

11-1172-77

## Short Takes On The ISABELLE Team

**James R. Sanford**... age 44... born Ohio... Ph.D. in physics from Yale University... staff member in Physics and Accelerator Depts. from 1962-69... joined FermiLab in 1969 to head section charged with building experimental areas... Associate Director when he left in 1976... returned to Brookhaven as Associate Director in charge of ISABELLE facility... member Sigma Xi, APS, AAAS, served seven years as member of High Energy Physics Advisory Panel (HEPAP).

**Mark Q. Barton**... age 47... born Missouri... Ph.D. in physics from University of Illinois and taught there for five years... on staff of Accelerator Dept. since 1955... appointed chairman in 1974... member HEPAP, APS fellow.

**D. Hywel White**... age 46... born Wales... Ph.D. in physics from Birmingham Univ... research fellow Univ. of Birmingham 1956-58... teaching and research Univ. of Pa. 1958-62... joined faculty Cornell Univ. 1962... currently professor of physics... member APS.

**William J. Willis**... age 45... born Arkansas... Ph.D. in physics from Yale... staff member in Physics Dept. 1958-64... in 1964 went to Yale as professor of physics... since then has held many guest and visiting appointments in BNL Physics and Accelerator Depts... joined staff of CERN in 1973... member APS.

**Harvey McChesney, Jr.**... age 58... born New York... B.S. in civil engineering from Cornell... Lt. Commander, US Navy 1941-45... joined Architectural Planning in 1947 and in 1951 transferred to Instrumentation & Health Physics... since 1956 has been Business Manager of the Accelerator Dept.

**Harald Hahn**... age 45... born Rumania... Ph.D. in physics from University of Paris... joined Accelerator Dept. in 1960... senior physicist... head of Advanced Accel. Development Div. 1973... appointed head of ISABELLE Division 1975... member APS.

**Julius Spiro**... age 56... born New York City... B.S. in engineering physics from College of City of NY... Captain, U.S. Army 1942-46... came to Brookhaven 1954... senior engineer in Accelerator Dept... appointed Asst. Chairman in 1971... associate chairman 1973... appointed Deputy Div. head of ISABELLE 1975 and Asst. Dept. Chairman for future projects... Sr. member IEEE.



Principals in the newly organized Project ISABELLE are (standing from left) William Willis, Head of the Detectors Division; Harvey McChesney, Jr., Head of the Administrative Division; and James Sanford, Project

Head. Seated from left are Harald Hahn, Assistant Project Head; Hywel White, Head of the Experimental Areas Division; Mark Barton, Head of the Accelerator Division; and Julius Spiro, Assistant Project Head.

## Senior Staff In Place For Project ISABELLE

With the arrival at Brookhaven of the long awaited \$5 million appropriated by Congress, ISABELLE began to take shape and form as its own entity. Last week Laboratory Director George Vineyard announced the administrative organization responsible for the construction of the accelerator facility.

Project ISABELLE will be its name and the man in charge is Associate Director James R. Sanford. As of January 16, the giant accelerator project is an independent organization and no longer a division of the Accelerator Department. "We are doing this to give the Project adequate stature and clear lines of authority," said Dr. Vineyard when he spoke in Berkner Hall to Accelerator and Physics Department personnel and others involved in the reorganization.

Associate Director R. Ronald Rau's responsibilities, which have encompassed the Accelerator Department and high energy physics, will now be extended to include all of the Physics Department programs. He will continue to provide liaison with the outside users of the high energy facilities and to have responsibility for the Central Shops.

As the AGS will function as the injector for ISABELLE and close cooperation between the two units is essential, Sanford will also assume the chairmanship of the Accelerator Department. According to

Sanford, the use of the AGS for Project ISABELLE "will not preempt the AGS program as we know it." Lyle W. Smith has been appointed Deputy Chairman for three years and Sanford says he expects to rely heavily on Smith "who will do most of the day-to-day running of the department."

Dr. Vineyard paid high tribute to Mark Q. Barton, former chairman of the Accelerator Department who had asked to be relieved of this administrative duty. Four years ago, Barton had accepted the appointment for a term of three years, Vineyard said, and after considerable persuasion had agreed to stay on for an additional year. "I thank him for his dedicated and effective service during this difficult period in the department's history," the Director said.

Barton now joins Project ISABELLE as Head of the Accelerator Division, the largest of the divisions in the new organization, and the one responsible for designing and constructing the machine components.

The Experimental Areas Division, responsible for the design of experimental facilities, will be headed by D. Hywel White, a professor of physics at Cornell who will take an extended leave of absence from the university. White has been an experimenter at the AGS for a number of years and is well known to many of the BNL staff.

William J. Willis, a former Brookhaven staff member who has been working at CERN for over four years, will rejoin the

Laboratory to head the Detectors Division.

Harvey McChesney Jr., who in his 30 years at the Laboratory has had considerable experience with large projects, will join Project ISABELLE as Head of the Administrative Division.

There will also be a Construction Division, for which a permanent head is being sought. This division will concentrate on the design and construction of the tunnels, buildings, roads and utilities at the construction site.

Aiding Sanford in the management of the entire Project will be Harald Hahn and Julius Spiro as Assistant Project Heads. They, together with division leaders, will constitute a Management Group to assist Sanford in guiding ISABELLE through the day-to-day complexities of its construction.

Sanford, Rau, Samios and Smith, as members of a Coordinating Committee, will assist the Director in the overall guidance of ISABELLE and the high energy program of the Laboratory.

The \$5 million now available to the Laboratory is authorized for the detailed design of the machine, including buildings and tunnels, and for the limited purchase of hardware. It will allow the construction of a full cell, the basic unit of the storage rings. Although he was only cautiously optimistic about future funding, Dr. Vineyard did say, "It is, I think, the beginning."

