

DNI Lecture

ISABELLE And Beyond

The past, the present and the future of giant accelerators, with emphasis on ISABELLE, will be the topic of the 162nd Brookhaven Lecture on Wednesday, December 13, at 8:00 p.m. in Berkner Hall.

Melvin Month, a physicist with the Theory Group of the ISABELLE Project's Accelerator Division, will discuss "Everything You Always Wanted To Know about ISABELLE. . . But Were Afraid to Ask." This is the second in a continuing series of lectures on ISABELLE. The first was presented in May 1977 by Project Head James Sanford.

Month will lead off with a brief account of the history of high energy physics at Brookhaven, pointing out what he says are considered the four great experiments at the AGS.

In presenting an historical perspective of the big accelerators, he will cover the weak focusing synchrotrons, with an energy range of 1-10 GeV, and the strong focusing synchrotrons which allowed an enormous extension of energy, from 25-30 GeV in the first phase to 200-500 GeV in the second phase. Now, with ISABELLE, the superconducting magnets will allow both high energy to be reached and high current to be stored. The significance of this high current is that "we will be able to study rare, exotic phenomena," says Month, "and that is the name of the game."

In a performance survey of existing and proposed high energy facilities, Month will contrast the fixed target facilities (such as the AGS), the electron-positron systems (for instance, SPEAR), and the proton-proton systems (ISABELLE). In particular he will discuss the center of mass energy each can reach and the luminosity each can attain.

Month will also explore the multifunction facility concept proposed for the Super Proton Synchrotron at CERN and for the Doubler to be installed in the Main Ring Tunnel at Fermilab.

Already, scientists are asking, is ISABELLE the last of the line? Month does not think so. He says that if the high energy physics community so wished, Brookhaven could support on site a high performance proton-proton colliding beam machine three times the size of ISABELLE at five times the energy. In short, ISABELLE could in time, be part of a Super-ISABELLE.

Month is looking forward to ISABELLE in its operational phase. Some of the challenges presented by the machine are the demand for smooth current accumulation with low radiation levels (low particle losses), storage of the beam for many hours, and a high degree of flexibility in varying

BERA Vote Results

During the recent voting on revisions to the BERA Constitution, 958 ballots were cast. The results were:

	Yes	No
Article III (Membership)	907	51
Article IV (Management)	931	27

Both revisions will therefore be incorporated in the Constitution.

The BERA Board wishes to thank all those who voted. It was gratifying to see such a solid response from the membership.

Course Change

Computer science students please note! MSC 525, Operating Systems, section 2, has been changed from Monday evenings at Stony Brook to 5:30-8:00 p.m. Tuesday at BNL. It will be taught by Prof. R. Kiebertz. Watch the Bulletin for other possible changes in the Spring schedule.

10-125-77



Melvin Month —photo by Rosen

the energy of collisions. They are working on these problems now in order to provide as smooth a path as possible for future experimenters.

A native of Montreal, Month received his Ph.D. in physics from McGill University in 1964. Following a postdoctoral appointment at the University of Illinois, Urbana, he joined the Accelerator Department at Brookhaven in 1966. He worked on problems related to the AGS until 1970 when he turned his attention to the design of ISABELLE.

A buffet supper is served at 6:30 p.m. at the Brookhaven Center before the lecture. It is convenient and many have found it a pleasant way to mingle with people from departments other than their own. Those who wish to stay after work for the buffet should make reservations in advance by calling Ext. 3541 before 5:00 p.m.

Sam Goudsmit Dies At 76

12-160-70

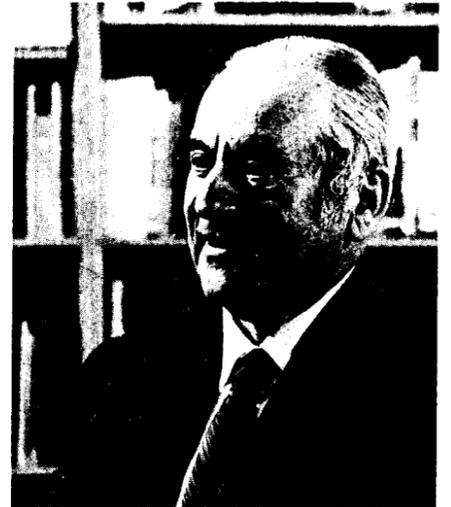
Physicist Samuel A. Goudsmit, who spent over 20 years of his career at Brookhaven, was found dead of a heart attack in his car at Reno, Nevada on December 4, at the age of 76. He had been Distinguished Visiting Professor at the University of Nevada since 1974.

