



BROOKHAVEN BULLETIN

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These cancer cells, known as HeLa cells, were isolated from a woman who died of cancer close to 20 years ago. They have been cultured for cancer research ever since and are seen here at a magnification of 4000 times their original size. All photomicrographs in this issue have been reduced in magnification from the original for publication. Photos by Jack Kelsch

A World In Microcosm

The mysteries of the microcosmic world of the invisible, as well as the world of the visible, are answered for us with the aid of electron microscopy. The electron microscope becomes an important investigatory tool in a murder trial, cancer research, examination of pollutants in the atmosphere and archaeology.

The versatility of the electron microscope can be appreciated by taking a closer look at some of the numerous research projects at the Lab enlisting the services of the Microscopy Laboratory, headed by Jack Kelsch, in Instrumentation. Once in a while even an outside group like the Suffolk County Police Laboratory requests their aid.

Four years ago, the Police Lab gave Kelsch three samples of human head hair pertinent to a murder investigation. They belonged to the victim, the suspect, and a third sample found in the suspect's car. The police hoped that examination under the electron microscope would determine whether the hairs found in the car belonged to the victim. Electron micrographs

found the hairs in the car to be those of a child which did not resemble the victim's hair in any way. It was later discovered that the suspect had two children who had recently ridden in the car.

Mammalian hair is characteristically covered by scales, overlapping one another in a repetitive pattern. Although the thickness of each hair varies on any one individual, the spacing between the scales appears to differ from individual to individual, says Kelsch.

Last September, the Police Lab gave the Microscopy Laboratory hair samples from another murder investigation. To his surprise, Kelsch found that the hairs of the victim, a young child, had no scales. Upon further investigation, he found that frequently brushed hair does not have scales. The suspect in this case has since pleaded guilty.

The skill of electron microscopy is realized in the preparation of a specimen for examination. There are close to 30 different methods with the most complex one taking days. It is sometimes necessary to cleave the specimen along a specific plane, which is particularly true in the case of crystals.

Kelsch has been doing the microscopy for a group in solid state physics who are



5000 times their natural size, these clay particles were found suspended in Egyptian crude oil.



Chrysotile asbestos crystals enlarged 2000x by the scanning electron microscope.

trying to determine the effects of various kinds of radiation on crystals of ammonium perchlorate, an inorganic compound used in rocket fuel. The crystals must be cleaved on three crystallographic planes. To avoid shattering the samples, this must be done with the utmost precision under a binocular microscope.

Once cleaved, the crystals are examined under the light microscope for any gross radiation damage and under the scanning electron microscope for smaller damage. Although the same dose of radiation penetrated the whole crystal, Kelsch found that only the surface was damaged.

There are two types of electron microscopes, the scanning electron microscope and the transmission electron microscope. An electron beam scans a specimen, with the scanning electron microscope (SEM), exciting secondary electrons to produce a three dimensional image. The practical magnifying range for this instrument is 20 to 20,000 times. The transmission electron microscope (TEM) sends a beam of electrons through the specimen, producing a two dimensional image. Objects smaller than 10 angstrom units in diameter can be seen with the TEM which has a practical magnifying range of 750 to 100,000. One angstrom unit is .0000000393 of an inch.

The TEM has been used in the study and identification of pollution particles in the atmosphere. Kelsch has been examining samples of effluent from the Northport power plant stacks, collected by the Meteorology Group of the Department of Applied Science. He has identified such things as acid droplets, carbon black soot, particles of ammonium sulphate and what appear to be fragments of clay particles.

He found numerous clay particles suspended in samples of crude oil also, which led him to believe that the clay fragments in the effluent were burned off from the residual oil used in the power plant. Clay particles are used as catalysts in several industrial processes, so they could act as catalytic centers for pollutants such as sul-

(Continued on page 2)

Secretaries and Travelers Note

Changes in the Long Island Railroad Time Table, effective on May 20th, necessitate changes in the Laboratory Bus Schedule.

The a.m. bus will wait at the Patchogue station for the train scheduled to arrive at 9:43 a.m. This train leaves Penn Station in NYC at 8:10 a.m. and leaves Jamaica Station at 8:35 a.m.

The p.m. bus will leave the Administration Building promptly at 3:45 p.m. for the Yaphank Station to meet the 3:59 p.m. train. As a prompt departure is necessary to meet the train, those wishing to take the bus should arrive at the Administration no later than 3:40 p.m. This train arrives at Jamaica at 5:47 p.m. and at Penn Station at 6:11 p.m.

College-Bound Mice?

There could be some college students among the mice used in research at Brookhaven National Laboratory. This is a result of a Send-A-Mouse-To-College Campaign sponsored by the Shelter Island Branch of the American Cancer Society at the Shelter Island Elementary School.

The school recently sold a total of 118 Send-A-Mouse-To-College pins depicting a mouse in a cap and gown. The pins cost 51 cents a piece, the price of a live mouse used in cancer research.

The Lab will not actually receive the mice but the money will be sent to the American Cancer Society where it will be put into funding for research at BNL and the New York State Laboratory at SUNY in Stony Brook.