## 1977 In Review

In the past year, the Laboratory has been steadily on the upswing. Nearly 300 more employees are on the rolls than at the end of 1976, and the Laboratory's multifaceted research progressed along several fronts. For the record, the *Bulletin* has assembled some of the highlights:

During 1977, probably the most attention was directed towards the progress of ISABELLE, Brookhaven's proposal for a giant multi-million dollar intersecting storage accelerator. Spearheaded by Long Island Congressmen, an amendment to include initial construction funds for ISABELLE in the FY 1978 budget wound its way through Congress. At mid-year, the Senate and House passed a Public Works Appropriation Bill which included \$5 million for the project. (As noted elsewhere in this issue, the \$5 million is now in hand and ISABELLE is moving.)

Work has already begun on the preliminary phase of a tight design and construction schedule for the \$24 million National

Synchrotron Light Source, for which funding was received in 1977. Ground breaking is expected before the summer of 1978 and the project will take about four years to complete.

The refrigeration system for the Superconducting Power Transmission Project achieved successful cool-down to 7°K, a step vital to the success of the project. A technique for x-raying power cables for possible defects, developed originally for the Power Project, created considerable interest outside the Laboratory and, in one instance, was called into use by Consolidated Edison of New York.

### Energy

With the departure of Joseph Hendrie to his post as chairman of the Nuclear Regulatory Commission, the Department of Applied Science was dissolved and two new departments formed: the Department of Energy under Kenneth Hoffman and the Department of Nuclear Energy under Herbert Kouts.

Energy research continued over a broad spectrum: fusion, reactor safety, solar, hy-

drogen, accelerator breeders, district heating. In its second year, the National Center for the Analysis of Energy Systems produced further studies on the many aspects of energy production, utilization and policy at the regional, national and international levels. Basic energy research on new and advanced concepts were conducted in the areas of combustion, photochemistry, electrochemistry and materials.

BNL scientists took to the air in a specially outfitted plane to study air pollution under the Multi-State Atmospheric Power Production Pollution Study (MAP3S). The oceanographers went to sea to study coastal ecosystems, not only in the New York area but in such far-away places as Peru.

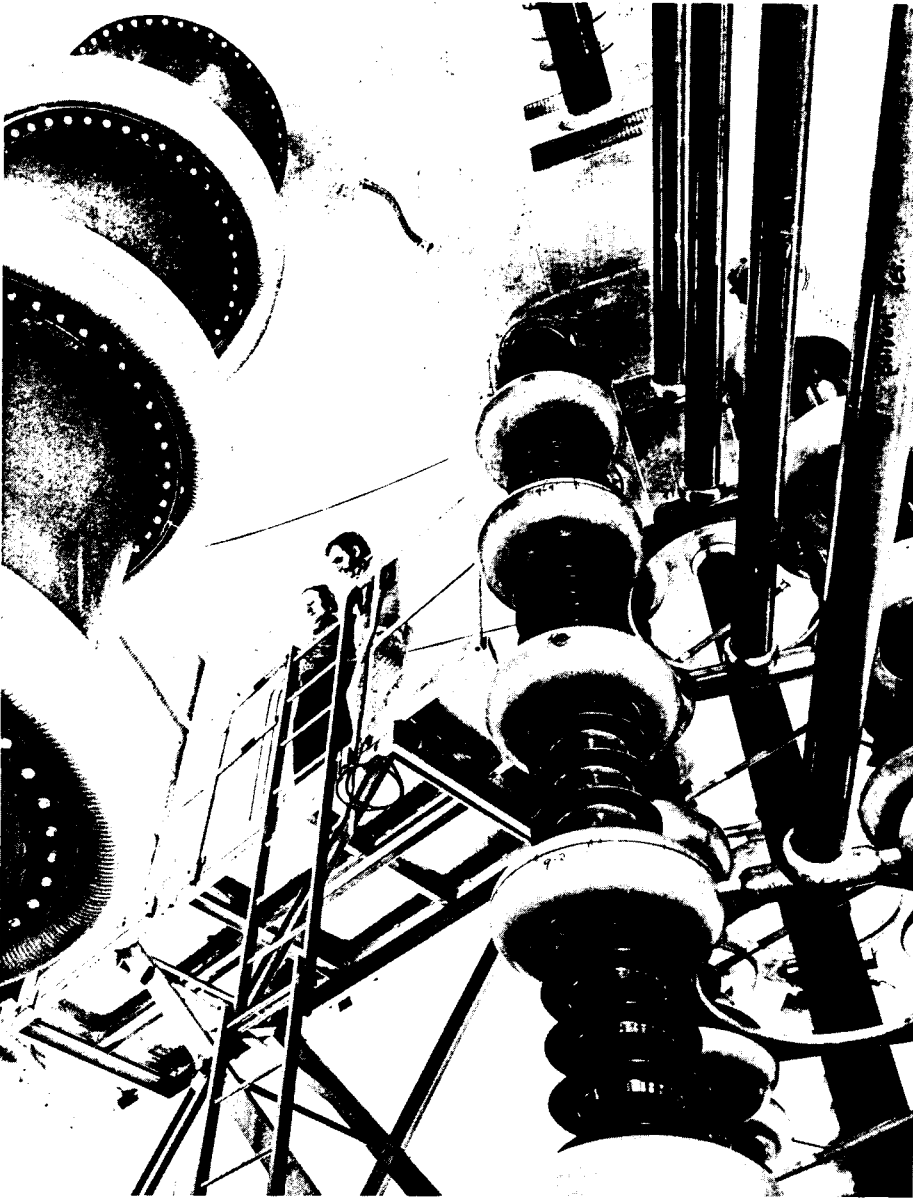
Conservation techniques were both under study and practiced at the Laboratory. For instance, a total of 21 boilers, burners, vent damers, flue heat exchangers and similar equipment were submitted by their manufacturers in a voluntary testing program at BNL to improve efficiency and conserve oil. The participants were given a findings report on the results of the tests.

(Continued on page 2)



Manufacturers signed up for the free, energy efficiency testing of their various heating units, an energy conservation program conducted by the Energy Storage and Conversion Division of DEE.

