

121st BNL Lecture By J.T. Muckerman

The 121st Brookhaven Lecture will be given by James T. Muckerman of the Chemistry Department on Wednesday, February 6, at 8 p.m. in Berkner Hall. The title of the lecture will be "A Microscopic Picture of Chemical Kinetics in the Gas Phase."

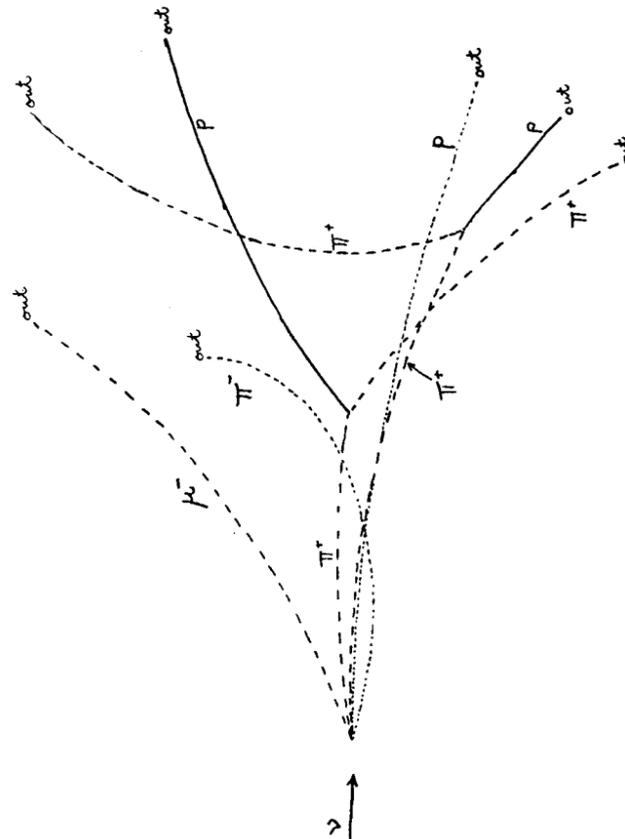
Although the traditional approach to chemical rate processes has been through the study of bulk properties of matter, recent interest has focused on what happens in individual collisions. Quite often a reactive intermediate is formed which further reacts on subsequent collisions and is never isolated as a product. In addition, the product of an exothermic reaction (one in which energy is released) is often formed in an excited state in a single collision event, but is de-excited in subsequent collisions. In a microscopic approach to chemical kinetics the aim is to characterize the properties of individual collisions of molecular species.

If experimental conditions are adjusted so that there is a relatively long time between collisions it is possible to detect and even take advantage of the non-equilibrium nature of the products of single collisions. One important example of such an approach is the chemical laser, where the required population inversion of the light-emitting species is created by the preferential formation of a product of a chemical reaction in an excited state.

The lecture will describe the properties which characterize the chemistry of individual collisions and will demonstrate how these properties may be calculated using Newtonian mechanics and a knowledge of the geometry-dependent interaction energy of the colliding system.

Actual "pictures" of molecular collisions will be presented in the form of computer-animated movies which depict the classical motion of all the atoms in the colliding

(Continued on page 2)



Neutrino Experiments Begin At Brookhaven

The first neutrino event was recently seen in the 7-foot Bubble Chamber at the AGS. It is the highest energy neutrino event ever seen in a hydrogen chamber. It represents the success of an enormous effort and signals the start of a new program of neutrino physics at the Laboratory.

The photograph shows the tracks of particles produced by the interaction of a neutrino on a particle of the liquid hydrogen in the chamber. Though it is easy to make a neutrino it is very hard to take a picture of an interaction of one. Neutrinos interact very rarely. They have no charge, no mass, and no kind of magnetism. As a result, they can pass without a trace through iron and steel, through the earth and through the sun. That means that if one had a bubble chamber as big as the sun and sent a single neutrino into it, then the neutrino would almost always pass through leaving no sign, no event, no trace. How then can we "see" such a particle? Well, though it interacts rarely it does sometimes

interact. In order to see such an event, we make not one neutrino but something like 10 billion neutrinos every pulse of the AGS and send them all through the chamber; at each pulse a photograph is taken. These photographs are then carefully scanned and one neutrino event is seen every few hundred pictures, which is enough for the performance of meaningful experiments. This was the first such event.

The neutrino had an energy of 3.5 GeV, and the particles coming out of the interaction can be identified as shown in the insert and are a proton (p), two positive pions (π^+ 's) a negative pion (π^-) and a negative muon (μ^-). Since it has no charge, the neutrino coming in cannot be seen.

The taking of this photograph represents the attainment of a goal that was set in 1963 when the idea of constructing a large hydrogen bubble chamber to look for neutrino events was first discussed at Brookhaven. It marks the success of the enormous effort that went into the construction of the

chamber (*Brookhaven Bulletin*, June 23, 1973) and the success of the effort, also huge, that went into the construction of the beam with its superconducting bending magnet (*Brookhaven Bulletin*, Nov. 16, 1973), the double horn system for concentrating neutrinos in the chamber, the 10,000 ton steel shield for keeping unwanted particles out of the chamber, and the system of ionizing counters for indirect monitoring of the number of neutrinos in the beam. It represents success also for those who built the film scanning equipment and for those who scanned the film and analyzed the event. Congratulations are in order for all.