The mice held by Tony Chituk, Veterinary Supervisor, could be at the Lab as a result of a Send-A-Mouse-To-College Campaign.

Official & Special Events

Tuesday, May 21
Biology Visiting Committee (May 21-22)
Thursday, May 23
Low Level Radiation Effects Meeting
Friday, May 24
Japanese Study Team
on Plastic Concrete

Wednesday, May 29
Biology Symposium (May 29-31)

Monday, June 3
Summer Workshop on Particle Physics
with Polarized Targets (June 3-7)

Tuesday, June 4
Long Island Communicators

Wednesday June 5
122nd BNL Lecture - G. Danby,
8:30 p.m., Berkner Hall

Friday, June 7
Magnet Discussion Meeting (June 7-8)

Perimeter Run and "Bike-a-thon"

This spring's events will take place on Sunday, June 9, starting at 11 a.m. There have been so many requests for a 5-mile run as well as the 10-mile perimeter course that plans have been made to work in a 5-mile event.

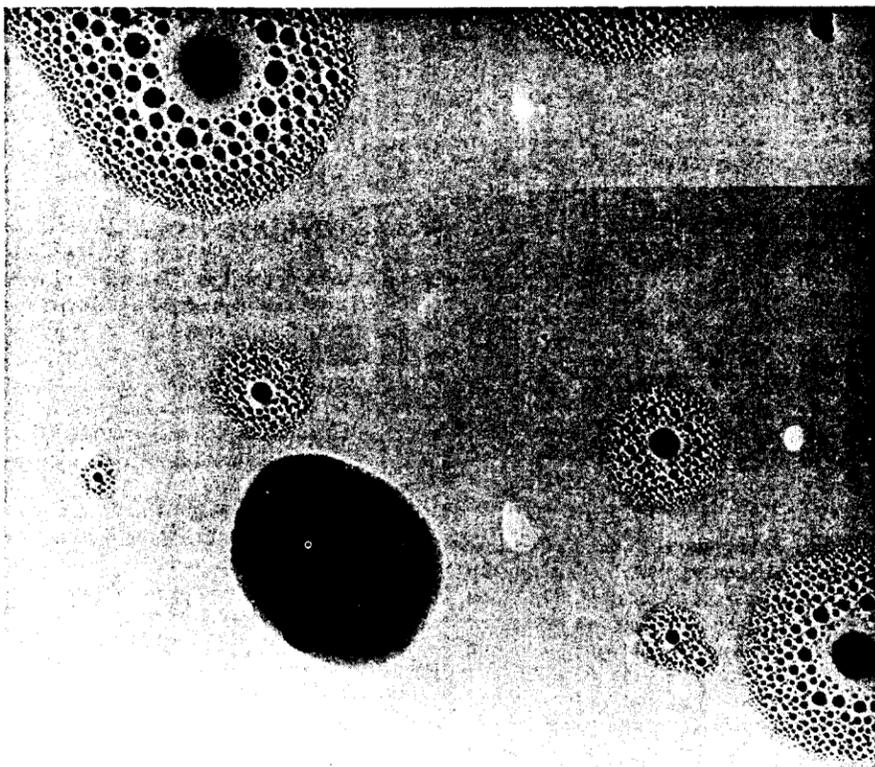
The distance for the bike race will be 17.5 miles, over the same course as last fall. The Radio Club will provide communications for the events.

All events will be open to Lab employees and their immediate family members. Further details will appear in future issues of the *Brookhaven Bulletin*.

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.

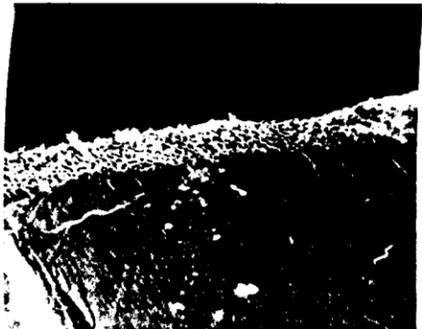


Pollution particles from power plant stack effluent magnified 50,000× by the transmission electron microscope. The ones that have a core surrounded by smaller particles are sulfuric acid droplets while the black sphere is a soot particle.

Microcosm (continued)

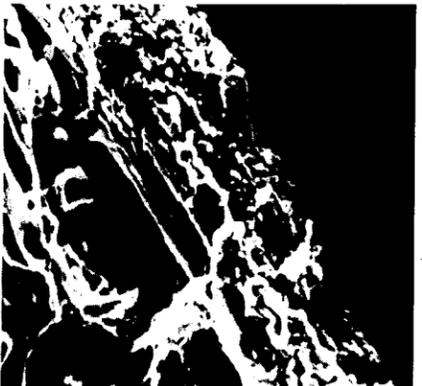
furic acid and nitric acid when they come in contact with sulfur and nitrogen oxides in the atmosphere, he says.