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In BNL's heavy ion fusion project, researchers in inertial confinement fusion want to develop a beam of heavy ions using a Xenon pre-injector source. The Cockcroft-Walton was turned on and is the first accelerating step in the ignition beam.

## 1977 In Review

(Cont'd)

Brookhaven's own energy conservation program, in operation since 1973, increased its efforts to reduce energy consumption. At year's end, it was reported that since 1973, our yearly energy consumption had been reduced by about 11% despite increased occupied space and staff. The development by Plant Engineering of an alternate liquid fuel - a blend of reprocessed industrial alcohol and substandard fuel oils - which was burned in the Central Steam Plant, resulted in dollar savings and reduced consumption of imported oil.

A management group was established to assist DOE in the planning and implementation of selected conservation projects conducted by industry under contract to the Laboratory.

### Chemistry

In the Chemistry Department, research on solar neutrinos and photochemical energy conversion was considered of particular significance.

The Brookhaven Solar Neutrino Experiment of Raymond Davis yielded a value of  $1.6 \pm 0.4$  solar neutrino units (SNU's) from counting data accumulated since 1970. This number is a factor of three below that expected based on our current knowledge and assumptions about details of the nuclear fusion reactions taking place in the sun's core and of the physical and chemical properties of the sun. This result thus challenges the accepted theories of stellar evolution, and the models and calculations which derive from them.

Norman Sutin and his coworkers succeeded in producing hydrogen from water with visible light using a semiconducting electrode,  $TiO_2$ . It was known that such semiconducting electrodes can decompose water into hydrogen and oxygen when irradiated by ultraviolet light but that they are inactive with visible light. It was found that addition of a number of organic-ruthenium compounds to the cell solution sensitized the process to visible light. The colored organo-ruthenium molecules absorb visible light and inject electrons into the conduction band of the semiconducting electrode. These electrons are, in turn, used by the cell to produce hydrogen from water.

### AGS

At the AGS, 14 high energy physics experiments were completed by investigators from 25 different outside institutions. During its 33 weeks of operations, the AGS accelerated about 20% more protons than in any previous year. Increased flexibility in

the AGS operations was demonstrated during special runs at energies of 1.5 GeV/c and 5 GeV/c (normal operation is at 28.5 GeV/c). Both of these runs involved operating the accelerator under new and unusual conditions.

Outstanding performance was also seen at the two major detector facilities at the AGS. The seven foot bubble chamber took an incredible 908,000 pictures of neutrino interactions in liquid hydrogen, deuterium and a neon-hydrogen mixture. These pictures will help physicists at Brookhaven and Columbia University unravel the mysteries of the "weak force" between nuclear particles. The multiparticle spectrometer (MPS) equipped with a new high energy beam line utilizing superconducting magnets of the ISABELLE design performed a number of different experiments during the year. Many of these experiments involved searching for the elusive property of nuclear particles named "charm."

### Nuclear Physics

The Tandem Van de Graaff continues to be used to investigate heavy ion reactions using the even higher energies resulting from the most recent upgrading of the accelerator. The terminal voltage of 14 million volts obtained this past summer stands as a record for operating electrostatic accelerators.

A most exciting phenomenon was discovered in a collaborative effort with a Stony Brook group investigating the scattering of beams of  $^{28}Si$  incident on targets of  $^{16}O$  or  $^{12}C$ . The backscattering intensity was found to be many orders of magnitude larger than most people expected, and to exhibit strong oscillatory angular distributions. These observations suggest that even these large nuclei can orbit at close distances, where the nuclear attractive potential is larger than the Coulomb repulsion.

### Solid State Physics

Highlights in the solid state physics program in the past year included the direct confirmation of "re-entrant" superconductivity in the compound  $ErRh_4B_4$ , in which the superconducting properties disappear at a low enough temperature and ferromagnetic order appears. Experiments on the interaction of low energy positrons with metals showed the existence of "surface resonance" states. These could lead to an important new tool for studying the properties of surfaces. Important theoretical studies included the development of the technique of molecular dynamics to investigate the generation and propagation of shock waves in solids and to predict their

high pressure-high temperature properties. Another novel topic with important potential practical applications to the field of crystal growth involved space renormalization group calculations of interface roughening.

### High Energy Physics

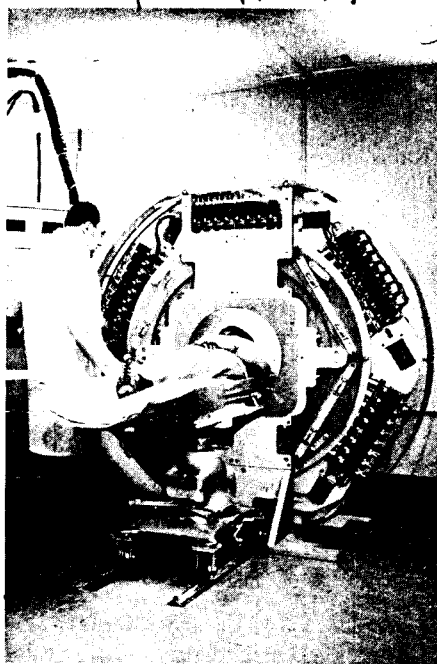
During 1977 the high energy physics research program has continued to emphasize studies, stimulated by the important theoretical and experimental advances of the past few years, seeking to elucidate the underlying quark substructure of the fundamental particles. New findings have included the confirmation of the "T" particle discovered earlier in this year, which is a particle providing evidence of the existence of a new kind of quark, and perhaps a whole new family. This was augmented by the observation of charm hadrons via their leptonic and non-leptonic decays, of more "old fashioned" resonances and searches for proposed exotic six quark states which were shown not to occur at predicted levels.

### Medical

Ground breaking for the Inhalation Toxicology Laboratory marked the beginning in 1977 of the Medical Department's new program in the pulmonary effects of environmental pollutants. Several exposure chambers have already been placed in the Medical Research Center and are operating under the direction of Robert T. Drew.