The event is, however, just a beginning. More events are being found in the film taken this time. There will be more runs for this experiment and more neutrino experiments in the future. High energy physicists at BNL can now begin to work to obtain new insights into this tantalizing particle—the neutrino.

Low Burchill Retires

Lewis R. Burchill, a key official of AUI, retired at the end of 1973. He was honored at the January 17, 1974 meeting of the full Board of Trustees of AUI, with the following citation:

Voted: that the Board of Trustees, cognizant of the retirement on December 31, 1973, of Mr. Lewis R. Burchill, Controller and Treasurer of Associated Universities, Inc., formally acknowledges the contributions he has made to the success of this Corporation and the institutions it operates - Brookhaven National Laboratory and National Radio Astronomy Observatory. During his 26 years of service Mr. Burchill initiated many of the practices and procedures now accepted as standard for research management, his concepts of better methods of funding operations have resulted in significant savings to the Federal Government, and the tact and wisdom he displayed while serving as a representative of this corporation in its negotiations with the funding agencies have aided in the establishment of the sound working relationships that now exist with those agencies. Mr. Burchill's long and devoted service performed with sagacity, imagination, humor, and diligence has earned for him the affection and respect of his colleagues and his many friends on this Board.

A copy of this vote along with several gifts were given to Lew at his home in Brookhaven, where he is recuperating from a recent illness, by Dr. G.F. Tape, Dr. L. J. Haworth, Mr. N.P. Rathvon and others after the Board meeting.

The gifts include two specially designed plates carrying the seal of Brookhaven National Laboratory and National Radio Astronomy Observatory respectively which were made in the Delano Studios. The plates were mounted in a presentation case in the BNL cabinet shop. In addition, the first facsimile signature plate carrying Lew's

name, which was used to sign most of the checks for payroll, purchases and the like, was mounted in a handsome paper weight. It is calculated that the signature plate was used for conveying over a half a billion dollars from the Federal Government through AUI to Laboratory employees and its vendors. The idea for these decorative gifts came from Alf Christoffersen.

Lew Burchill was born October 24, 1908 in Frackville, Pennsylvania. He obtained his baccalaureate degree from Harvard in 1931, his MBA from the Harvard Business School in 1938, and became a CPA in 1941. From 1938 to 1942 he was an accountant. He was then asked to serve in Haiti as Assistant Treasurer and Controller of SHADA, a wartime Agricultural Development Company, which attempted to in-



Cabinet maker Herman Geist shows Lou Harrison of Plant Engineering the walnut case that was made by Geist to store plates that were presented to Lew Burchill.

crease the supply of rubber-latex by cultivating a variety of tropical plants. Lew reminisced about those days, recalling that he headed a group of about ten men who were charged with handling the accounts and payroll of the company, which at its peak had 49,000 employees!

After several post-war positions, Internal Auditor at Curtis Wright and a partner in an accounting firm, Lew joined Brookhaven in 1948. He became the Controller of AUI in October, 1951, and Treasurer of the Corporation in October, 1969.

Lew and Kay Burchill live on Beaver Court in Brookhaven and send their warmest regards to all their good friends at the Lab.

BNL Lecture

(Cont'd)

system. These movies were made possible by the computer software developed at BNL by Josh K. Kopp in the Physics Department and through the cooperation of the BNL Photography Division.

James T. Muckerman was born in St. Louis, Missouri, on January 10, 1943. He majored in chemistry at Carleton College in Northfield, Minnesota, and obtained his B.A. degree in 1965. In 1970 he obtained his Ph.D. in physical chemistry from the University of Wisconsin. He came to BNL in September, 1969 as an Associate Chemist and was promoted to Chemist in July, 1973.

Mr. Muckerman's research interest is in the collisions of atomic and molecular species in the gas phase. He is currently working on classical and semi-classical theory of reactive and inelastic collisions between small molecules and/or ions. He is also engaged in research on semi-empirical valence bond theory of the energetics of molecular interactions (potential energy surfaces). He is a member of Sigma Xi and the American Chemical Society.

Mr. Muckerman's other interests include music (especially opera and chamber music) and photography. He is married and resides in Bellport with his wife Carolyn and their two children.

Chess Tournament

The Chess Club is organizing a Laboratory-wide tournament. Games will be scheduled by agreement between opponents and one week will be allowed to complete each round. Anyone interested in participating in the tournament should send a card with his or her name and Laboratory address and phone number to R. Whisker, Bldg. 515, by February 1.

Public Sale of Motor Vehicles

Seven (7) Vehicles, located at Warehouse T-87, will be available for Public Sale.

Inspection will be permitted from January 28th through February 1, 1974, during the hours of 9 a.m. to 4 p.m., except Saturday and Sunday.

Bids will be opened on February 5, 1974, at General Services Administration, Business Service Center Bid Room, 26 Federal Plaza, N.Y., N.Y.

This will be an Informal competitive bidding. Bid forms may be obtained at building 87 and 211. For further details, please call Extensions 2303 or 2977.

