



BROOKHAVEN BULLETIN

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Marshallese Surveyed For Twentieth Year

The medical team from Brookhaven National Laboratory, responsible for monitoring Marshall Islanders who were accidentally exposed to radioactive fallout during a 1954 Pacific bomb test, returned last week from their annual visit to the Marshall Islands. This year marks the 20th post-exposure survey. The team was headed by Dr. Robert Conard.

During the 1954 test on the island of Bikini, an unexpected wind shift carried radioactive fallout to inhabited islands located to the east. The nearest and most heavily exposed was the island of Rongelap. The islands of Utirik and Ailingnae received much lesser exposures. Both the exposed and the unexposed Rongelap people are examined each year by the medical team while the people of Utirik are examined every three years.

Because some of the Utirik and Rongelap people have since moved to the islands of Majuro and Ebeye, it was necessary to go to these islands as well.

In view of the fact that the Bikini people are moving back to their island, the team



Two young Marshallese focus their attention on the Brookhaven Medical Team unloading their supplies on the shore.

Pacific Odyssey



Dr. Robert Conard examines a Marshall Islander for any thyroid abnormalities.

went there towards the end of their survey to carry out further checks on the residual radiation levels in both the people and the environment. The radiological monitoring of the people was done by Dr. Stanton Cohn and John Rothman, of BNL, using a whole body counter. The environmental monitoring was done by Nat Greenhouse and Joe Ash of BNL's HP&S, and Victor Nelson, University of Washington.

The environmental monitoring studies included the collection of soil, plant and food samples for radiochemical analysis. Coconut crabs were collected on Bikini, Rongelap and Utirik for analysis. From this data, the team will attempt to draw a direct correlation between radiation levels in the people and levels in the environment.

For the first time, health physicists from BNL were included in the team for the purpose of measuring radiation levels in the environment. This part of the survey will be coordinated at BNL by Charles Meinhold and Nat Greenhouse, HP&S.

Three special studies were added to the routine examinations done in the past. These included a study of thyroid reserve in exposed individuals who had not undergone thyroid surgery, a genetic survey of children born to exposed parents, and a diabetic survey.

The thyroid received a much larger dose of radiation than the whole body at the time of the bomb test. This is because of the selective absorption by the thyroid of radioactive iodine from food and water ingested by the Marshallese following the fallout, Dr. Conard explained. Thyroid abnormalities have occurred in 26 Rongelap people, including three cases of cancer of the thyroid. Most of the cases were in people exposed as children and some have shown growth retardation. Growth has been enhanced in these children by thyroid treatment. There are 41 Rongelap people alive today who have not developed any significant thyroid abnormalities and it was on this group that the team this year did the thyroid reserve studies.

To quell the fears felt by many exposed parents that their children may develop genetically inherited effects due to radiation, Dr. Conard conducted a genetic survey. A larger scale but similar study done

on offspring of parents exposed to radiation in Japan, produced generally negative results. Therefore, Conard expects similar results from his investigation. But even negative results would be reassuring psychologically to the people, he says. Drs. James Neel and Arthur Bloom of the University of Michigan are helping with these studies.

There is an unusually high incidence of diabetes in the Marshall Islands. It occurs largely in those over 40. In response to a request from local medical personnel, the BNL team carried out a diabetic survey. Preliminary results show that the incidence of diabetes is higher in the Marshall Islands than in the United States, but there is no evidence relating the disease to radiation in the exposed Marshallese, Dr. Conard says.

For the first time, the team travelled from island to island and lived aboard an

(Continued on page 2)

Woodwell Delegate To Dartmouth Conference

George Woodwell, senior ecologist in the Biology Department, returned Monday from the Eighth Dartmouth Conference which was held this year in Tbilisi, Georgia, USSR.

The Dartmouth Conferences, held alternately in the United States and the Soviet Union, are designed to bring together private citizens of different nationalities for candid, face-to-face discussions and off-the-record dialogue on major issues facing the Soviet Union and the United States.

Woodwell, a scientific delegate, participated in discussions on agricultural development, the world crisis on food, and the problems of distribution of world cycles of carbon in the biosphere. He also had a long private conference with H. Shitcov, the Chairman of the Council of the Union of Supreme Soviets.