With the dissolution of DAS, the Medical Department acquired the BLIP and Radionuclide Development Program. This is most beneficial to the Department since the research program has been a part of the Laboratory's Program in Nuclear Medicine headed by Harold L. Atkins. New projects were initiated in 1977 for ERDA/DOE including effects of pollutants on viral tumorigenesis, and studies of the molecular basis of teratogenesis.

A new venture for the Department was a scientific workshop of the entire scientific staff held on Long Island in November. This workshop has resulted in many new research proposals and did much to encourage active collaboration among members of the Staff.



A demonstration of the position used for a brain scan at the Positron Emission Tomograph III. The machine was acquired in 1977 for use in the Nuclear Medicine Program. It will provide not only diagnostic information, but is also a powerful research tool for scientists who study metabolism and function assessment in live bodies.

### Biology

A significant event in the Biology Department in the past year was the official opening in November of the Scanning Transmission Electron Microscopy (STEM) Resource to outside users. STEM is currently being used by Brookhaven staff and outside users for a variety of biological studies including virus structure, membrane structure, DNA sequencing, and studies of interacting systems such as DNA binding proteins and muscle proteins. Other instruments having similar capabilities are located at the University of Chicago and at Johns Hopkins University. However, the Brookhaven STEM is the only instrument equipped for high resolution studies of frozen specimens.

At a research institution, of the variety and size of Brookhaven, none of these programs could be carried out if it were not for the cooperation and creative support of the other divisions and employees of the Laboratory.

## Special Blood Drive

Thursday, January 26

10 a.m. - 3 p.m.

at the Center

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To Volunteer

Call Gerry Kinne, Ext. 3334

## Training For A Trade

There are four openings in the Craft Apprenticeship Training Program and, for the first time, three of them will be for heavy equipment mechanic operators. The fourth is for an electrical apprentice.

Because of the special nature of the new apprentice openings, employees who apply will be given a briefing on these trades. Personnel will advise applicants the date and time of the orientation meetings.

Employees who wish to apply for the apprenticeships should pick up applications at the Personnel Office and return the completed forms to that office by Monday, February 13. To be eligible, applicants must have been employed at least three months by February 13 and should be no more than 30 years of age on the same date. The age requirement can be extended by the length of military service, up to two years.

Eligible employees must be at Level III or below and receive a rate of pay no higher than \$261 per week, or, if an IBEW bargaining unit employee, at no higher than the 6th labor grade.

High school graduates are preferred, but those who possess sufficient education to master the fundamentals of a trade will also be considered. School transcripts or certificates of training must also be received in Personnel by the deadline date.

Interviews of applicants by the Joint Apprenticeship Committee will begin on February 21. Successful candidates will be notified by February 27 and should be at their new posts by March 27.

The four-year apprenticeships require at least 576 hours of formal study in fields related to the trade, together with on-the-job training. Currently 16 employees are apprenticing to electricians, experimental machinists, carpenters, refrigeration and air conditioning engineers.

## New York City Trip

The Hospitality Committee is planning a group railroad trip to the city on Wednesday, February 1. Departure will be at 8:32 a.m. from the Patchogue LIRR station. Round-trip fare for adults is \$2.45, children under six years ride free.

Reserve a ticket by sending your fare through the U.S. mail to P.O. Box 322, Upton, New York 11973, no later than Friday, January 27. Make checks payable to "Brookhaven National Laboratory." Your tickets will be given to you at the train station. Refunds will be made only if cancellations are received at least two days prior to the trip.

## Stony Brook Events

Sunday, January 15

CONCERT: The Friends of Sunwood "Sundays at Five" series presents the Arioso Trio: Judith Davidoff, cello; Richard Simon, violin; and Harold Lewin, piano; at the Sunwood Estate in Old Field. Admission is \$5. For further information call 246-5681.

Wednesday, January 18

RECITAL: Violinist Mark Frank will perform with the Graduate String Quartet at 8:30 p.m. in Lecture Hall 105.

Friday, January 20

SEMINAR - Open nights in astronomy presents Professor Deane Peterson who will discuss "Black Holes, White Holes, and maybe even Worm Holes," at 7:30 p.m. in Lecture Hall 001, Earth and Space Sciences Bldg. A telescope viewing session will follow the lecture permitting.

Monday, Jan. 23 and Tuesday, Jan. 24  
FINAL REGISTRATION: For Part-time Stony Brook Continuing Education program. Final registration for graduate-level evening courses, 6 p.m. both evenings. More than 100 courses being offered. For further information call 246-5936.

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# BROOKHAVEN BULLETIN

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## Letters To The Editor

To The Editor:

Please convey through the medium of *The Bulletin* on behalf of my family and myself, our thanks and deep appreciation to all those very kind people who shared with us those moments of grief at the death of our son Charles Lenox Seaton.

The expressions of sympathy from all have been a great comfort to us, and it is with a feeling of sincere and warm affection we express our thanks.

To the NNDC and support groups we say a special thank you for their thoughtfulness and support during his short illness.

Sincerely yours,  
Charles V. Seaton

## 1978 Bumper Stickers

The Police Group has sent a supply of automobile registration forms to each department for distribution to employees. Completed forms should be returned to Police Headquarters and a numbered bumper sticker will then be mailed back to the applicants. As in the past, the sticker is to be placed on the left front bumper.

Since a spot for the department name was inadvertently omitted on the registration form, it will expedite matters if the employee notes his or her department on the bottom of the form.

1977 bumper stickers will not be valid after February 28.

## Attention Aliens

Each year immigrant and non-immigrant aliens who are in the United States on January 1, must report their addresses to the U.S. Immigration and Naturalization Service during the month of January. This regulation applies even though there has been no change of address.

Any alien who is temporarily absent from the country must report his address within ten days after his return to the United States.

The parent or legal guardian of alien children under fourteen years of age must report for these children.