Pollutants found in various kinds of dust are also easily recognizable through the electron microscope. Kelsch has identified free asbestos particles along with petroleum



Radiation damage in a crystal of ammonium perchlorate, magnified 2000×, resembles a layer of white frosting on a chocolate cake.

and coal soot, rubber, quartz, and feldspar particles in dust from the Holland Tunnel. The presence of asbestos particles has led to some concern because of their toxic effects in man when inhaled. Asbestos can cause asbestosis, similar to black lung in



Electronmicrograph (4000×) of a cloth fragment from a natron bag used in the mummification of Tutankhamun of Egypt in the 14th Century B.C. The fibrous substance in the photograph is the cloth while the rough globular material adhering to it is presumed to consist of lymph, proteins, and other constituents of Tutankhamun's body fluids.

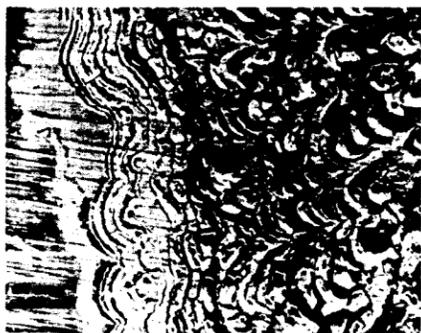
coal miners, and mesothelioma, a rare form of cancer of the lung. These occur primarily in people working at jobs involved with the production of asbestos-containing products.

The scanning electron microscope has an auxiliary feature which allows scientists to see the location of specific elements in a given sample of material. When a beam of electrons reacts with a surface made up of many elements, the X-rays characteristic of each element are emitted. A solid state detector is positioned so it can pick up and identify each group of X-rays. This technique, known as X-ray fluorescence, has been used to detect different elements present in ferro-manganese nodules which are known to carpet areas of the ocean floor.

These nodules are composed primarily of alternating layers of iron and manganese. The mystery of their formation has not been solved but because of their manganese content, a relatively rare element on earth, they have aroused interest.

One of the more unusual things explored by the electron microscope was a cloth fragment from a natron bag used in the mummification of King Tutankhamun of Egypt in the 14th century B.C. It was customary during mummification to remove all the internal organs and fill the abdominal cavity with bags of natron, a sodium carbonate, which served as a desiccant. When examined under the SEM, the cloth had adhering to it what appeared to be lymph, proteins, and other constituents of King Tut's body fluids.

There are numerous other research projects at the Lab which utilize the aid of the



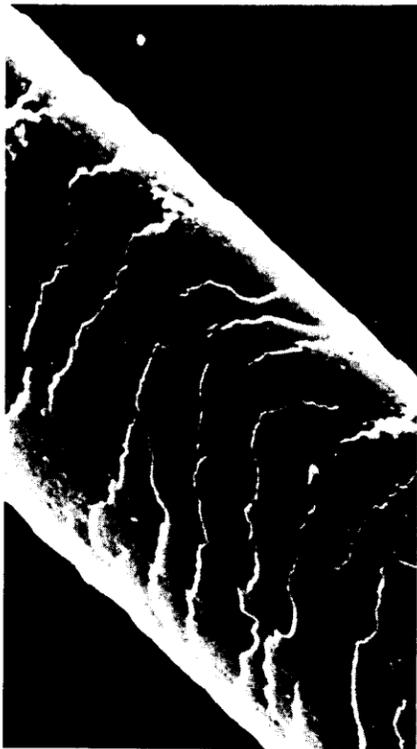
Alternating layers of iron and manganese are clearly seen when the edge of a ferro-manganese nodule is enlarged 250 times by the scanning electron microscope.



A strand of hair, lacking scales, from the head of a murder victim.

electron microscope. Jack Kelsch first began working in the field of electron microscopy 31 years ago, only two years after the first one was developed.

Microscopy can be applied in any and all situations where the microstructure of a specimen is required, says Kelsch. In any one investigation, it is sometimes necessary to use all optical possibilities from the naked eye to the hand lens and ultimately the transmission electron microscope.



Normal male hair showing typical scales, magnified 2500× by the scanning electron microscope.

IBEW Meets May 23

Local 2230 IBEW will hold its regular monthly meeting on May 23, 1974 at 8 p.m. in the Knights of Columbus Hall, Railroad Avenue, Patchogue. There will also be an afternoon meeting at 2 p.m. for shift workers in the Union office at 31 Oak Street, Patchogue. On the agenda will be regular business, committee reports, and the President's report.

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Arrivals & Departures

Arrivals

- Thomas D. Barber Accelerator
- Frank Garcia Plant Engrg.
- Chandra P. Khattak Physics
- Debaprasad Majumdar Applied Science
- M. Granger Morgan Applied Science

Departures

- Alfred L. Eamotte Central Shops
- William P. Wood Applied Science

Letters To The Editor

Dear Sir:

Marjorie Conlin, in her letter in your issue of 10 May, has fallen into the classic error of lumping together all classes of vagabonds - an error fostered by the Establishment's mistrust (and probable subconscious jealousy) of anyone without a fixed habitat. The classic hobo was an itinerant worker. The tramp was a wanderer who would work if he had to, but preferred not to. And only the bum was the wandering degenerate.