Evening of Square Dancing

The Association for Community-University Cooperation (ACUC), combining the programming talents of Community residents, students and the University Community - has arranged for an evening of "Square Dancing" at the Robert Cushman Murphy Junior High School (Oxhead Rd. - off Nicolls Rd - Stony Brook) on Saturday, January 26 starting at 8:30 p.m., complete with live music furnished by the Putnam Spring County Band plus Caller Herb Strickland. Tickets for the evening will be \$2 per person; students and senior citizens (with I.D. cards), 75¢. Tickets may be reserved by calling Mary Spata (246-5924) or Susan Studier (751-3551).

Optician's New Hours

Effective immediately, the optician will be available for safety equipment on Wednesdays only, from 1-5 p.m.

Presidential Election Campaign Fund

The Internal Revenue Service has provided a Fact Sheet on the income tax check-off whereby taxpayers can designate on form 1040 or 1040A that \$1 (or \$2 for a couple filing jointly) of the tax you are already paying is to be placed into the Presidential Election Campaign Fund.

The law allowing this check-off was in effect last year, but was not widely publicized. If you did not take advantage of the check-off opportunity last year, you will also find a line on the 1040 and 1040A forms to designate \$1 (or \$2 for couples filing jointly) of your 1972 taxes to the campaign fund. Following is the text of the IRS Fact Sheet:

In December, 1971, Congress enacted legislation to create the 1976 Presidential Election Campaign Fund. The law allows individual taxpayers to designate \$1 to the Fund. Married taxpayers may designate \$1 each, for a total of \$2, on joint returns, or one spouse may designate \$1 even if the other does not; neither taxpayer is obligated to exercise the same option as the other.

Every individual other than a non-resident alien may participate if he has a tax liability of \$1 or more. For joint returns, the tax liability must be \$2 or more.

To designate money for the Fund from 1973 taxes, a taxpayer must check the box on line 8 of his Form 1040 or 1040A. There is no separate checkoff form for 1973.

If he did not earmark \$1 of his 1972 taxes and wants to do so now, a taxpayer should check the box just above the signature line on the form he uses.

Contributing to the Fund is strictly optional. If a taxpayer makes no designation, no part of his taxes will be set aside for the Fund.

Designating \$1 to the Fund will not change the amount of tax liability or refund due.

Finally, all money earmarked for the campaign will go directly into a nonpartisan fund and not into the treasuries of specific political parties. The Internal Revenue Service calculates the total amount of money designated and provides this information to the General Accounting Office. GAO then determines which political parties are eligible to receive money from the fund, and divides the money among them by a predetermined formula provided by law.

Spring is Coming On February 5

A Lab-wide Tea and Sherry Party, celebrating the rites of Spring around the world, will be held on Tuesday, February 5, from 3:00 to 6:00 p.m. All ladies who are employees, and employees' wives are invited to attend. Employees, of course, are cordially invited to attend outside of working hours.

Have you ever seen a 20-foot kite? We hope to have one on display. Spring brings flowers and a flower festival is on the agenda. There will be an abundance of good things to eat, lovely things to see, and interesting people to talk with.

Babysitting services will be provided in the Recreation Building. If you have an infant or early toddler, be sure to bring a car bed, chair, or playpen, so that he can be comfortable and have a good time too.

CREF Unit Values

1972			
January	\$48.27	February	\$50.49
March	51.36	April	51.80
May	53.74	June	51.80
July	51.15	August	51.95
September	50.98	October	50.80
November	52.53	December	53.25
1973			
January	\$50.36	February	\$47.11
March	46.44	April	43.69
May	42.06	June	41.40
July	44.80	August	44.06
September	46.63	October	47.06
November	41.30		
December	\$42.61		

Bulletin Office Moves

The office of the *Brookhaven Bulletin* has moved to Room 117 in the Administration Building (460). Ads may still be dropped off at the lobby of 460, or in Room 117. Go to Room 117 for *Bulletin* information and assistance.

Dr. Steele, Biochemist At BNL, Dies at 58

Dr. Robert Steele, Brookhaven National Laboratory biochemist died suddenly on Friday, January 18, 1974.

Dr. Steele joined the staff of Brookhaven National Laboratory in the Biology Department in 1947. In 1951 he became Biochemist, and in 1971 he was appointed acting head of the Biology Department. From September 1972 to September 1973 he spent a sabbatical year at a Veterans Administration Hospital in California, and returned to Brookhaven in the Fall of 1973.

Dr. Steele was born in Pittsburgh, Kansas in 1915. He received his bachelors degree from the University of Kansas in 1936, and his Ph.D. in biochemistry from the University of Chicago in 1940. During World War II Dr. Steele served in the United States Army from 1942 to 1946, attaining the rank of Major.

After separating from the service he became an instructor in Oncology at the McArdle Memorial Laboratory for Cancer Research at the University of Wisconsin before joining the staff of Brookhaven.

Since 1960 he has been adjunct professor of Pharmacology at the New York University School of Medicine, and a member of the editorial board of the American Journal of Physiology since 1967. Dr. Steele was a member of the American Association for Cancer Research, the American Society of Biological Chemists, the Endocrine Society, the American Physiological Society, and the American Chemical Society. He was a member of the Brookhaven Council from 1965 to 1967.