In addition to Woodwell, others in the 20-member US delegation included: Senator Hugh Scott; Time Magazine editor Hedley Donovan; Norman Cousins, conference chairman; Charles Yost, former ambassador to the UN; David Rockefeller; and Senator Ted Kennedy, who came for a one-day visit. The conference was funded by the Charles F. Kettering Foundation.

At the conclusion of the conference, a joint communique was issued that covered all of the points on which agreement was reached. According to the communique:

"The conferees met in a positive atmosphere, largely the result of the policies adopted by both countries. These policies seek an improved climate for peace in the world and a substantial enhancement of relations between the two states.

"The participants of the Conference see detente not as a temporary tactic but as an ongoing and indispensable instrument for world peace . . . The conferees regard the United Nations as the proper and essential instrument for bringing about collective world security.

(Continued on page 2)

Mission Accomplished



This group of Semester Students, who have been here since the end of January, will bid farewell to BNL on May 10. They are (background, left-right): Alma Jenkins, Elizabeth City State; Jackie Norris, Grambling; Alvin Gibson, Elizabeth City State; Cass Parker, Jackson State; Laverne Cleveland, Grambling; Renee Flack, BNL Program Coordinator; Reginald Booker, Tuskegee; Marilyn Bearden, Jackson State. Seated in the foreground are Jerome Spruill (left), Elizabeth City State, and Jimmie Williams, Jackson State. Absent from the picture is Alan Kennedy, Grambling.

Official & Special Events

Tuesday, May 7
Royal Military College Tour
DAS Visiting Committee (May 7-8)

Wednesday, May 8
Navy Meeting - Brookhaven Center

Friday, May 10
Fullbright Students Tour

Wednesday, May 15
Navy Meeting - Brookhaven Center

Tuesday, May 21
Biology Visiting Committee (May 21-22)
Friday, May 24
Japanese Study Team
on Plastic Concrete

Hundred Milliamperes Of Negative Ions

The ion source group of the Accelerator Department continues its push for more intense negative hydrogen ion currents. On Wednesday, April 24, they reached a new milestone. One hundred milliamperes of negative hydrogen ions were produced at the 200-MeV Linac from a magnetron type source, which has its origin in Novosibirsk, USSR.

The next objective of Krsto Prelec and Theo Sluyters is to reach a negative beam current of one ampere from a single source. Such a beam current may be of considerable interest in initial experiments for reaching the critical temperature in fusion reactors.

They are supported by many AGS staff members, especially V. Buchanan, R. Parson, Lou Repeta, and Ron Clipperton with his technicians.

Woodwell (continued)

On Economic Questions: "The participants in the meeting have noted that positive changes in the international atmosphere have contributed to an expansion of economic, commercial, scientific and technological relations between the United States and the USSR. . . . The participants have also favored a constructive search for new forms of cooperation in the spheres of production, science, credits and the exchange of technology and economic information.



On Scientific Questions: "Participants in the session on scientific cooperation and exchange agreed that the nature of research requires continuous, permanent, long-term contacts with versatile and flexible modes of interaction. It is timely that the programs now under way be strengthened and enlarged to provide for joint research between institutes and laboratories, including both senior and younger scientists.

"Subjects suitable for intensified cooperation included: increasing the productivity of world-wide agriculture. . . ; requirements for energy taking into account that there are adequate resources for its production though there are some local and regional imbalances; the growing impact of human activities on nature which changes the cycles of substances and energy and may change also the global climate through the biosphere; and. . . the total interactions of man and his environment.

"The conferees noted with great satisfaction that the discussions were held in Tbilisi in the spirit of frankness and mutual understanding. They believe it would be useful to give a more continuous character to the contacts established within the framework of the Dartmouth conferences."

Marshallese (Continued)

overhauled landing craft utility (LCU), given them by the U.S. Army. It was clean, freshly painted, and a pleasant change from the cargo ships they have used in the past. One big advantage was that it could be beached for easy access. A special trailer, outfitted for whole body counting with a lead shadow shielded gamma spectrographic instrument, was placed on the LCU. By next year, they hope to have another special trailer equipped as a doctor's office on board also. This trailer would have an examining table, X-ray facility and developing lab, a small reference library, and a laboratory workbench.