This is not to say that the migrant stonemasons were true hobos; they would probably have willingly settled down if it had been feasible. But it is no insult to call them hobos.

George L. Trigg
Physical Review Letters

Selected Reading

- Atom (Los Alamos Sci. Lab.) 11, March-April 1974
- Agnew speaks out. 7-11
- Phys. Today 27, May 1974
- Physicists and public policy: The "Forum" and APS. B.M. Casper. 31-5+
- Is there a pecking order in physics journals? H. Inhaber. 39143
- Atomic Energy Commission Annual Report to Congress, Vols. 1 and 2. (PAMPHLET FILE)
- What we as chemists can do to help alleviate the energy crisis. Remarks by Commissioner C.E. Larson, U.S. Atomic Energy Commission, before the American Institute of Chemists' 36th Members and Fellows Lecture, Los Angeles, California, March 31, 1974. Press Release No. S-7-74, May 1, 1974.

Rifle & Pistol Club

Forty-four members and several guests attended our May 8th meeting. Guest speaker Detective Herbert Bruhl of the Suffolk County P.D. skillfully answered wide ranging questions on N.Y. State gun laws over a period of nearly three hours. Audience reaction was enthusiastic and largely favorable. We are indebted to our entertainment chairman John Zahra, police commissioner Kelly, and especially Detective Bruhl for this very informative evening.

Members: Do attend our June 12th meeting. We will be discussing our proposed revised constitution.

May Retiree



Alfred L. Eamotte, Tool & Instrument Maker in Central Shops, who began work at BNL on November 5, 1962, retired on May 10.

Bowling News

Grace Fales

Pink League

Sweepstakes always proves to be the fun night of the season. Sweeps was followed by a buffet and presentation of awards. The first 3 high gross series went to: Grace Searles 686, Jean Hamilton 678, and Marie Susa 674. High individual gross game went to Helen Kelly with a 248. Other high games for the night were: Audrey Blake 188, Grace Fales 187/180, Jean Hamilton 187, Helen Caisey 180, Marge Stoeckel 176, Helen Kelly 175, Kay Conkling 166, Carole Kerr 166, Fran Scesny 163, and Jo Gazzola 163.

Black and Blue League

Sweepstakes winners: high gross series for the ladies - Sue Clark 617, Ellie Murgatroyd 614, Marge Nekerman 596; high gross game: Nancy Mayeski 224. High gross series for the men: Bob McCluskey 660, Don Scherg 659, Dick Murgatroyd 646; high gross game: Bill Sells 253. High scratch games for the night: Bob McCluskey 257, Bill Sells 205, Don Scherg 204, Marge Nekerman 160/171/181, Ellie Murgatroyd 174/165, Nancy Mayeski 169.

New Sign Available



This 5 x 6 1/2-inch sign is now available in various colors from the Sign Shop. It will be mounted on a small block of wood for those who wish to display it on a desk or conference table. The sign can be ordered through the Sign Shop office by calling Ext. 3254 or 3255.

Service Awards

January

- 25 YEAR**
 Tuttle, Donald R. Physics
 White, George S. Biology
 Cooke, Helen H. Instrumentation
 Jackson, Donald H. Health Physics & Safety
 Kostuk, Sophie P. Chemistry
 Tiller, Gerhard H. Physics

- 20 YEAR**
 Stihel, Ernest M. Plant Engineering
- 10 YEAR**

- Kunmann, Walter Chemistry
 Connor, Frederick C. Central Shops
 Hanson, Joseph P. Photog. & Graphic Arts
 Kiss, Steven G. Accelerator
 Tomblor, Eugene A. Accelerator
 Droscoski, Vincent A. Health Phys. & Saf.
 Tank, Elton E. Plant Engineering

February

- 25 YEAR**
 Corliss, Lester M. Chemistry
 Kreh, Peter F. Plant Engineering
 Fuka, Richard L. Photog. & Graphic Arts
 Heus, Raymond J. Applied Science
 Stoenner, Raymond W. Chemistry

- 20 YEAR**
 Popenoc, Edwin A. Medical
 Grisoli, John J. Mechanical Engineering
 Bittner, John W. Accelerator

- 10 YEAR**
 Bilms, Vincent J. Fiscal
 Lockey, Robert E. Accelerator
 Van Valkenburgh, C.F. Plant Engineering
 Miller, Dale A. Accelerator
 Albert, Carolyn F. Physics

March

- 25 YEAR**
 Wiswall, Richard, Jr. Applied Science

- 20 YEAR**
 Englberger, Frieda M. Biology
 Randall, Una K. Central Shops
 Cumming, James B. Chemistry
 Coyle, Thomas M. Mechanical Engineering
 Stern, Helen M. Medical
 Holmquist, Thomas Reactor
 Thomas, Harvey J. Mechanical Engineering
 Di Girolamo, Rodney T. Accelerator