Goudsmit joined the staff of the Physics Department at Brookhaven as a senior physicist in 1948 and was appointed chairman in 1952. In 1960 he assumed the deputy chairmanship and remained in that post until December 31, 1967. He retired from the Laboratory three years later.

Born in The Hague, the Netherlands, Goudsmit was educated in that country and obtained his Ph.D. in physics from the University of Leiden in 1927. While still a graduate student he and his colleague, George E. Uhlenbeck, announced the discovery of the electron spin as the source of a new quantum number. For this work he received many awards, including most recently, the National Medal of Science from President Carter in 1977.

On learning of Goudsmit's death, Laboratory Director George Vineyard said, "Goudsmit and Uhlenbeck's discovery of electron spin was one of the major events in the history of physics. Sam Goudsmit was an unforgettable person and a valued friend. I particularly treasured his delightful sense of humor. He left a strong imprint on Brookhaven and was responsible for attracting many of the key staff who have given the Laboratory its reputation."

Among Goudsmit's other contributions to the theory of atomic structure was the development of a method of handling the effects of many electrons in an atomic shell that had importance in nuclear theory. His monographs on atomic physics pro-



Samuel A. Goudsmit

vided a lucid introduction to the field for students and a source book for research workers.

In 1927, Goudsmit was offered a post as lecturer at the University of Michigan and came to the United States. Five years later he was appointed professor of physics and remained on the faculty until 1946. He also taught at Northwestern University for two years after the war. He enjoyed teaching and voiced his objection to the way physics was often taught. "To some teachers an atom is always a ball," he said. "In the winter it's a basketball, in the spring it's a baseball, and the rest of the time it's a ping-pong ball. The atom is no more explained by such images than the idea of God is by a picture of an old man with a long beard sitting on a cloud."

Taking leave from his teaching duties in 1942, Goudsmit pursued wartime research at MIT's Radiation Laboratory, where he edited secret documents and worked on the development of radar. In 1944, he was chosen to head a Scientific Intelligence Mission to Europe.

Also, the code name given to the mission, went into Europe on the heels of the invasion forces to discover what progress German physicists were making on the building of an atomic weapon. The mission, one of the more important of that time, discovered that the Germans were several years behind the Allies in this research.

It was during this time that he learned from mission intelligence the devastating news that both his parents had been killed in Nazi concentration camps. In 1945 he managed to make his way to The Hague and found his boyhood home a shambles. In the garden, "only the lilac tree was still standing," he said.

For his wartime work, Goudsmit was later awarded the Medal of Freedom and was made an Officer of the Order of the British Empire. He recounted his adventures in a book "Alsos" published in 1947.

Concurrent with his work at Brookhaven, Goudsmit was Editor of The Physical Review from 1951 to 1962 and Managing Editor of The American Physical Society from 1951 to 1965. Goudsmit founded Physical Review Letters in 1958 and served as Editor until 1974. He was Editor-in-Chief of The American Physical Society from 1966 to 1974 and then continued as an advisor to the Publications Committee of the Society.

George Trigg, Editor of Physical Review Letters, said, "It was my privilege to work very closely with Sam Goudsmit for sixteen years, in an aspect of his career that is often over-shadowed. Sam's influence on the field of publication in physics, and even in other areas of science, is not as obvious as his contributions in atomic structure, but it was no less important. He brought a streak of innovativeness into a basically conservative job; indeed, he felt that it is one of the jobs of scientific organizations to take the lead in exploring and exploiting new modes of communicating, and he persuaded the authorities of The American

(continued on page 2)



Organizers of the Minority Business Conference were, from left, Archer S. Drew, Contracts Compliance Officers of the L.I. Affirmative Action Program; Joseph Haeg, BNL; John W. Colson, Exec. Director, L.I. Affirmative Action Program; C&P Mgr. Alfred Lewis; and Business Manager, James Desmond.

Potential Suppliers Meet With Lab Staff

11-637-78

Representatives of 25 Nassau-Suffolk minority business enterprises met with Brookhaven staff members last month to learn how they might become potential suppliers to the Laboratory. The meeting was a joint undertaking of the Long Island Affirmative Action Program and BNL.