Dr. Steele has published more than 35 papers on the metabolism of glucose, and authored a recently-published textbook on Tracer Probes in Steady State Systems. His research work has been in endocrinology and metabolism.

Dr. Steele is survived by his wife, Irene, of Arthur Avenue, Blue Point, N.Y.; his daughter, Patricia of Kansas City, Missouri; his mother, Eileen French Steele, and his sister, Jean Burdge, both of Long Beach, California.

Burial arrangements were private, the family requesting that a charitable contribution be made in lieu of flowers.

Arrivals & Departures

Arrivals

- Salvador R. Bozzo..... Applied Science
- Ronald E. Meyers..... Applied Science

Departures

- Edward W. Heins..... Accelerator
- Raj Kishore..... Chemistry
- Matilda J. Wimbush..... Accelerator

In Memoriam

Melvin E. Griffing, who has been employed at Brookhaven National Laboratory in the Mechanical Engineering Division since 3-31-52, died 1-22-74.

EMERGENCY PHONE NUMBERS

- Medical 2222
- Fire 3333
- Police 4444

Tax Pamphlet Now On Sale

Publication 17, *Your Federal Income Tax, 1974 Edition*, for use in preparing 1973 individual returns, is now on sale at the Upton Post Office at \$1.00 per copy.

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AUI Trustees Tour



Before attending a meeting of the Board of Trustees of Associated Universities, Inc. on January 17, members were taken on a tour of the Biology and Medical Departments. Dr. Harold Siegelman, Chairman of the Biology Department (above) showed growth chambers to Dr. Leo Manansky, U. of Penn.; Dr. Geoffrey Burbidge, U. of California, San Diego; and Dr. Harry Woolf, Johns Hopkins. In the Medical Department (below) Herbert Susskind, DAS, demonstrates a spirometer which is being explained by Dr. Harold Atkins (left). Watching are LaRoy B. Thompson, Chairman of the AUI Trustees; Dr. Carl Chambers, U. of Penn.; Dr. Francis Low, MIT; and Dr. Harrison Shull, Indiana University. At a luncheon following their meeting, the Trustees were served Star Ruby grapefruit (left) which was sent to the meeting by C.O. Foster, of Elsa, Texas. The Star Ruby was developed from seeds that were irradiated in the Biology Department more than a decade ago, and is only now coming into commercial production. Ollie Henningsen of the Cafeteria staff prepared the grapefruit for serving.



Volleyball News

Joe Mead

The first round is finished with a tie for first place in the Men's League between the Cool Tools and the Spikers. Playoff date will be determined later.

First round results Mixed League action shows the Playmates sporting first place with a perfect record of 15-0.

The Men's League is interviewing all qualified persons who can referee games on Wednesday evenings. If you are interested, we need you. Please call Masaki Suenaga on ext. 3525. No discrimination - male or female may apply.

The Men's League has also revised its schedule, all games are early - 5:30 p.m. Team captains to receive new schedules shortly.

Standings For Second Round (including week of 1/13)

Men's League	W L		Mixed League	W L	
	W	L		W	L
Spikers	3	0	Playmates	3	0
Cool Tools	2	1	Sparks	3	0
Circuits	1	2	Trolls	2	1
Atom Spikers	0	3	Spikers	1	2
76'ers	0	0	Nuts & Bolts	0	3
			Active Sites	0	3

Be An Expert Skipper In Free USPS Classes

Enroll now in the next U.S. Power Squadron class for more fun from safe boating. Expert skippers in your area volunteer to teach you, free of charge, the boating skills you must possess for safety on the water. The free course consists of approximately 12 evening lectures at 2 hours each.

Squadrons holding classes within the environ of the Laboratory are the following:

East Hampton Squadron - East Hampton High School, January 8, 8 p.m.; 668-3017.

Peconic Bay Squadron - Southold High School, February 5, 8 p.m.; Westhampton Beach High School, February 6, 8 p.m.; 298-4363.

Old Field Point Squadron - Rocky Point High School, January 29, 8 p.m.; Vandermeulen High School, Port Jefferson, January 23, 8 p.m.; Newfield High School, Selden, February 26, 8 p.m.; 751-8355.

Patchogue Bay Squadron - Sachem High School, Ronkonkoma, February 4, 8 p.m.; 475-8240.

Smithtown Bay Squadron - Sweetbriar Elementary School, Smithtown, January 22, 8 p.m.; 724-0433.

Neptune Squadron - John Glenn High School, E. Northport, January 21, 8 p.m.; Walt Whitman High School, Huntington, January 22, 8 p.m.; 864-8725.

Great South Bay Squadron - North Babylon High School, February 25, 8 p.m.; 277-9696.

Captree Squadron - Lindenhurst Jr. High School, February 13, 8 p.m.; 249-5869.

For additional information, call (toll free) 800-243-6000.

Medicare Reminder

Employees are reminded that their dependents who are eligible for Medicare upon reaching age 65 or because of a disability, are not insured under the Laboratory's Group Medical Insurance Plan for active employees. These individuals are provided at no cost, with the Laboratory's Medicare Major Medical Benefits Insurance Plan, which covers certain expenses not covered by either Medicare Part A or B.