Radio was the only means of communication the medical team had with the outside world. Their isolation was really felt when Nat Greenhouse came down with acute appendicitis and needed emergency surgery. Fortunately they were on Bikini at the time, which had an airstrip, so he could be flown to the hospital at Kwajalein, 200 miles away. He underwent successful surgery and is back at work.

During the last week in May three Marshallese will come to BNL for a week prior to undergoing thyroid surgery at Cleveland General Hospital. The three individuals, a 20-year-old exposed in-utero, a 45-year-old exposed woman, and an unexposed woman, will be accompanied by Dr. Teton Anjain who will act as an interpreter.

Inventory Time

As in the past years, BNL is required to take an inventory of our general stores, which includes 17,000 items with an approximate value of \$1,200,000. This effort requires the closing of the stockrooms for one day during the work week. Friday, May 10, 1974 is the date set for closing all stockrooms to perform this physical inventory.

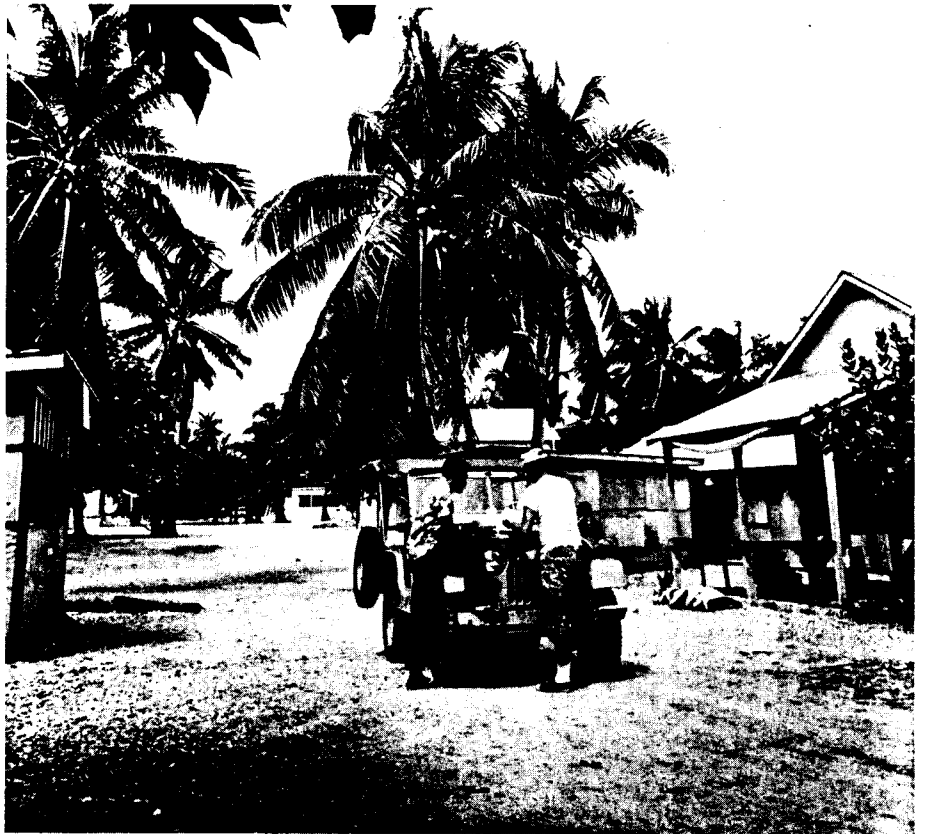
Please anticipate your stock requirements well in advance of May 10 since only emergency orders will be accommodated during the inventory. All emergency requests for material on that day must be cleared through P.L. Borzi, Ext. 2972.

This shutdown will not affect deliveries of liquid nitrogen, liquid helium or dry ice.

Dwarfed by a Giant



In stock building 90, Storeskeeper Joe Perry displays one of the smallest instruments the Supply & Materiel Division must inventory, a tiny transistor. Pat Andriasani, Stores Clerk, works in the background.



Bill Scott (right) and a Marshall Islander in the main street in the village of Rongelap.