During the three-hour meeting organized by Joseph Haeg, Special Procurement Administrator, staff members of the Contracts and Procurement Division, the Supply & Materiel Division and the Department of Energy, spoke to the participants of Brookhaven's procurement plans and procedures, construction contracts,

bidding requirements, and the qualifications associated with becoming a supplier.

Most of the attendees represented small construction firms who were particularly interested in the business to be generated by the construction of ISABELLE and the National Synchrotron Light Source. Some firms had experience in bidding for government contracts and the conference was initiated to enable all participants to compete for Laboratory contracts.

A question and answer session, and group meetings devoted to specific areas of concern, followed the general briefings.



Some of the participants at the meeting. —photos by Rosen

11-639-78



Communication with highly mobile employees is made easier since the Lab has instituted the pocket pager system. Over 1550 feet away, Rhonda Dagradi, a receptionist in the Applied Mathematics Department can easily get a message to Rich Vogel, Medical. —photo by Reben

Only A Beep Away

What do the names on pages 85 and following of the BNL telephone directory have in common? Who are the elite beeper-people?

"The pocket pager or beeper is very useful," explained Communications Officer Dave Potter, "for those who aren't at one location most of the day." Since technology has made the pagers affordable, the Lab now owns and has distributed among employees some 300 units at a cost of about \$350 each.

"They're a relatively new communications item, now commonly used in industry," continued Potter. On-site, the Plant Maintenance personnel were first given pagers because they were frequently away from telephones in their daily work. Health physicists who must respond to emergencies anywhere at the Lab, at anytime, were the next group to make wide use of the system.

"Pocket pagers have grown in popularity," Potter said. Now, anyone who spends significant time away from a telephone and who must be consulted throughout the day may request a pager if his/her supervisor also deems it necessary.

The beep can be heard by the "page-ee" within a thirty-mile radius and the voice message will carry within a fifteen-mile radius. Potter demonstrated that the pagers are simple to use: if the person you wish to reach has a pocket pager number, dial 1-2-3 and you should hear beeping, then dial the three-digit number of the person

you are paging and when the second set of beeping stops, give your message into the phone. The second set of beeping is heard by the person paged and alerts him or her that a message follows. As someone speaks into the telephone, that message is simultaneously heard by the person paged: there is no recording involved.

Which, as one user of the paging system notes, is sometimes regrettable.

"During the winter, for instance, you may be all bundled up under several layers of clothing when the beeper will go off, signalling that a message soon follows. But if you're wearing the pager in your shirt pocket, chances are not good that you'll peel down in time to hear the message clearly."

Other, unforeseeable wrinkles in the pocket pager system include stories such as the one concerning a BNL employee who wore his beeper to the Islip-MacArthur Airport the day President Ford was scheduled to arrive there; as the Secret Service agents circulated among the crowds, the beeper went off and 16 guards "roughly" converged upon the originator of the suspicious sound.

"The pager is indispensable," conceded one of the beeper-people, "Prior to having one, I couldn't be anywhere near as mobile as I am now." There is one thing, though: "The beeper is indisputable," he stated, "and no matter how much you may wish to, you can't answer it back."

Science Store Gifts

This season, stuff stockings with stars that glow in the dark or prisms or gyroscopes. The Exhibit Center Science Shop will be open for holiday shopping on Thursday, December 14 and Friday, December 15 from 11:30 a.m. to 2:00 p.m. The Science Shop is located in Building 701; employees may enter through the West door.

There are over two dozen unusual gift items, from rocket ship erasers to solar energy kits ranging in price from 10¢ to \$6. On sale at special prices are pop-up polygon 1979 BNL calendars, Exhibit Center/BNL logo calendars, Exhibit Center/BNL logo iron-ons in full color and Exhibit Center/BNL tote bags.

Stony Brook Events

Saturday, December 9

Recital: Pianist Robert Zappulla, 8 p.m., Recital Hall, Fine Arts Center.

Sunday, December 10

Concert: University Chorus, 3 p.m., Recital Hall, Fine Arts Center, \$1 admission.
 Recital: Stony Brook Graduate Piano Trio, 8 p.m., Recital Hall, Fine Arts Center.
 Fourth Annual Holiday Tree Lighting Party: 4:30 p.m., Stony Brook Village Green, opp. Post Office, moving to Woods Corner at 4:50 p.m., to campus for singing, visits with Santa, refreshments at End of the Bridge Restaurant at 5:10 p.m.