Alien address report forms are available from any U.S. Post Office through January 31. When completed the card should be stamped and mailed to the address indicated.

## Cafeteria Menu

Week Ending January 27, 1978

<b>Monday, January 23</b>	
Tomato vegetable soup	
Kielbasa w/sauerkraut	1.15
Grilled ham steak w/1 veg.	1.30
Hot Deli - Pastrami	
<b>Tuesday, January 24</b>	
Cream of potato soup	
Southern fried chicken w/1 veg.	1.15
Macaroni & cheese w/1 veg.	1.05
Hot Deli - Veal & peppers	
<b>Wednesday, January 25</b>	
Beef barley soup	
Tuna noodle casserole	1.10
Fried rice dinner w/1 veg.	1.30
Hot Deli - Corned beef	
<b>Thursday, January 26</b>	
Chicken noodle soup	
Chili dogs and rice	1.05
Salisbury steak w/1 veg.	1.25
Hot Deli - Baked Virginia ham	
<b>Friday, January 27</b>	
New England clam chowder	
Broiled filet w/1 veg.	1.15
Roast sirloin of beef w/1 veg.	1.35
Hot Deli - Meatballs & peppers	



In "After Magritte" Jane Love is known simply as Mother.



In "The Public Eye" Tony Fainberg (left) plays the role of Charles Sidley and Joe Indusi that of Julian Cristoforou.

## Laugh And The World Laughs With You . . .

Come with your friends to Berkner Hall on January 27 and 28, February 3 and 4, at 8:30 p.m.

See the Theater Group's hilarious production of two one-act plays guaranteed to cause smiles, chuckles, and some outright guffaws.

"After Magritte" is a zany comedy directed by David Dew-Hughes and featuring: Jane Love in knee-highs and feathered

hat, playing the tuba; Ray Reuger acting as a dress model for Denise Dew-Hughes, when they are not tripping the light fantastic; and Bill Love and Joe Skelly doing their investigative best.

"Public Eye," directed by Rita Straub, is sure to make history for Joseph Indusi in his plum of a role as a Columbo type detective with a case of the nibbles. Joseph is sure to gain five pounds from this part but

it is worth it, he is so funny. Tony Fainberg and Ruth Pollack play a couple whose marriage is in trouble. The problem has an interesting solution.

Tickets at \$3.00 are on sale at lunchtime in the Cafeteria for employees and guests, and for those under 18 years or over 65 years at \$2.00. For any further ticket information, please contact Liz Russell, Ext. 3940.

## IBEW Meeting

Local 2230, I.B.E.W. will hold its regular monthly meeting on January 26, 1978, at 8 p.m. in the Knights of Columbus Hall, Railroad Ave., 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.

## Arrivals & Departures

### Arrivals

Stefan Do Pierala	Central Shops
James A. Kierstead	Physics
Jerome Lamontagne	Energy & Env.
Raymond Lo Presti	Central Shops
Alfred J. Minn	Physics
Douglas G. Olson	Energy & Env.
Richard W. Poudier	Energy & Env.
Hugh S. Pratt	Medical
Ernst M. Sohn	Central Shops
Carol L. Steen	Energy & Env.
James S.K. Tsang	Nuclear Energy

### Departures

Moon-Hyun Chun	Nuclear Energy
Israel Dostrovsky	Chemistry
Donald C. Elliott	Physics
Joseph A. Hala	Central Shops

## CREF Values

1977			
January	\$40.27	February	\$39.30
March	38.73	April	38.73
May	37.96	June	39.91
July	39.91	August	38.56
September	38.65	October	36.91
November	38.01		
December	\$38.21		

## Vacation Trips

The following package tours are now available to Laboratory employees through a travel agency which serves the Long Island Industrial Recreation Association. Dorothy Schroeder is the liaison and for further information she can be reached on extension 3327.

May 9-24	Southern Gernay, Switzerland, Austria	\$839.00
April 21-24, May 12-15, Sept. 22-25	Las Vegas	299.00
July 5-20, Aug. 30-Sept. 13	Hawaii	769.00

Flyers will be available next week in the BERA Sales Office.

## Volleyball

### Employees' League

On January 11, the Spikers swept the Atom Spikers: 21-4, 21-11, 21-13. It was Phoenix over the Easy Aces: 21-5, 21-5, 21-8. The Cool Tools beat Biology 21-6, 21-17, 21-9.

### Standings

Spikers	10	2	.833
Bumps	7	2	.778
Phoenix	7	2	.778
Cool Tools	9	3	.750
Biology	2	7	.222
Easy Aces	1	.11	.083
Atom Spikers	0	9	.000

### Mixed League

#### Division A

On January 16, it was the No Names over Lookin' Good: 15-9, 5-15, 15-8. The Nads swept the LeMuffs: 15-11, 15-10, 15-

3. The Popovers beat the Assorted DO-E-Nuts: 15-8, 17-19, 16-14.

### Standings

Lookin' Good	7	2
No Names	7	2
Popovers	5	4
Nads	4	5
LeMuffs	3	6
Assorted DO-E-Nuts	2	7

### Division B

On January 16, Oceanography swept Cow-Turkey: 15-1, 15-11, 15-3. It was Nuts & Bolts over Riffraff: 15-8, 15-8, 15-5. The Diamonds beat the Leftovers: 15-5, 15-11, 15-8.

### Standings

Nuts & Bolts	8	1
Diamonds	6	3
Oceanography	6	3
Leftovers	3	6
Cowturkey	2	7
Riffraff	2	7

## Exercise Class

Due to a change in programming at the Recreation Building, there will be no adult exercise class next Wednesday, January 25.

## Bowling

### Purple & White League

Bob Jones had high game for the night with a 234 and a high series of 558. Other high games were Ben Belligan 210, Ralph Taylor 204, Freddie Gileta 181, and Mary Austin 176.

The second half of the season started off with 3 teams tying for first place - The Stir-Ups, Diamonds and the Aquanauts.