Selected Reading

Phys. Bull. 25, April 1974

Europe's biggest accelerator. B. Southworth. 136-7

The origins of modern physics. G. Thompson. 138-40

Science 184, April 12, 1974

Russell Train: Speaking out. 139-40

Science advising: New setup has large resources, little visibility. D. Shapely. 145-6

Science 184, April 19, 1974

Energy:

Gasoline: Editorial. P.H. Abelson. 245

Low-cost, abundant energy: Paradise lost?

Introduction. H.H. Landsberg. 247-53

People and institutions: Impact of the crisis. 255-82

Policy. 284-305

Economics. 307-29

Oil, coal, gas, and uranium: The developed

technology. 331-69

Sun and earth: Developing technology. 371-

86

Science bibliography of energy. 386+

Remarks by William O. Doub, Commissioner,

U.S. Atomic Energy Commission, before the

World Future Society, Washington, D.C.,

April 24, 1974. Press Release No. S-5-74,

April 24, 1974. Society's decision in crisis:

Facing an era of energy innovation.

BNL Rifle & Pistol Club

Members!

Don't miss the May 8th meeting at the Apartment Area in the Recreation Building at 5:15 p.m.

Officer Stannard and Detective Bruhl of the Suffolk County Police Department will speak on Suffolk County gun laws. Visitors are invited to hear the facts on this important subject, so bring a friend.

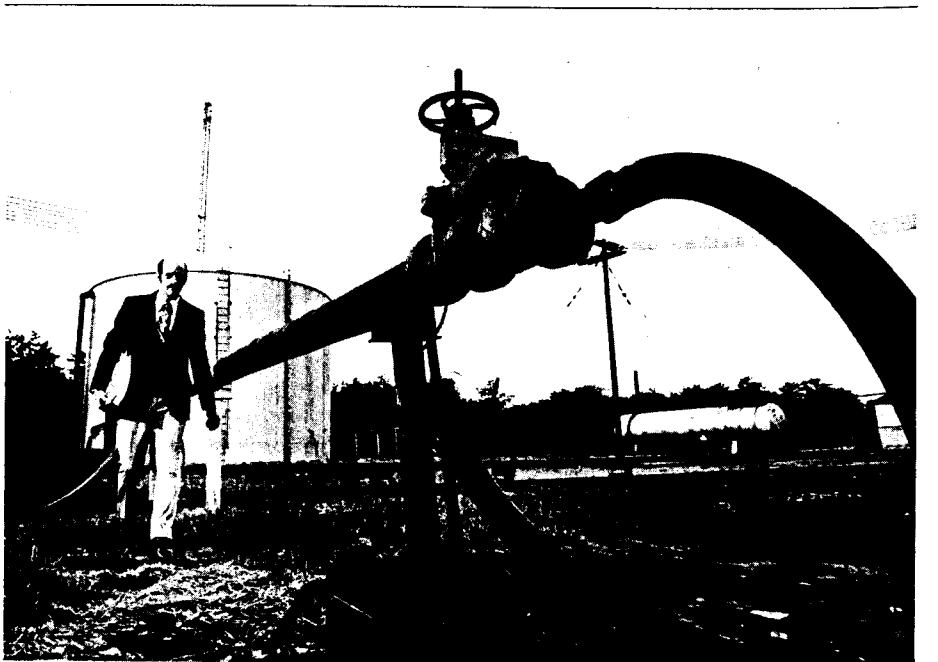
Arrivals & Departures

Arrivals

Charles E. Calef Applied Science
Eleanor L. DiVittorio Supply & Materiel
Mujid S. Kazimi Applied Science
Stephen L. Nicolosi Applied Science
Philip S. Taylor Applied Math

Departures

Janet P. Arnone Biology
Allan G. Farrago Medical
Gerard E. Tanguay Mech. Engrg.
Harry C. Von Knoblauch, Jr. App. Math



Mike Guacci, Assistant Division Head of Supply & Materiel, near a fuel oil tank, one of the biggest objects the Division inventories.

Stony Brook Events

A variety of events including a cooperative weekend with the Suffolk Museum, lectures, concerts and recitals conclude activities for the Spring semester at the State University of New York at Stony Brook. Unless otherwise noted, all events are open to the general public without charge.

Music

A Vulgar Music Concert featuring compositions by students of Peter Winkler's class is scheduled for May 3 at 8:30 p.m. in Room 105 of the Lecture Center.