- 10 YEAR**
 Scesny, John A. Plant Engineering
 Walker, John C. Mechanical Engineering
 Werner, Rupert Health Physics & Safety
 Murray, Sylvia Purchasing
 Tang, Ignatius N. Applied Science
 Wilber, Celia V. Purchasing
 Spillett, Charles E. Plant Engineering
 Cote, Edgar A. Applied Science
 Stillman, Pierre Accelerator

April

- 20 YEAR**
 Majeski, Stanley J. Mechanical Engineering
 Scheliga, Joseph M. Physics
 Towey, Patricia E. Physics

- 10 YEAR**
 Floyd, Brenda M. Biology
 Tallon, Robert H. Accelerator
 Hsieh, Hank C. Mechanical Engineering
 Jessup, Shelby P. Physics
 Brennan, John J. Plant Engineering
 Chadwick, Lloyd Accelerator
 Rhodes, Stanley C. Supply & Materiel
 Hamilton, Leonard D. Medical
 Kapfer, Henry J., Jr. Accelerator
 Pluss, Emil A. Plant Engineering
 Geist, Hermann G. Plant Engineering

From the Inner Sanctum

Ron Peierls and Rita Straub are preparing to present, as dramatic readings, selected portions of the edited transcripts of the Watergate tapes at the next Theater Group meeting on Thursday, May 30 in the Exhibit Hall. The multiple interpretations these exceptional documents can be given make them rich material for the skillful director and actor.

All employees of the Laboratory are invited to attend this program at 8 p.m.

Summer Program



Fun and games during last year's Children's Summer Program.

BERA Summer Program

BERA happily announces that the very popular Children's Summer Program will be conducted this year. As in the past, the program will consist of morning play sessions for children of on-site residents and swimming instructions for children of all employees. Both programs, which will begin on Monday, July 8, will be supervised by qualified counselors and instructors.

The morning play sessions will be held in the Recreation Building in the Apartment Area Monday through Friday from 9:00 to 11:30 a.m. Children may attend any or all sessions. The registration fee is \$10 per child and children must be at least five years of age. The program will consist of games, play activities, and supervised instruction in sports. There will be many special events and parties.

Swimming instructions will be held at the Pool Monday through Friday from 1:00 to 2:30 p.m. Lessons will be provided for non-swimmers, beginners, advanced beginners, intermediate and advanced swimmers. Each child will have a weekly lesson for a seven week period. Children must be at least 48" tall to participate. A registration fee of \$10 per child will be accepted with each application.

Applications for both the play sessions and the swimming lessons may be picked up at the BERA Sales & Services Office in the Cafeteria.

For any added information call the Recreation Office on extension 2873.

Deadline date for registration is June 28.

Cafeteria Menu

Week Ending May 24, 1974

Monday, May 20	
Cream of Mushroom Soup	
Macaroni & Cheese w/1 Veg.	1.00
Sloppy Joe on Bun w/French Fries	1.00
Tuesday, May 21	
Turkey Noodle Soup	
Beef Hash w/1 Veg.	1.00
Spaghetti & Sausage	1.00
Wednesday, May 22	
Vegetable Soup	
Ham Steak w/1 Veg.	1.05
Broiled Fish w/1 Veg.	1.10
Thursday, May 23	
Puree of Mongol Soup	
Scrambled Eggs & Sausage	
Chopped Steak w/1 Veg.	1.05
Gourmet Tasting Cheese Day!	.80
	Tax Incl.
Friday, May 24	
Manhattan Clam Chowder	
Chili con Carne on Rice	1.00
Fish 'n' Chips	1.00

A Special Event

Save Saturday June 22nd

An old fashioned picnic for all employees and their families will be held on the Laboratory grounds Saturday, June 22nd. The order of the day will be bands, prizes, demonstrations, contests, food, drink, and some good old fashioned fun for everyone.

The initial sale of tickets will begin on Monday, May 20th at 12 noon in the Cafeteria. Other selling areas will be published in next week's *Brookhaven Bulletin*. The cost of an adult ticket is \$3.00. Children under 12 will be admitted for \$1.00.

Planners of this great event are members of the BERA Special Events Committee and include: Paul Kelly - Chairman, Michael Brooks, Seymour Fink, Josephine Gazzola, Steve Gracia, Carnal Hobson, Charles Meinhold, Claire Shellabarger and Marge Stoeckel.

Save the date - you won't be sorry.
 More details next week.

Volleyball Champs



The Playmates was the winning team at the 1974 mixed league volleyball championship games held on April 8. Because volleyball is basically an indoor sport, the next season will not begin until early winter when the six mixed league teams can compete once again for the title of champion. The Playmates are (standing, l-r): Bill Kropp, Suzanne Clark, Janet Compart; (kneeling, l-r) Odelli Ozer, Bob Kinsey; (sitting, l-r) Laura Genovese, Christine Saitta, Barbara Sapienza.

BERA Golf Association

Our first event, a Callaway tournament on May 2, drew a good turnout of 26 golfers. Prizes were awarded for seven positions: Callaway Winners - C. Glinka, M. Caunter/G. Mooney; Closest to the pin - G. Korhut; Longest drive - J. Dioguardo; Low gross - G. Korhut, M. Kinney/L. Lawrence; Highest gross - C. Briening.