Employees' spouses who are nearing or have reached age 65, should contact their nearest Social Security Office to enroll in Medicare if they have not already done so. The Laboratory's medical insurance coverage for such dependents is based on the assumption that they are eligible to collect benefits under Parts A and B of Medicare.

An individual's Medicare enrollment period is seven months long, extending from the third month prior to the month in which he reaches age 65 to the third month following the month of his 65th birthday.

For additional information contact Personnel Services, extension 2877.

It's the Law

Almost one thousand pedestrians were struck by motor vehicles in Suffolk County during 1972. The majority of these pedestrians were children and teenagers.

Let this be a reminder to parents of what the law states concerning pedestrians in the roadway: "Where sidewalks are provided and they may be used with safety, it shall be unlawful for any pedestrian to walk along and upon an adjacent roadway."

Hockey Tickets

The New York Islander hockey team still has sixteen games to play in the Nassau Coliseum before the end of the season. Fortunately for you but unfortunately for BERA, tickets are available at the BERA Sales and Service Office in the Cafeteria for eleven of these games.

Some day this hockey team will be a contender in the NHL and good seats like ours will be at a premium. If we don't support the team now, it is doubtful that BERA will be able to offer these seats in future years. There are many hockey fans on site who plan to get tickets but never do, so now is the hour - tomorrow may be too late.

—Charles Flood

Bowling News

Grace Fales

Red League

The bowling "2nd Season" started with the Old Timers taking 11 points, paced by R. Nelson's 243/623 scratch series. The Sparks also won 11 points, led by E. Reams' 241/690 gross series. Other highs were W. Reams 215, J. Ferrante 201, V. Bilms 211, and R. Wilson 203.

Green League

The start of the second half of bowling found most teams in better spirits. For the teams who finished from 2nd thru 8th place in the first half, a new chance for first place is available. Only the Bio Rads managed to win 11 points, over the Designers' 200's for the night were rolled by R. Meier 214, S. Kiss 214, L. Jacobsen 212, R. Jones 212, N. Parrinello 203, M. Bull 202, and H. Marshall 201.

Pink League

After two weeks into the second half, two teams are fighting for eighth place. High games were H. Caisey 180, R. Rosati 168, M. Stoeckel 168, K. Hunt 165, and H. Keeley 165.

Black and Blue League

After a three week vacation, it was back to Port Jeff Bowl. Midway through the second third the Pinheads are leading the pack, with only 5 points separating the first five teams. Lou Totans deserves an honorable mention for his efforts to convert some very difficult splits. High games for the night: Lew Jacobsen 251/620, Marge Nekerman 165/188.

Rifle & Pistol Club

The regular February meeting of the Rifle & Pistol Club has been changed to February 6th.

On February 13th, two movies, entitled "Skeet Well" and "The Call of the Clay Bird" will be shown.

Both meeting and movie showing will be held at the usual place and time.

Cafeteria Menu

Week Ending February 1, 1974

Monday, January 28	
Cream of Tomato Soup	
Meat Loaf & 1 Veg.	1.00
Beef Ravioli & 1 Veg.	1.00
Tuesday, January 29	
Navy Bean Soup	
Spanish Omelet w/French Fries	.95
Barbequed Breast of Lamb & 1 Veg.	1.10
Wednesday, January 30	
Beef Barley Broth	
Shrimp Chow Mein on Rice	1.10
Roast Fresh Ham & 1 Veg.	1.10
Thursday, January 31	
Turkey Noodle Soup	
Broiled Chicken Livers & 1 Veg.	1.00
Braised Beef a la Mode & 1 Veg.	1.20
Friday, February 1	
Clam & Celery Bisque	
Baked Fillet & 1 Veg.	1.05
Spaghetti w/Meat Sauce	.95

Soccer

Ken Batchelor

After 6 weeks of play in the soccer indoor competition, Physics has taken a commanding lead in the standings with a record of nine victories and three ties. However, the competition is getting keener week by week as can be seen by the fact that the strong Physics team has tied 3 out of the last 4 games played. Ten more weeks of play are scheduled so why not come out to support your team. The Biology/Chemistry and DAS/Medical teams would welcome additional players to their rosters and it is not necessary for you to be in those departments to qualify for their teams. If you are interested in joining the teams, either contact one of the team captains listed below or just come along to the Gymnasium on Friday evening at 5:15 p.m.

League Standings

	W	L	T	Goals		Pts.
				F	A	
Physics	9	0	3	29	11	21
Make-Ups	5	4	3	23	9	13
AGS	4	6	2	24	27	10
Bio/Chem	3	7	2	14	26	8
DAS/Med	2	8	2	13	30	6

Leading goal scorers: Oldham 11; Murtagh 10; Schoen 10; Batchelor 9; Gilletly 9; Farrell 6; Meyers 6; Cox 5; Kjemis 5.