"Mostly From the Last Decade," a series of contemporary music concerts, will be held on May 4 at 7:30 p.m. in Room 105 of the Lecture Center.

On May 5 a concert by the Woodwind Quintet will be held at 3 p.m. in Room 105 of the Lecture Center. At 8 p.m. a combined University Orchestra and Choir Concert with Ronald Jeffers and David Lawton conducting will be held in the Second Floor Lobby of the Administration Building featuring works by Debussy, Mozart, Brahms and Beethoven.

A Trio Recital (violin, cello and piano) with works by Mozart, Ravel, and Mendelssohn will be held on May 6 at 8:30 p.m. in Room 105 of the Lecture Center.

Martha Calhoun, cellist, will present a student recital on May 7 at 8:30 p.m. in Room 105 of the Lecture Center.

A Master of Music Degree Recital by pianist Susan Almasi will be held on May 8 at 8:30 p.m. in Room 105 of the Lecture Center.

Roger Nelson will present his Master of Music Degree Recital in choral conducting on May 9 at 8:30 p.m. in Room 105 of the Lecture Center.

On May 10 a Master of Music Degree Recital will be presented by Kay Gardner Smith on the flute at 8:30 p.m. in Room 105 of the Lecture Center.

William Garlette will present his Master of Music Degree Recital on the trumpet on May 11 at 8:30 p.m. in Room 105 of the Lecture Center.

A cello-piano recital by Mary Ann Heym on the piano and Yvonne Cable on the cello will be presented on May 12 at 3 p.m. in Room 105 of the Lecture Center.

At 8:30 p.m., May 12 in Room 105 of the Lecture Center a concert honoring Visiting Danish Professor Jan Maegaard will be held. The program will include works by Bach, Berg, Schumann, Mozart, Stony Brook faculty member Daria Semegen and two compositions by Jan Maegaard.

Michael Goldring will present a student recital on the string bass on May 15 at 8:30 p.m. in Room 105 of the Lecture Center.

Theatre

The Theatre Arts Department is presenting "Leonce and Lena," a story about two lives overruled by fate, by George Buchner and directed by John Newfield of the Theatre Arts Department on May 3-5 in the Calerone Theatre, Building B on the South Campus at 8 p.m. For ticket information and reservations call 246-5681, 9 a.m. to 5 p.m. weekdays. Tickets are \$2 for the general public.

"Love Circle," an original drama by senior theatre major Alan Rosenberg will be performed on May 3-5, 8-11 in the Stony Brook Union Auditorium at 8 p.m. Admission is \$.50; no tickets are required.

Films and Exhibits

Tuesday Flicks will show "The Round-Up" by Miklos Jansco of Hungary on May 7 at 8 p.m. in the Stony Brook Auditorium.

"Eva" by Joseph Losey of England will be shown by Tuesday Flicks on May 14 at 8 p.m. in the Stony Brook Union Auditorium.

"The Cinema," sponsored by the Center for Continuing Education, will show "Yojimbo" on May 9 at 8:30 p.m. in Room 100 of the Lecture Center.

The First Floor Gallery in the Administration Building will present an exhibit of sculpture by Prof. Koras of the Art Department from May 3-17, 9 a.m. to 5 p.m. weekdays.

Bowling News

Grace Fales

Green League

Congratulations to E. Meier for his award winning 202/236/606 series. Other 200's for the night were rolled by A. Dick 204, C. Bohnenblusch 203, C. Cantera 200, J. Berech 232, S. Kiss 201, N. Parrinello 211/201/575, and G. Guydish 226. A reminder for Sweeps night, 5/7/74, **Bowling will start at 5:30.**

Red League

With 1 week remaining, the Neutrons have clinched first place for the second half and will roll off against the Old Timers, winners of the first half, to determine the League Champion on May 14th. High scores for this week were: R. Larsen 214, J. Petro 208, J. Scesny 202, F. Hohmann 204, J. Ferrante 201, S. Frei 201, R. Adams 218, W. Reams 201, and F. Short 204.

Black and Blue League

Going into position night, the Vultures and Pinsplitters are still tied. High games for the night: Gene Fales 219, Lew Jacobson 217, George Guydish 210, Marge Nekerman 167/161/182, Ellie Murgatroyd 161, and Diane Rider 160.