### Red League

Not much bowling this week in the Red. The Bubble Boys took 8 from the Designers. R. Barberich had a 210 and S. Kiss had 633 gross pins. The Sandbaggers took the 76'ers 7-4. R. Larsen (246) had his sixth 600 scratch for the season (613) and now has a 193 average. The Anachems took 7 from the Old Timers. R. Adams (214) had a 580 scratch and 652 gross. Dick is up 11 pins in the last 8 weeks. W. Reams had a 202. R. Wilson also rolled a 202. L. Newman (491) up 2 more pins. He is up 8 pins in the last 5 weeks. In the final match-up the Freon Loaders downed the Cosmos 7-4. G. Schuette had 624 gross pins.

### Green League

With the start of the second half, we find the Pinball Wizards in first by taking 11 points from the Pick Ups. For the Pinball Wizards, R. Eggert had a 237/598 scratch series. The Old Timers II took 8 from the Trouble Shooters with G. Fales having a 243 game. The Sparks took 8 from the Blue Jays. For the Sparks, J. Cochrane had a 223 and for the losers, H. Haller had a 200. The Dynamites battled the Got-A-Hit-Ums but could only come up with 7 points.

### Pink League

Marie Brenner's 201/177/525 gross led the high games for the night. Cathy Van Noy followed closely with a 500 gross series.

Other bowlers were Marge Stoeckel with a 470 gross and Sue Vander Kolk with a 455 gross. Colleen Holland had a 160 game.



# Classified Advertisements

## Placement Notices

The Laboratory's placement policy is to select the best-qualified candidate for an available position, with consideration given to candidates in the following order of priority: (1) present employees within the department, with preference to those within the immediate work group; (2) present employees within the Laboratory as a whole; and (3) outside applicants.

Each week, the Personnel Office lists new personnel placement requisitions. The purpose of these listings is, first, to provide open placement information on all nonscientific staff positions; second, to give employees an opportunity to request consideration for themselves through Personnel; and, finally, for general recruiting purposes. Because of the priority preference policy stated above, each listing does not necessarily represent an opportunity for all candidates. As a guide to readers, the listings are grouped according to the anticipated area of recruitment, as indicated below. Except when operational needs require otherwise, positions will remain open for one week following publication date.

For further information regarding a placement listing, contact the Personnel Placement Supervisor, Ext. 2874 or 2882.

**LABORATORY RECRUITMENT:** Opportunity for present Laboratory employees.

477. EXECUTIVE SECRETARY - Requires excellent secretarial and communications skills; BNL secretarial experience desirable. Will perform general secretarial duties and direct the work of others in department business office. Accelerator Department.

478. DRIVER - Plant Engineering Division.

479. S&M SR. CLERK - Supply & Materiel Division.

480. STOCK CLERK - Supply & Materiel Division.

481. LABORATORY CUSTODIAN - Plant Engineering Division.

**OPEN RECRUITMENT:** Opportunity for present Laboratory employees and outside applicants.

482. STAFF ASSISTANT - Requires a BBA with an accounting major or its equivalent. Must have substantial professional background in automated budget preparation and control, including MIS techniques, preferably in a high technology environment. Must communicate well both orally and in writing and have the ability to prepare budgetary statistical and narrative documents. Accelerator Department.

483. TECHNICIAN - Requires AAS or equivalent in electro-mechanical technology with background relating to vacuum systems. NSLS, Physics Department.

484. TECHNICIAN - Requires AAS or equivalent in life sciences field. Experience in hematology, measurement of blood gases and tissue culture desirable. Will work with animals (mice and rats). Medical Dept.

## Autos & Auto Supplies

65 HARLEY-DAVIDSON - 900 cc Sportster, custom seat & paint, very clean. 924-8264 eves.

67 TEMPEST - 2 dr, 6 cyl, gd cond, moving out of state, must sell. \$350. Donna, 589-0461.

2 RIMS - A-78-13, 5 hole, \$5 each. Janet, Ext. 2345, 929-8152.

RIMS - 4-15x10 6 lug steel rims for Chevy of GMC 4x4. \$60; spoiler for Dodge Van. Slight crack. \$15. Bill S., Ext. 4434.

1 PR WINDOWS - Heart shape, new. \$30; 1 tan high back seat w/adj swivel base, new. \$50. Bill S., Ext. 4434.

77 SUBARU - 4 dr station wagon, like new, less than 8,000 miles, auto trans. \$3600. 477-0764.

67 OLDS TORONADO - Mech very gd, p/s, p/b, a/c, power windows, 6-way power seat, tilt & teles wheel. \$350 or best offer. Ext. 4247, 928-0297.

HUBCAPS - (4) '76 15" Buick Regal, \$15; am/fm radio for '76 Buick Regal, fits '73 up, \$50. Ext. 4207, 727-5158 after 5.

SNOW TIRES - (2) J-78x14 Firestone Town & Country, gd cond. \$30. F. Kulesa, Ext. 4518.

75 JEEP (CJ-5) - 6 cyl, 4 spd, soft top, roll bar, heavy duty equip, 2 sets tires, 27,000 mi. \$3000. W. Stars, Ext. 4278.

BATTERY - New, 6 volt, will sell \$5 under new price. Bill, Ext. 2299, 286-0243 eves.

72 VW BUS - 64,000 mi, mechanically excellent, looks gd except for minor blemishes. Asking \$1350. Tony, Ext. 4207.

NEW & USED TIRES - Rims repairs, snow & reg, radials, Dunlop Michelin, free installation, lunchtime. Ext. 4597, 475-4935 eves.

OLD FORD PARTS - Some Model A, some V8 flat-head. Ext. 4539.

71 FORD - Galaxie 500, gd cond, ac/ps/pb, upholstered interior, gold w/black vinyl top, 60,000 mi. 744-4087.

SIREN - 12 volt for auto/house burglar alarm. \$8. John, Ext. 4680.