Team Captains:

AGS - Ken Batchelor, ext. 4592
 Physics - Dave Cox, ext. 3818 or 3844
 Bio/Chem - John Barker, ext. 4372
 DAS/Med - Ralph Fairchild, ext. 3649 or 3673

Stony Brook Union Offers 30 Workshops

If you made a New Year's resolution to learn something just for the fun of it this year, the Union at the State University of New York at Stony Brook is sponsoring a program of skills and crafts workshops this Spring that gives you more than 30 reasons why you should keep that promise to yourself.

Painting, pottery, Middle Eastern dancing, macrame, leathercraft, patchwork and quilting, Japanese flower arranging, flight instruction, metal enameling, silkscreening, jewelry making, metal sculpture, wood working - these are just some of the many enjoyable, practical and interesting workshops open to community residents this semester.

Two others, "The Art of Walking and Camping" and "Bicycle Touring and Camping," provide options to the energy crisis, while "Astronomy" and "Astrology and Human Understanding" offer two views of the skies.

"From Junk to Junque" offers ideas for turning discarded items into beautiful antiques, and "Decorating on a Shoe String" explains how to make the most out of a room's shape and space with professional decorating tips that won't bankrupt you.

Advertising directions, basic darkroom techniques, basic handwriting analysis, magic, beyond snapshots (a beginner's photography course), bicycle repair, introduction to gardening, Japanese calligraphy and brush painting, natural cosmetics and skin care, shells - gifts from the sea, and Tai Chi Chaun (an ancient Chinese system of exercise) complete the list of workshop offerings.

Most of the Union Workshops will begin during the first weeks of February (a few will begin in early March), and will be held during weekday/evening hours. Saturday workshops will be "Advertising Directions," "Decorating on a Shoe String," "Introduction to Gardening," and "Pottery."

Workshops run from 90 minutes to 3 hours and are scheduled for 6 to 12 sessions depending on the subject. For a descriptive brochure on "Workshops '74" listing costs and times call 246-7107, 3657, or 3515.

Workshop registration will take place on the second floor of the Stony Brook Union from 1-7 p.m. and Monday, January 28, from 3-8 p.m. on Tuesday, January 29, and from 5-8 p.m. on Wednesday, January 30.

Classified Advertisements

Autos & Auto Supplies

55 CAMINO TRUCK - Good running cond, good rubber, brakes; must be seen. R. Dee, Ext. 2333.

TIRE - Uniroyal Lorado 8.55x14, \$15; Empire Premium 78, G78-14, \$20; trailer hitch, fits 71-73 Mercury Montegos, \$20; GM rims w/2-15/16 center hole, \$5 ea. Dale, Ext. 2022, 281-8579.

HOOKER 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 spring) for 396, \$25. Claire, Ext. 2346, 281-8306 after 5.

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.

SKID CHAINS - For 7.35/7.75x14 tires, new. Ken, Ext. 4407.

69 CHEVY WAGON - Townsman, ps, auto trans, V8, 16-18 mpg, 55,000 orig mi, excel in & out. Pete, 744-3807.

69 PLYMOUTH FURY III - 4 dr hdtp, ps/pb, vinyl top, excel cond. \$900. 286-3540 eves.

63 DODGE DART - 6 cyl, auto trans, ps, new batt, snows, good running cond, body not so good. \$150. Betty, Ext. 3156; Tony, 929-6144.

65 FALCON WAGON - \$125. Ext. 4452/4796.

FREE - Compl rear axle/differential assembly for '67-'69 Dodge or Plymouth, or use to make trailer. 473-7534.

72 CHRYSLER NEWPORT CUSTOM - 4 dr, charcoal gray, r/h, air cond, pdb, ps, mint, just had major tuneup. A.P. Francois, Ext. 2898.

Boats & Marine Supplies

1968 MOHAWK FIBERGLASS RUNABOUT - W/1971 Johnson 40 hp elec, 1973 Dilly trailer, extras. \$700. George, Ext. 2486, 727-7724 eves.

20' GARVEY UTIL/CLAMBOAT 1974 - Fiberglass seams, oak & plywood, new. \$565. 732-3296 after 6.

25' TROJAN FIBERGLASS CRUISER 1970 - Sleeps 4, 200 hp V8 Chrysler, 200 hrs on eng, fresh water cooled, monomatic head. \$6500 firm. 286-0054 after 6.

Miscellaneous

BOY SCOUT SHIRT - Pants, hat & scarf, size 12, \$6; Welbilt portable elec dryer, used only 4 times, \$60. Ginny, 475-7227.

GIRL'S FIGURE SKATES - Size 3, white, lined, nearly new. G. Raynor, Ext. 2268.

ROYAL STANDARD TYPEWRITER - Good cond, \$15; movie projector, 8 mm, \$8. 473-3986 eves.

NEW GE BUFFET ELEC SKILLET - Won as premium, still in carton, will sell to best reasonable offer. 286-1493 eves.

OLD MAHOG DRESSER - Heavy, has dull finish, 40; 4 old din rm chairs, high back, leather seats, \$30. 727-1617.

ICE SKATES - Girl's figure, size 2, good cond; boys' figure size 6, fair cond. Ext. 4009.

21 CU FT UPRIGHT FREEZER - White, excel cond. \$350. 924-5072 Thurs-Sun eves.

JUMPER DRESSES - Wool, fully lined, like new, \$7; jackets to match, fully lined, \$4 & \$6, size 11-13. Marie, Ext. 2313, 744-2004 after 5.