Monday, December 11

Recital: "An Evening of Chamber Music," 8 p.m., Recital Hall, Fine Arts Center.

Tuesday, December 12

Film: "Zazie," 8 p.m., Stony Brook Auditorium. 50¢ admission to general public. Obtain tickets one hour before showing at Stony Brook Union Ticket Office.

Artist Series Recital: Cellist Timothy Eddy, 8 p.m., Recital Hall, Fine Arts Center. Admission: \$3.50 general public. For further information, call 246-5671.

Friday, December 15

Recital: Cellist James Kohn, 8 p.m., Recital Hall, Fine Arts Center.
 Speaker: Michal Simon, "The New Observatories," 7:30 p.m., 001 Earth and Space Sciences. Weather permitting, telescope viewing follows.

Saturday, December 16

Holiday Crafts Fair: 10 a.m. to 6 p.m., through Dec. 20, Stony Brook Union Lobby and Main Lounge. Call 246-3657 for more information.

Sunday, December 17

Messiah Sing-In: 3 p.m., Recital Hall, Fine Arts Center. Bring a score and refreshments to share. Call 246-5678 for further information.

Recital: Cellist Pamela Frame, 8 p.m., Recital Hall, Fine Arts Center.

Goudsmit Dies

(Cont'd)

Physical Society to agree. Then he found people with no stake in the old order to put his ideas into practice, and pretty much gave us our head. We knew that even if we did wrong, if it was an honest mistake Sam would stand up for us. I cannot remember his ever being uncharitable except towards people that he thought were trying to get something - tangible or intangible - that they didn't deserve."

Goudsmit was a Visiting Professor at Rockefeller University from 1957 to 1974. In addition to his other activities there, he presented "The Christmas Lectures" for young scientists and conducted a course on Egyptology, long one of his principal interests and a field to which he made significant contributions. He had a large collection of scarabs and said, "I love my scarabs because they remind me that there is a life beyond the world of physics."

Other awards received by Goudsmit included the Research Corporation Award, the Max Planck Medal of the German Physical Society and the Karl T. Compton Award for Distinguished Statesmanship in Science.

Last year, he was made a Commander of Orange-Nassau by the Dutch Government. Honorary degrees were conferred on him by Case Western Reserve University, the University of Chicago, Utah State University and Northwestern University. He was a member of the American Academy of Sciences.

Goudsmit is survived by his wife, the former Irene Rothschild, a daughter, Dr. Esther Goudsmit, associate professor of biological sciences at Oakland University, Rochester, Michigan, and a sister, Rosemarie Woudhyusen, New York City. At his request, no services will be held.

N.Y.I.T. Course Info

A review of November's survey of BNL-N.Y.I.T. students resulted in changes in undergraduate course offerings and schedules. In response to a majority of requests that some courses meet once a week for 16 weeks, three Cycle C courses, 3532 Business Law II, 2531 World History II and 3011 College Algebra and Trigonometry, are tentatively scheduled for this time frame.

For those who prefer them, there will also be a selection of accelerated eight-week courses. Among those planned for Cycle C are 2708 Government and Business, and 4420 Introduction of the Life Sciences.

Registration for next semester will be held in mid-January for classes which begin in February. Students will be notified of any change in this schedule.

Tour Rio!

Hawaiian Holidays, Inc., an associate member of NIRA, is making available a charter tour to Rio de Janeiro. Tours depart weekly from December 15 to April 27 for an eight-day, seven-night stay in Brazil's capital city. Rates from \$469 include roundtrip airfare, transfers and accommodations with private bath in one of six hotels, in addition to other program benefits.

Bookings may be made by calling (212) 687-7400 in New York State or (800) 221-2216 from other areas.

Smoke Detector Sale

The BERA Film Service & Sales Office has a limited number of Norelco smoke detectors that will be sold at a special price of \$20, including tax. The sale will begin Monday, December 11, and continue until the supply is exhausted.

Don't delay - take advantage of this special offer! Or if you already have detectors in your home, why not think of the people on your Christmas list?

The film Service Office is located in the Cafeteria and is open 9:00 a.m. to 1:00 p.m. The telephone extension is 3347.