Hospitality News

The next regular monthly coffee will be held on Tuesday, May 7, from 10:00 a.m. until noon, in Apartment 10C. Mrs. Girija Chikkappa will be joined by Mrs. Ashok Agrawal and Mrs. Neelima Varma in a discussion of the customs in India, their home country.

Everyone is welcome. Please bring the children.

Upton Nursery School To Hold Open House

The Upton Nursery School will have an open house on May 15 and 16 from 11:30 to noon. At this time prospective members may examine the school's facilities and meet with the teachers who will explain the Nursery School program and answer any questions.

The families of all BNL employees are invited to attend. The Nursery School is located in the Recreation Building in the apartment area (York Lane - Building No. 317).

For further information, contact Nina Stewart at 286-9616.

Letters To The Editor

Dear Sir:

May we take this opportunity to say good bye to all of our friends at the Laboratory. We planned to do so in person but time just ran out. May we say God bless each one of you and we will cherish our memories of associating with all of you. We would love to hear from you, or better still, see you some time. Our address is Swan Lakes, 1700 Pine Valley Drive, Ft. Meyers, Fla. 33901. Our phone number is 813-481-8058.

Henry & Marie Weinmann

Dear Sir:

We would like to express our appreciation to Ruth Dimmler, everyone involved with the Hospitality Committee, and Plant Engineering for the initiation and implementation of the garden plot in the apartment area. These people have all given their time and energy in an effort to begin this worthwhile activity. We are sure we speak for all the garden plot members when we say thank you very much. Lance & Pat Evans

Dear Sir:

On behalf of all the people living on site who had the opportunity to take two nice trips to New York City, I want to thank Ruth Dimmler, Chairman of the Hospitality Committee, for her efforts and hard work to make them possible.

Rosemary Jewett

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Cafeteria Menu

Week Ending May 10, 1974

Monday, May 6

Vegetable Soup
Roast Chicken & 1 Veg. 1.00
Knockwurst & Sauerkraut w/Potatoes 1.00

Tuesday, May 7

Cream of Chicken Soup
Chinese Pepper Steak on Rice 1.20
Western Omelet & French Fries 1.00

Wednesday, May 8

Split Pea Soup
Pizza Pie & Tossed Salad 1.00
Short Rib of Beef & 1 Veg. 1.20

Thursday, May 9

French Onion Soup
Macaroni & Chopped Beef & 1 Veg. 1.00
Broiled Filet & 1 Veg. 1.05
Build Your Own Chef's Salad 1.25
tax incl.

Friday May 10

Manhattan Clam Chowder
Fried Clam Strips & French Fries 1.15
Roast Beef & 1 Veg. 1.20

LI Symphonic Concert

The Long Island Symphonic Choral Association will give its spring concert, under the direction of Gregg Smith, on Saturday, May 4, at 8:30 p.m. in the First United Methodist Church, 603 Main Street, Port Jefferson. Selections from William Billings, Stephen Foster, and Charles Ives will demonstrate America's lively musical heritage.

Babes in the Woods



After a luncheon honoring BNL Tour Guides, the guests of honor gathered on the lawn outside Berkner Hall. Those standing are (left-right): Betsy Schumajda, DAS; Georgia Irving, DAS; Betty Pergan, Personnel; Elaine Rowland, Chemistry; Dede Seay, Personnel; Joan Perullo, Staff Services; Kay Hunt, Personnel; Jackie Larrie, Medical; Frances Scesny, Personnel; Grace Kyle, Systems; Marge Stoekel, Fiscal; Sharon Rosenhagen, Director's Office; Rosemary Mack, Accelerator; Angela Garcia, Purchasing. Seated are (left-right): Helga Pirozzi, Photography; Jean

Hamilton, Accelerator; Janice Olson, Personnel; and Louise Kilcoyne, Director's Office. Madeline Windsor, Information; Carol Beckner, Information; and Lynn Kalbach, Biology were not present. Jane Garron, Personnel, coordinates the Tour Guides and adds new girls, nominated by their departments, every two years. The Guides are required to go through an indoctrination course with Health Physics and Safety, which gives them access to the HFBR. They are then briefed by Mariette Kuper and Virginia Sayre, Special Programs Coordinators, before their first tour.