BEIGE CORDUROY COAT - Alpaca lined w/hood, like new, size 11-12. \$7. Marie, Ext. 2313, 744-2004 after 5.

DRESSES - Spring & summer, like new, washable, cotton & orlon. \$3, or best offer for the lot. Marie, Ext. 2313, 744-2004 after 5.

4'x7' POOL TABLE - Needs some work, \$15; Heathkit scope, \$10; boy's size 2 ice skates, like new, \$4. Ext. 4243, 281-5050 after 6.

GIRL'S WHITE FIGURE SKATES - Size 1, new cond. \$10. Dick, Ext. 3534, 941-3609.

BOOTS - Blk buckle overshoes & white shoe boots, size 8, \$2.50 ea; brass curtain rods, 2 dbl window, 1 single window, w/rings, \$6. J. Olson, 289-8629 after 3.

CHILDREN'S SKI BOOTS - Size 13, \$5; size 3, \$8; children's skates, size 1 & 2, \$1.50 ea. 286-3709.

YAMAHA CONSOLE PIANO - European contemporary, \$1000; student desk, \$15; 24" Rollfast girl's bike, \$30; 20" stingray, \$28. 286-3709.

STEREO SYS - New, less than 3 mos old, Rotel am/fm stereo rcvr amp, Jensen spkrs, Garrard turntable. \$150. Bob, Ext. 3747 after 4.

TV - 1973 Sylvania portable, 16" b/w new, used only 2 mos, best rating by Sept '73 Consumer's Union \$100. Bob, Ext. 3747 after 4.

1 PR FIBERGLASS SKIIS - 200 cm, & safety straps. \$20. B. Beuhler, Ext. 4324.

SKI - W/2 pr boots, all new, used only once. \$80. Ext. 3084.

DANISH IMPORT RUG - 8½x11½, 4 mos old, orig \$289, now \$145; red velvet swivel chair, now \$50; 6' wine rack, \$50. 286-8517 after 5:30.

MEDITERRANEAN COCKTAIL TABLE - Matching end tables, beautiful, less than 6 mos old, orig \$89 ea, now \$60 ea, \$170/3 pcs. 286-8517 after 5:30.

CDE ANTENNA ROTOR - 10' tripod w/ball bearing mast guides. \$35. 286-3377 eves.

Classified Advertisements

ORLON YARN - All colors, will deliver to Lab or pick up at my home. \$2.50/lb. Ann, Ext. 3143, 732-9384 after 6.

SKI BINDINGS - Like new, \$12; shotgun, Savage 12 ga pump, like new, \$75. John, Ext. 3354.

ELEC CIRCUIT BREAKER BOX - W/7 circuit breakers, 1-20 amp, 6-15 amp. \$15. Bill, Ext. 3354.

PROPANE TANK - 30 lb cap, w/gauge, horiz or vert mount. \$15. Jack, Ext. 3464.

LADIES' BOWLING BALL - 12 lbs, used once, drilled for med hand. \$12. Carsten, Ext. 3593.

HUNTING BOW - Stemmler 45 lb, \$25; Valor 2 1/2 pwr rifle scope, \$10. Stan, Ext. 3284.

TREADLE SINGER SEWING MACHINE - Older refig, works well; GE hairsetter; Lady Sunbeam shaver; both almost new. Ext. 4280.

WHITE'S CONSOLE SEWING MACHINE - \$40. C. Fink, 472-1562 after 6.

PHILCO 23" TV - B/w console, very good cond. \$75. 281-7844.

ANTIQUE OAK DRESSER - W/mirror, refinished, excel cond. 363-6597.

SM WRITING TABLE - Drawer & pull-out slab, \$3; table w/shelf, \$5; sm table w/shelf, \$2. 281-7844.

GE REFRIG - 12 cu ft, 2 1/2 yrs old, 1 dr, top freezer, avocado. \$90. 928-4527.

MISS'S BORGANA JACKET - White, size 10. \$15. Ext. 3397.

GIRL'S WHITE COAT - Size 14, "Weather Winkie," blue & gold plaid, creme pile lining & trim, worn 1/2 season, outgrown, like new, cleaned. \$35. Mrs. Levy, LT9-2114.

GIRL'S SHOE ICE SKATES - Dbl runner, size 12. \$2. Ginny, 475-7227.

BROWNIE UNIFORM - W/hat, tie & belt, size 6X. \$4. Ginny, 475-7227.

DINETTE - Walnut formica, 1 leaf, 6 chairs, excel cond. \$50. Don, Ext. 2043, 543-4866.

DWYER EFFICIENCY KITCHEN - Stove, refig, sink, cabinets, almost new; perf for campers, mobile homes, effi apts. \$350 firm. 928-5185.

FREE PUPPIES - Female, part German Shepherd, 8 wks old. Skalyo, 281-8165.

K&E BUILDERS TRANSIT - \$130; Brunning level, \$80; Leica IIF, 50 mm F3.5 Elmar, excel cond, \$125; Leica-meter clipon, \$10. Ext. 4058, 286-0436.