25 Collective Nouns For Animals

Although not frequently heard in conversation, these terms are fully correct and appropriate ways of describing the animals listed.

- | | |
|-----------------------------|-----------------------------|
| 1. A murder of crows | 14. A drift of hogs |
| 2. A clowder of cats | 15. A charm of finches |
| 3. A leap of leopards | 16. A trip of goats |
| 4. A sloath of bears | 17. A knot of toads |
| 5. A rafter of turkeys | 18. A shrewdness of apes |
| 6. A smack of jellyfish | 19. A parliament of owls |
| 7. A skulk of foxes | 20. A troop of kangaroos |
| 8. A labor of moles | 21. A gaggle of geese |
| 9. A peep of chickens | 22. A pride of lions |
| 10. A crash of rhinoceroses | 23. A watch of nightingales |
| 11. A paddling of ducks | 24. A muster of peacocks |
| 12. A siege of herons | 25. An exaltation of larks |
| 13. A rag of colts | |

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Camera Club Contest Winners



Winner of the 1978 photography exhibit/contest is Richard Christensen, a relative of BNL employee Kathy Persek, Graphic Arts. He received first prize of a \$20 gift certificate from a local camera shop for his photo, "Milkwood II" (above). Second prize of a \$10 gift certificate went to Leonard Newman, Energy & Environment for "Face I." Kurt Fuchel's, "Richard Cory," was awarded third prize, a \$5 gift certificate. Honorable mention went to Kurt Fuchel for "Vatican 1978," Robert Garber for "Vermont Solitude" and Walter J. Geisbusch for "The Professor II." There were 33 entrants in the November 28-30 show in Berkner Hall. Judges for the Camera Club sponsored show were Henry Mangels, a professional L.I. photographer, and Club secretary-treasurer, Mike LeVine. The Camera Club plans a similar exhibit/contest for the Spring.

BROOKHAVEN BULLETIN

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In Celebration Of Important Anniversaries

About 200 people came to the Brookhaven Center on Tuesday for cocktails and dancing in honor of those celebrating 25 and 30-year anniversaries. This year, 33 employees could claim 25 years at the Lab, and 54 have worked here for 30 years. As Dr. Vineyard noted in his welcoming remarks, a lot of things have changed since 1948. Then, the Lab had 1342 employees and a budget of \$6,756,000. Today, the number of employees has almost tripled and the budget stands at \$114,458,000.

—photos by Reben



Decorate Page One

It would be appreciated if anyone planning to submit photographs of holiday or winter scenes for the December 22 issue of the *Bulletin*, would please notify us on Ext. 2345. It will help us plan ahead.

Cooking Exchange

Give a gift of sharing this holiday season. Make your own hand dipped candies, chocolate truffles, almond flavored marzipan and toffees to give family and friends. If you have a favorite candy recipe you would like to send us please call Mrs. Sabena Pfeifer, 345-3118.

The Cooking Exchange invites all its members and their spouses to its Christmas Party on December 19, 1978 from 5:00-7:00 at the Recreation Building. An entrance fee of \$1.00 a couple will include punches and babysitting. Each couple is required to provide one hors d'oeuvre sufficient for twelve. Please call Elaine Lowenstein 286-2788, Sabena Pfeifer 345-3118, Linda Humphrey 286-0925, Wendy Green 878-8952, or Julia Walenta 928-4926, to tell us what you're bringing to avoid duplicates.

Arrivals & Departures

Arrivals

Albert J. Cimmino.....Accelerator
Gideon Engler.....Physics
Richard L. Greene.....Physics
George T. Harrison.....Plant Engrg.
Kurt Hillman.....Accelerator

Departures

Inder P. Bhasin.....Energy & Env.
Jack W. Davidoff.....Energy & Env.
Eleanor L. Di Vittorio.....Supply & Materiel
Arnold Dubow.....Nuclear Energy
John D. Dunn.....Physics
Michael J. Hersh.....Ph. & Gr. Arts
Aleksandar T. Hrisoho.....Instrumentation
Peter K. Van Slyke.....Biology

Oh Come All Ye . . .

Faithful BNL singers! The Christmas Carolers invite employees to join them at noon on Monday, December 11 and 18 in Berkner Hall as they rehearse traditional Christmas music.