League play for our 20 teams started the week of 6 May. All the open slots are now filled and no additional teams can be accommodated. However, all our tournaments are open (to every member of BERA). We had three golfers join us on May 2 and we are looking forward to even more at our next tournament.

Highlights of the first week of play included BGA's first hole-in-one. Bob Feindt aced the first par 3 of the Sandpiper course at Spring Lake. His partner, Jack Scharpiger, completed par by holding out from the left front trap for a deuce.

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.

Placement Notices

ASSISTANT DIETICIAN - Bachelor's Degree or equivalent in nutrition and experience in therapeutic dietetics. A.D.A. membership. Medical Department.

OFFICE SERVICES ASSISTANT - Temporary. Staff Services.

SECRETARY - Office of Scientific Personnel. Temporary. VETERINARY SERVICES ASSISTANT - Medical Department.

OFFICE SERVICES ASSISTANT - General clerical experience to include good typing skills and experience in the use of calculating machines for statistical data preparation. Plant Engineering Division.

ARCHITECTURAL DESIGN ENGINEER - Bachelor's Degree or equivalent in architectural design and experience in preparation of working drawings, specifications, and estimates. Plant Engineering Division.

DRIVER (1) - Supply & Materiel. Application deadline: May 24, 1974.

Autos & Auto Supplies

71 COMET GT - 2 dr, r/h, auto, 19+ mpg. Bob, Ext. 4551, 289-2159 eves.

14" OLDS RIMS - \$6/pr. Ken, Ext. 4407.

5 TRUCK TIRES & RIMS - 7.50x16, 8-ply tube type tires mounted on 8-hole rims, will fit 3/4 & 1 ton trucks. \$175. D. Vail, Ext. 2024.

64 FORD GALAXIE 500 - 2 dr, best offer. Ext. 2311.

66 FORD STATION WAGON - Good running cond. \$200. A. Worthington, Ext. 2514, 363-6290.

6.50x14 TIRE - On Chevy wheel, brand new, \$10; 15" 5-hole VW wheels, \$4/pr; 12v gen, GM type, \$6 ea. Bob, Ext. 4288, 289-0357.

HOOVER HEADERS - For '65-70 396-427 full size Chevy, \$40; headers for '66 Chevy Nova sm block, \$40; Holley cast iron intake manifold w/heads (w/o springs) for 396, \$25. Claire, Ext. 2346, 281-8306 after 5:30.

WEIAND ALUM INTAKE - W/new 4 bbl carb for '64 Plymouth & Dodge, \$50; posi rear for '64 Dodge. Claire, Ext. 2346, 281-8306 after 5:30.

70 CHALLENGER - V8, r/h, air cond, ps, tape deck. 286-3363 after 5.

TRAILER HITCH - Class A, \$15; child's car safety harness, \$5. Ext. 4447.

73 FORD 1/2 TON PICKUP TRUCK - Step bumper, radio, mirrors, V8, excel cond. 363-6967.

2 FORD STATION WAGON RIMS - 6 3/4"x15", will fit '65-68 Ford wagon or std size cars. \$8. D. Vail, Ext. 2024.

1 TRUCK TIRE & RIM - 7.50x16 8-ply tube type tire mounted on 8-hole rim, will fit 3/4 & 1 ton trucks. \$25. D. Vail, Ext. 2024.

60 WILLYS JEEP UTILITY WAGON - W/69 Ford V8 eng, hubs, bckts, new paint, many extras, excel cond. JU7-9257.

68 VW BEETLE - Good cond, avail 6/19, gets 31+ mpg. \$650. A.C. Nunes, Ext. 3370, 286-2362.

71 YAMAHA - 250 cc, road & trail, excel cond. \$525. Alan Jr., 653-4632.

Boats & Marine Supplies

HOBIE CAT - 14' sailing catamaran, excel cond, 4 yrs old. A. Worthington, Ext. 2514, 363-6290.

17' AM FINN - 75 hp Evinrude, Holsclaw trailer, extras, ideal for fishing-skiing, priced to sell. 265-2231 after 7:30.

21' CABIN CRUISER - Sleeps 2, head, galley, 4 cyl Grey. 473-7739.

EVINRUDE - 3 hp outboard, like new. \$75. 473-2473.

18' STARCRAFT 1970 - 40 hp Evinrude, all elec, Holsclaw C1700 trailer, used 2 summers, ideal for fishing. \$1800 firm. 475-3783.

15 1/2' PENN YAN 1969 - Full cover, w/1969-55 hp Johnson, batt & tank, ready for water. \$900. Ted, 727-9925.

MOORING - 100 lb, 35', 3/4 gal chain, styro body. \$50. Ext. 4032, 751-1660.

21' SLOOP - Gaff rig, FG over wood, compl equipped, 1971 Evinrude 4 hp. Ben, Ext. 2902.

Miscellaneous

DELTA WOOD LATHE - 36". W. Chornoma, Ext. 3255.