SNOW TIRES - (2) 14"6-78, only used last winter from Shirley to Lab, like new, \$35 for both; (2) 15" H-78 in gd cond, asking \$30 for both. Annette, Ext. 4144, 281-4178 after 6 p.m.

69 VW - Station Wagon, runs well, ex gas mi. \$500. Ext. 2949, 924-8523 after 6 p.m.

70 FORD - Torino, low mi, 2 dr htdp, ps/pdb, gd cond. \$750. 589-0208.

70 NOVA - Ps, 6 cyl, new muffler, 2 new tires, gd running cond. \$550. 567-2690 after 6 p.m.

73 CAPRI - 4 cyl, std, lt green, 2 dr, relocating, must sell, 4 new tires. \$1150. 667-3127.

69 CHRYSLER WAGON - All power, ex cond. \$975. 878-2615.

64 DODGE DART - 6 cyl, auto, gd running cond. \$125. 399-1553.

SNOW TIRES - Studded, B.F. Goodrich tubeless nylon, 4 ply, 7.35-14, ex cond. 473-7667.

69 CADILLAC - Sedan de Ville, ps/pb, red/white roof, white int, very gd cond. \$700 or best offer. 281-7641.

73 CHEVY NOVA - Custom, 350-V8, ac/ps, best offer. 878-9216 after 6 p.m.

68 CHEVELLE - Malibu, ex cond, many extras. 878-2545.

67 FORD - Galaxie, 2 dr sedan, ps/auto trans, r&h, gd running cond. \$350. Linda, 475-4897 after 5:30.

73 CHEVY PICKUP - 1/2 ton, 8 ft bed, V-8. \$1850 or best offer. Theo, Ext. 3676, 727-1012 after 5:30 p.m.

CORVETTE - Valve covers, 283, 327, 350, \$10; ladder bars for Chevelle, \$50. Bob, Ext. 4672, 929-4753.

71 CADILLAC - Sedan de Ville, white, blue leather int, blue vinyl top, very gd cond. \$1250. Claire, 732-6712.

2 TIRES - 825x14 on Ford rims, 800 mi, \$35; 2-15" Ford rims, \$5. Mike, Ext. 3284.

72 TOYOTA CORONA - 2 dr, auto, ex cond. \$950. Ext. 3017.

73 LINCOLN - Mark IV, custom pinstriping, custom wheels, am/fm, 8 tr stereo, C.B., leather int, show-room cond. Ext. 3942, 727-1412.

SNOW TIRES - Sears steel belted radials, 195-14 mounted on American Motors rims, \$20 each. Tony, 281-0350.

TIRE - New Dunlop C41, 6.00-13, fits Toyota Corona. \$10. Ext. 2248.

67 FORD - 6 cyl, trans, other parts, all for \$50. Mike, Ext. 4851.

68 CATALINA - 2 dr, just tuned, reliable in winter weather, best offer over \$300. Ext. 4137, 666-3106.

## Boats & Marine Supplies

SEA SPIKE - Anchor, 15 lb. \$20. Don, Ext. 2026.

CLAM RAKE - 22 tooth Huntington 2 1/2 teeth bubble basket. \$20. Howie, Ext. 2043.

14' ALUM BOAT - Very gd cond, \$200. John, Ext. 4428.

## Miscellaneous

KODAK - Dual 8mm movie projector instamatic M65, ex cond. \$25. Barnett, 281-5296.

TRUNDLE BED - Danish modern, foam mattress, gd cond. \$75. Janet, Ext. 2345, 929-8152.

ICE SKATES - Boy's black figure skates, size 3, like new. \$8; ski boots, lady's leather buckle (2 pairs), Henke, size 5, Kolpack, size 6, \$15 ea. Georgia Irving, Ext. 2318.

CEMENT MIXER - 2.5 cu ft, elec motor drive, kitchen range. \$30. Ext. 2409.

TWIN - Box spring & mattress, like new. \$40. 744-6362.

HAMMOND ORGAN - Model L-222, step-by-step lesson books inc. \$800. 585-8336 after 6 p.m.

COLONIAL - Round commode, maple, ex, \$50; Sony Trinitron, 17", must sell; Colonial dropleaf coffee table, maple, 4 drawers, ex, \$100. Judy, Ext. 4700.

REFRIG/FREEZER - GE '71 model, works. \$40. Ext. 4207, 727-5158 after 5 p.m.

KENMORE - Washer (2 spd, 4 cycles), dryer (gas, Fab Master wrinkle guard) heavy duty, 5 yrs, ex cond. \$325. Ext. 4771, 286-8747.

PAPERBACKS - Gothic, Harlequin Romances, Cartland, Cookson, Heyer, Hodge, Hyatt, etc. 25¢ to 75¢. Rosemary, 589-2470.

PIANO - Baby Grand, ex cond, must sell. \$1000 firm. 727-1528.

SKIS - Spalding fiberglass (180's) \$45; Scars skis (180's) \$35. John, Ext. 4428.

SKATES - Size 12 (small) black, 10 (small) white, \$4 ea; rubber boots, size 12 (small) white & red; 2 black ballet slippers, size 6. Jim, Ext. 3372.

WOODEN DOORS - W/hardware, (2) int 6 panel, 30x81, \$20 ea; screen 37x81, \$5. Ext. 2026.

FLORIDA ORANGES - \$8/case of 64 or 56; grapefruit, \$7/case of 32 or 27. Church project. Matt, Ext. 4506.

DUTCH OVEN - 5 qt cast iron, never used. \$7. Bill, Ext. 3992.

PETERSON - 8 channel scanner, Hi-Lo bands, mobile or base, perf. cond. \$40. Mike, 281-6070.

SKI BOOTS - Girl's size 6 1/2. \$15. John, Ext. 4428.

SKIS - Head 240-200 cm, ex cond, \$40; ski boots, Caber, men size 9-10, 5 buckle, \$20. Pat, Ext. 4255, 929-4529.

