward veterans but also tries to help other members of America's "hard-



core unemployed." At BNL, the Program is coordinated jointly by the Directors Office and Personnel. Gladys Mack, a draftsman in AGS, has been at the Lab for a year and a half. She came here with no prior knowledge of draftsmanship and has picked up the skill through training. Al Mack came to Brookhaven in February 1973, two years after his return from Vietnam. He had some electronics training while in the Army but is being trained at BNL in the complex circuitry of the 200 MeV Linac. Others currently at the AGS and partially funded by the JOBS Program are Robert Shirley, William Trent, Calvin Nash and Donald Maynes.

Children's Summer Program

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

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

Arrivals & Departures

Arrivals

John F. Gannon Instrumentation
 Chung-siung Kao Applied Math
 William Sanchez Central Shops

Departures

Douglas M. Carlson Biology
 Jene A. Golovchenko Physics
 Gerald S. Lellouche Applied Science

CREF Unit Values

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

1974			
January	\$40.75	February	40.83
March	39.32		
		April	\$37.58

Summer Craft Shows On Long Island

Summertime on Long Island means tourists, swimming, fishing, summer plays, art and craft shows. Almost every weekend there is a show of some sort.

Every Saturday this summer there will be craft artists demonstrating their craft at the Gallery North, North Country Road, Setauket, New York, 11733. The demonstrations started on May 11 and continue throughout the summer.

Summer courses start at Suffolk Museum at Stony Brook on June 24th. The courses cover such subjects as, Creative Canvas, Inkle-Loom Weaving, Traditional Patchwork and Quilting, Artistic Printmaking, Leather Techniques, Creative Stitchery,

Scandinavian Rya Weaving, Early American Decoration, Calico Corners, Contemporary Jewelry and Silversmithing, Basketry, On-Loom Weaving, Workshops and Seminars. For the younger set there is also an extensive crafts program. Please contact the Museum or Ruth Carden at 751-0066 for a brochure giving further details of the courses.

Moving south and east a bit, the Water Mill Museum has set up its courses and workshops for the summer. Here we find: Bread & Jam, Copper Enameling, Early American Stenciling, Gravestone Rubbing, Hooked Rug, Macrame, Needlepoint, Pottery, Quilting, Silk Screen-Advanced, Up-

holstery, Weaving, Woodcarving. Call Barton McGuire at RA6-5966 for a brochure concerning these courses.

Craft Shows this summer will be: June 9, Stony Brook; July 13, Annual Show at Water Mill; July 20-21, Gallery North, Setauket; July 20, Montauk Historical Society, Montauk; July 27, 4th Annual Fair for Crafts, Southampton Historical Society, Southampton; August 10, Montauk; August 24, East Hampton, Guild Hall; November 2, Guild Hall Christmas Show, East Hampton; and December 7, Parrish Art Museum, Southampton.

Many craftsmen will be on-hand to talk with you at these shows.

Re-cycled Trophies

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

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

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

Bowling Awards Presentations



Green League Champions - Designers: (left-right) Charles Tomesch, Edward Sperry, John Ferrero, Charles Zavesky. Not present for picture: Carl Cantera and Marshall Bull.



Red League Champions - Old Timers: (left-right) Haskell Frei, James Roesler, Walter Reams, Richard Adams, Belmont Sylvester. Not present for picture: Gary McGovern, Richard Murgatroyd, Ralph Nelson.



BNL Champions - Pin Splitters: (left-right) Robert Rider, Diane Rider, Eleanor Murgatroyd, Alma Tomesch, Charles Tomesch.



Pink League Champions - Alley Oops: (left-right) Lindora Boyd, Kay Hunt, Frances Scesny, Jean Hamilton.