LIV RM SET - Conv sofa & 2 chairs, mirrored coffee table, book case, desk & chair, best offer. Tom, Ext. 3393, 727-4867.

UTILITY TRAILER - Needs repairs. \$5. Joe, 286-8909.

CHROME DIRECTOR'S CHAIRS - Blk vinyl seats, 4/\$75; slat bench, \$10; dbl headboard, \$5. 473-2473.

8 TRACK TAPES - All new, many to choose from. \$2.50 ea. C. Nielson, Ext. 3954.

FISH TANKS - 10-30 gal, comp filter system, many extras, retail value new over \$200, must sell compl, \$50. Ext. 3154.

21" COLOR MAGNAVOX - Needs picture tube, cabinet good cond. \$20. Bob, Ext. 4288, 289-0357.

2 WHITE UNIFORMS - Ladies size 5, very cute, never worn. Bought for \$10 ea, selling for \$5 ea. Chris, Ext. 4046.

BABY SUPPLIES - Crib w/matt, \$18; changing table w/bath & shelves, \$4; 13" fireman's tricycle, \$7; Sears car safety harness, \$5. Ext. 4447.

LAWN EDGER/TRIMMER - B&D elec, 1/2 hp motor. \$15. Richie, Ext. 4254, 734-7342 after 6.

TOOTHBRUSHES - 2 row & 3 row hard, nylon. \$22/gross (24 yr supply). D. David, Ext. 3800.

KODAK INSTAMATIC X45 CAMERA - \$20. Ext. 3499.

3 WOOD VALANCES - 2-48", 1-51", \$10; GE hair dryer, very good cond, \$10. Borg, 286-0428.

OLD ENGLISH SHEEPDOG - Male AKC, professionally trained, show or family dog. \$150. 727-7496 weekdays til 6.

ZENITH CONSOLE - 23" b/w TV, am/fm radio, turntable. \$100. W. Schlichtroll, Ext. 3284, 924-6172 after 6.

INSULATION - 400 sq ft, R-11, 3 1/2" thick. \$30. 281-4673.

8' PICKUP TRUCK CAMPER - Sleeps 5, 2 burner stove, ice box, heater. \$600. 286-1169 after 6.

SCREENS - Person who bought 6 windows please call T. Morris - we forgot the screens. 744-5096.

.38 S&W PISTOL - Airweight model, 2" barrel, holster incl, permit required. Andy, Ext. 4174, 281-8274.

18,500 BTU PENNCREST AIR COND - 1973, has auto rotating vent, used 2 mos. 363-8919, 363-6121 after 6.

AVALON TRAVEL TRAILER - 14 1/2', sleeps 5, stove, sink, heater, john, 3-way light (12v, 110v, gas), extras, very good cond. \$1100. Bob, 475-2305 after 6.

ANTIQUA EXT SHUTTERS - 2-18 1/2"x63, 4-18 1/2"x71. \$15/pr. Borg, 286-0428.

ASSTD WOOD FRAME STORM WINDOWS - Ideal for making cold frame, also a few alum s/s. Cheap. Borg, 286-0428.

BATHRM SLIDING MIRRORS - W/tracks & side frames, by Miami-Carey, in orig cartons, for wall opening 59 3/4"x37 3/4". \$75. Borg, 286-0428.

AIR CONDITIONER - Rac window, brand new GE 14,000 BTU at wholesale cost. \$250. M. Smith, Ext. 4622.

ROTARY MOWER - Needs recoil cord. \$5. 281-7844.

GIRL'S BICYCLE - 26" Schwinn Hollywood model, coaster brake, excel cond. \$35. Ext. 2041.

ALUM WINDOW AWNING - 32"x48", new, fully assembled. \$4. 281-7844.

21" REEL LAWN MOWER - Sears best, excel cond, \$50; also top quality hand mower, \$10. Walt K., Ext. 4514.

SIAMESE KITTENS - Blue Point & Seal Point. Fran, Ext. 4046.

COLON CONV COUCH & CHAIR - All new, \$400; rebuilt 25" Magnavox color TV console, \$250 firm. 588-4703.

COLOR TV - 21" GE, old but works OK. \$50. R. Hildenbrand, Ext. 3274.

CASTRO CONV - Brown, no matt. \$35. Mike, Ext. 4851.

BILNOR POOL - 18'x3 1/2', liner used 1 season, ladder, anthracite filter, chlorine, other access incl. \$80. 286-1290 after 6.

MOBILE HOME - 12'x60', 3 bedrms, din, liv, Florida rm 10x20, beautifully landscaped prop, many extras, must be seen. 325-8604.

ANTIQUED COFFEE TABLE - Glass top, \$7; traverse rod, \$5; GE steam & spray iron, good cond, \$4. 473-3986.

MAPLE CHEST OF DRAWERS - W/wall mirror, good cond, must sell. \$25. 473-3986.

BEDRM SET - 8-drawer dresser, blonde finish. \$75. 757-7467.