DEEP WELL - Pump & tank, gas hot water heater, sump pump. Ext. 4597.

MATTRESS - For double bed. \$25. Tom, Ext. 4324, 286-1547.

ELEC STOVE - 30" Hotpoint, avocado, \$50; 19" RCA Color Portable TV, \$150. 744-5124.

TV - Zenith B&W 19" portable w/UHF, ex cond, \$23. 473-2473 eves.

YORKSHIRE TERRIER - Puppy, male, AKC, pedigree, home bred, vet's cert. \$200. 475-2627 after 6 p.m.

HO CAR - Train set, two 4x8 complete assembly, many accessories, gd cond. \$50. 665-2019 eves.

WOOD STOVE - Slo Burner w/insul, chim 15'. \$340; bedroom set, old 5 pc. Ron, Ext. 4082.

DOUBLE BED - Box springs & mattress; portable manual typewriter; bricks; mixmaster with juicer. Ginny, Ext. 2248, 924-7285.

TENT - 10'x12', near new, \$40; Coleman cooler 24 qt, \$15; lawn lounge, \$5. Christine Kenny, Ext. 3070.

HI RISER - Sealy mattress, like new, \$160; Ethan Allen pedestal table, pine, \$75; floor lamp table, pine, \$45. 289-9677.

MIDLAND CB - Model 77-857, 40 ch, w/antenna & lock mount. Bob, Ext. 4278, 698-1035.

HUMIDIFIER - Brand de Viliss model 250, new, cool mist type, \$5; elec heating pad, auto control, brand Essex, new, \$4. Ext. 4475.

ICE SKATES - Girl's size 10, \$4; child's boots size 12 & 2, \$3; ballet slippers size 6, \$2. Skis - wood with cable bindings, \$10; ski boots, leather, men's size 10, \$3; women's size 7, \$3. Jim, Ext. 3372.

TV - 12" B&W, gd cond, \$25; steam/dry iron, \$3. Svein Nordenson, Ext. 3017.

TV - 25" color, stereo radio & phono, Magnavox, asking \$180. 345-3130.

SKIS - Rossignol Strato 102's, 195 cm w/Salomon heels, marker toes, \$100; Lange comp ski boots, size 11, \$50; Barretrafter poles, \$5. 286-0384.

DRUM TABLE - Ex, \$25; Hardrock maple dining rm set, 42" round table w/2 lvs, 4 mates chairs, 44" hutch cabinet, \$300. 286-0246.

TAPE DECK - 8-T, record/play, auto/manual track selection, 2 mikes, new. \$39.99. Calvin, Ext. 4597, 928-6965.

OIL BURNER HEAD - Complete, ready to install. \$25. Jim Ryan, Ext. 3354.

ALUM STORMS - White, custom made, 3 1/2x80 3/4, 36 1/2x81. Ext. 2951, GR5-2058. 30" range hood, avocado, like new, stall shower doors; Coldspot refrig, avocado, 19 cf, less than two years old.

RIFLE - Weatherby Vanguard, 300 Winchester magnum with 3x to 9x weaver scope, \$250; 22 magnum Winchester lever action Model 9422M with 3x to 7x marlin scope, \$150. Call Bob, 884-9500 after 8 p.m. or all day weekends.

GUN RACK - Wooden for 3 guns, ex cond, \$12; Sears elec adding mach, \$50; new candlecraft kit, \$4.50. Ext. 3609.

ORGAN - Hammond Everett series, 2 keybrds & bass pedals. \$399. Howie, Ext. 2043.

## 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

MT SINAI - 4 bedrm ranch, 2 baths, fp, formal dining rm, fam rm, eik, foyer, patio, tool shed, bsmt, landscaped. \$42,990. 928-3205.

ROCKY POINT - 4 bedrm Colonial, eik, 2 1/2 baths, fp, w/w, all appl, garage, wood deck, 1/2 acre, priv beach. 744-1156.

SHIRLEY - Must sell, fully furn 3 bedrm, heated fin bsmt, plus storage bsmt, w/w, storms, hot water heat. \$25,000. Will hold mortgage. 281-5328.

MASTIC BEACH - 4 yr old house, 6 rms, full bsmt, fence 80x125. \$28,500. 281-5498.

BELLPORT VILLAGE - 1/2 acre, 3 bedrms, 2 baths, 2 car garage, screened porch, att greenhse, many extras. \$49,500. 286-2724.

MILLER PLACE - Rustic Acres, 3 bedrms, fp, vacuum sys, in-ground sprinkler system, 16x32 pool, professionally landscaped & decorated, many extras. 473-1175.

MILLER PLACE - 4 bedrm Colonial, fp, formal dining, fam rm, 1 1/2 baths, 2 car garage, landscaped, wooded 1/2 acre. \$58,500. 331-1798.

CENTER MORICHES - 4 bedrm, heated porch, hard wood floors, near schools, shops, water, quiet st, very low taxes, appl. \$36,000. Vis, Ext. 3513, 3512, 878-4889.

SHIRLEY - 3 bedrm ranch, finished in/out, fenced yard, many extras, must see. 281-5296.

5 MIN FROM LAB - Immac 3 bedrm ranch, full bsmt w/elec & studded out, lge project 115x120. Asking \$27,500. Tirre, 281-0360 or 281-7720.

## For Rent

POCONOS - Chalet in priv community, indoor swimming pool, ski Tanglewood. 289-2159.

SHOREHAM - 3 bedrm ranch, full bsmt, w/w through-out, all appl, 2 a/c, beautiful fenced yard, patio, above ground pool. \$360 plus. 744-4087.

BROOKHAVEN - 4 rm apt, furn, new kit, rural area adjoining Carmans River, 20 min from Lab, util incl, rent negotiable, write Box 277, Brookhaven, N.Y. 11719 or call 286-2450 around 6 p.m.

JAMESPORT - 7 rms near beach & bus, available Feb 1. \$225/mo. 722-4862.

## 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 employees 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).