ICE SKATES - Boy's hockey, size 3, excel cond. \$5. Ext. 4266.

KITCHEN SET - 4 chairs & table, all wood, maple finish or can be refinished to your taste. \$50. Ext. 2043.

21" GE TV - B/w, excel working cond. \$40. Ext. 4367.

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

SALE/RENT - 2 bedrm beach house w/fireplace, located directly on beach, North Shore location, fully furn & equipped, 20 min from Lab. 928-0297, 928-0950.

SHOREHAM - 3 bedrm ranch, 2 baths, liv rm, lg fam rm/fireplace, formal din rm, att garage, in-ground 16'x32' swimming pool, many extras. \$46,000. 744-8418, 744-8949.

LEISURE VILLAGE AT SHOREHAM CONDOMINIUM - Winfield model, across from Recreation Center, 2 bedrms, 2 baths, 7 rms, 9-hole golf course on site, pool, many extras, must see. 744-2004 after 5:30.

OAKDALE - 3 bedrm ranch, att garage, 2 baths, fin bsmt, central air cond, low taxes. Ext. 2311, 589-5951.

For Rent

BELLPORT VILLAGE - Unfurn, 2 bedrms, 1 bath, gar, fireplace, washer & dryer, located on Brookside Ave off bay. \$275/mo. J. Evans, Ext. 4321.

SHIRLEY - 2 bedrm house on water, lg kitchen & liv rm, no bsmt, immed occupancy. \$150/mo + util. 281-7763 eves.

Wanted

CAT CARRIER - 286-3709.

OLD STOCKINGS - For occupational therapy projects. Send to B. Dibble, Med. Dept, Bldg. 490.

50-100 WATT CW TRANSMITTER - All HF bands, w/VFO, Ranger II or similar, reasonable. John, Ext. 2268, 2821-2623 after 6.

DEHUMIDIFIER - Will pay up to \$50 for one in good operating cond. Walter, Ext. 3766.

BABYSITTER - For 9 mo old, 5 days/wk, 8-5:30, in Patchogue/Bellport area. Pauline, Ext. 3155.

STUDIO COUCH - In fairly good cond, will pay \$30. Gloria, 727-7193 after 6.

CARPETING - Green, approx 12'x18', prefer shag, must be in good to excel cond, reasonable. Ext. 2882.

HOME - For Cocker Spaniel about 2 yrs old, has papers. Julie, 269-4073.

HOME - For St. Bernard pup about 10 mos old. Julie, 269-4073.

VW - Needing eng or eng work. Ext. 4058, 286-0436.

PORTABLE TYPEWRITER - Excel cond. Borg, Ext. 3623, 286-0428.

CRAB TRAPS - Any cond, free. A. Perez, Ext. 3486.

DRAFTING TABLE - Any cond. - Ray, 2952.

Lost & Found

LOST - Ankle bracelet, gold engraved w/"B&F," sentimental value. Fran, Ext. 2452.

FOUND - Female sable collie, approx 1 yr old, wearing flea collar & chain, E. Patchogue. 286-3304.

Services

OAK CORD WOOD - Split, delivered, \$65/cord; chain saw work, tree removal. 727-1329.

SNOW PLOWING - Shirley & Patchogue area. Bob, 281-8695.

DOG OBEDIENCE CLASSES - 10 wk courses for beginners & advanced, beginning 2/8. \$25. P. Warner, Ext. 4791, 727-1218.

TREE REMOVAL & CHAIN SAW WORK - Also light hauling, free estimates. Ken, 289-8212 eves.

HOME TYPING - 289-6692.

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

TAXPAYERS - Federal & State income tax forms prepared in the privacy of your home or mine. 475-8330.

HATHA YOGA FOR WOMEN - Relaxation, breath & body control through Yoga postures, sm classes, day or eve. HR2-1397.

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

ICE SKATES SHARPENED - T. Lehecka, LT9-2470.

Classified Ad Policy

Deadline is 12 noon Monday for publication Friday of the same week.

1. The Brookhaven Bulletin's classified section may be used only by active and retired Laboratory employees.
2. All items for sale or rent must be the advertiser's property.
3. Ads for material acquired for resale in association with a full or part-time business cannot be accepted.
4. Firearms offered for sale or trade may not be brought on site.
5. Ads not carried because of space restrictions will be held for publication in the next issue.
6. Ads are run only once and must be resubmitted if they are to be repeated.
7. Ads should be restricted to 20 words or less and typed or printed on the form provided, and must bear the employee's signature.

<input type="checkbox"/> For Sale: Auto & Auto Supplies <input type="checkbox"/> For Sale: Boats & Marine Supplies <input type="checkbox"/> For Sale: Miscellaneous	<input type="checkbox"/> Wanted <input type="checkbox"/> Carpools <input type="checkbox"/> Lost & Found <input type="checkbox"/> Services	Check <input checked="" type="checkbox"/> the heading applying to your ad. Print or type your ad in 20 words or less.
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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.

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(Name & Phone No. To Call)

Employee's Signature Life No. Ext.

Send to: Brookhaven Bulletin, Building 460, 40 Brookhaven Avenue [Ext. 2345].