SLACKS - 30W-30L, \$3; sports jackets, 2-12, \$4-5; 1 pr slacks 29W-29L; birdseye maple bureau w/mirror, antique, \$35. 744-5871.

OVEN - GE gas, good cond, white, lg oven. \$50. Ext. 4105, 281-7763.

TENNIS RACKET - New Wilson Jack Kramer Autograph, used once, strung w/best Vantage nylon, med, 4%. \$25. Bob, 744-5096 after 4.

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

PT JEFF VILLAGE - Sm 2 bedrm house w/bsmt, knotty pine liv rm, approx 1/4 acre, trees, patio, quiet neighborhood, very low taxes. \$27,500. Tom, Ext. 3297, 928-3205 after 5:30.

SHOREHAM - L-shaped ranch w/3 bedrms, 2 baths, sep din rm, huge liv rm w/fireplace, outside screened porch connected by sliding glass doors, 2-car garage, deeded beach rights, 1/2 acre landscaped. \$52,000. 744-1464 after 5.

FLORIDA-EAST COAST - 2 adjacent lots in Port Malabar, approx 80x125' ea, elec & paved streets, low taxes. Bill, Ext. 4774, 298-8657 after 6.

For Rent

10-SIDED HAVEN - Natural setting, Hampton area, 1-4 congenial people, beach 10 min by car, 6/15-9/15 or earlier if need be. 653-5267.

1 BEDRM APT - W/w, pool, air cond, tennis, avail 6/1, close to Lab. \$235. 473-3986.

3 1/2 RM APT - Near shopping areas, very big rms & closet spaces, free yr round pool, Patchogue area. 588-4703.

Wanted

BOY'S BIKE - 26". D. Desmond, 924-6972.

PORTA CRIB - Good cond. 732-3919, 732-3135.

APT - Near transp, for mature woman, 3 1/2 rms unfurn, Patchogue/Medford preferred. 757-7467.

TO RENT - Apt or house, July & Aug only, reasonable, will take good care, references. Kathy, Ext. 3524, 744-2699 after 6.

CAMPING EQUIPMENT - 2 burner stove, air mattresses, lantern. 475-2797 after 8.

BICYCLE - 3 spd, for 5' tall female. Fran, Ext. 4129.

RENTAL - Furn 3+ bedrms for 2-3 mos starting July, Bellport vicinity. Bill, Ext. 3326, 286-0497.

HOMES - For 3 male kittens, asstd colors, ready now. 732-3135.

HONEY - Directly from the bee keeper. 286-1321.

MINI BIKE - In good cond, reasonably priced. 475-0037.

TUTOR - Someone to tutor a college student in Chinese. 281-5385.

PEOPLE - To attend Brookhaven/Southaven Scout Fair May 18 (rain 19) at Brkhav School, Fireplace Neck Rd, Brkhvn Hamlet, 10 am-4 pm. John, Ext. 4143.

FIGHTING CHAIR - For sport fishing. Bob, Ext. 4411.

CAR SEAT - For baby, fair cond, reasonably priced. V. Manzella, Ext. 3992, 878-2072.

Carpools

DRIVER OR RIDER NEEDED - To compl existing carpool, S. Ocean Ave area, Patchogue. Roger, Ext. 3758; Louise, Ext. 3325, 289-7391.

RIDE WANTED - To & from work 0830-1700, from Wilcox Real Estate, Montauk Hwy. 878-0744.

ADDITIONAL DRIVERS NEEDED - For carpool in Miller Place area. Susan, Ext. 3462.

Services

TREE REMOVAL & CHAIN SAW WORK - Experienced, free estimates. Ken, 289-8212.

GARDEN PLOWING - Free estimates. Ken, 289-8212 eves.

BOAT KEYS, CAR KEYS - Made from code or duplicated, locks re-keyed or keyed alike. Charlie, Ext. 2957, 744-3312.

TYPING - Term papers, manuscripts, etc. Claire, Ext. 2346, 281-8306 after 5:30.

EXT & INT PAINTING - College students w/5 yrs experience, references, free estimates. 941-4328.

TENNIS CLASSES - Registration now open for spring instruction, class size 5, 8 wks, 10 hrs, Shoreham. \$40. 744-1906, 5-10.

TENNIS CLASSES - Registration now open for summer children's instruction 5 yrs & up, July-Aug, Shoreham. 744-1906, 5-10.

CERAMIC TILE/CEMENT/TERRAZZO - Professional work at reasonable prices, call for estimates. John, Ext. 4143, 286-1348, 281-8848.

FISHERMEN - Do you want your catch deliciously smoked? 744-9411 after 5:30.

ELEC MOTORS REPAIRED - Swimming pool motor repairs & rebuilds, pwr tools, etc. Ray, 231-7158 after 6.

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 employee's signature.

For Sale: Auto & Auto Supplies
 For Sale: Boats & Marine Supplies
 For Sale: Miscellaneous

Wanted
 Carpools
 Lost & Found
 Services

Check the heading applying to your ad. Print or type your ad in 20 words or less.

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.

(Name & Phone No. To Call)

Employee's Signature Life No. Ext.

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