The Carolers will present their annual concert in the cafeteria at lunchtime, Thursday, December 21. On that day, the cafeteria staff will prepare a special holiday menu. Later that afternoon, the Carolers will perform for patients at the Medical Research Hospital and complete their tour at the Director's Office.

Join the Carolers, in the meantime, Monday, December 11 and 18, as they rehearse under the direction of John Weeks for the December 21 concert.

New York Train Trip

The Hospitality Committee is planning a group railroad trip to the city on Wednesday, December 20. Departure will be at 8:28 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, no later than Thursday, December 14. 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 by Friday, December 15.

The Force And I

A special Holiday Treat for one and all will be held on Friday evening, December 15th, in the North Room of the Center at 8 p.m.

The BERA Theater Group courageously presents "The Force and I," based on Star Wars, starring Darth Vader, Ben Kenobi, Princess Leia, Luke, Han Solo, Chewbacca, R2D2, C3PO and a cast of thousands of little Jawas and robots singing and dancing their way into your hearts.

The Force will get you if you miss this splendid evening. All are welcome and it's FREE!

Concert Reminder

The Graduate Student Trio of the Music Department of the State University at Stony Brook will present a free concert of works by Haydn, Shostakovich and Brahms in Berkner Hall on Friday, December 8, at 8:30 p.m.

Bowling

Pink League

Pat Jencius had her best night of the season with the high game of 183 and high series of 476. The only other high game to report was Helen Keeley with a 171.

With three more nights before position night, the standings are becoming very interesting. The Pinsplitters are in first with 45 points, the No Names 44, Blake's Bellyaches 40 and the Lickety Splits with 39.

Congrats to Audrey Blake who won the turkey with her 598 gross series.

Red League

The Sandbaggers won 7-4 over the Old Timers. "Hungry" Bob Jones (209) had a 589-658 series to win the annual bird. This Isa Team took the 76'ers 8-3. J. Morris bowled great (207-210) with a 608-656 series and missed the turkey by 2 pins. R. Larsen had a 203.

The Freon Loaders took 8 in a match with the Cosmos. F. Powers had a shot at the bird also, with 646 gross pins. The Designers came away with 4 in a match with the Dyno-Mites. D. Hayslip had a 620 gross series. The Anachems only managed 3 against the Blue Jays.

Theatre-Group Tryouts

Auditions for the Neil Simon play, "The Gingerbread Lady," will be held in Berkner Hall, Monday, December 18 and Wednesday, December 20, at 8:00 p.m. This drama-comedy, in which Maureen Stapleton played the title role in the original production, requires three men and three women. Roles include The Gingerbread Lady's friend Jimmy, her girl friend Toby, a former hippy lover, her daughter and a delivery boy.

Everyone is invited to try out. The Theatre Group also seeks back-stage help.

Aviation Club

The next Club meeting will be on December 13, in Room A, Berkner Hall, at 1715. Officers will be elected for the 1979 calendar year.

Following the business meeting, Edwin Rogers will give a presentation on the "Joys of Hang Gliding."

Purple & White League

The Flounders moved into first place with the Good Times and the Diamonds tied for second.

Ken Asselta had high game and high series for the men 193/191/236 for a 620 series, and for the ladies Lillian Cahill 193/177 for a 525 series. Other good games were Gerrie Riker 176, Dick Murgatroyd 201, Charles Tomesch 200, Ed Meier 197/182/222 - 581 series, Bob Jones 201/204/207 - 612 series.

Green League

The Sparks came bouncing back as they took eleven from the Trouble Shooters. W. Kristiansen had 208, while for the losers, H. Arnesen had a 202. The second place Old Timers II could only come up with three. The Pinball Wizards battled five from the Anachems. R. Eggert had a 201 and C. Dodge 204. The Blue Jays took eight from the Dyno-Mites. N. Parrinello had a 205. The Cosmos took five with A. Almsy having a 200.

Reminder

The Scotch Doubles will be held Sunday, December 10, 2:30 p.m. at Port Jeff Bowl. Anyone still interested in bowling should contact Carol Beckner on Ext. 3483.

Ticket Sales

The following tickets are still available at the BERA Film Service Office for Metropolitan Opera performances and N.Y. Islanders hockey games.

Opera (\$7.50 ea.)			No. Tix
12/26	Tues.	Elektra	2
12/27	Wed.	Hansel & Gretel	4
1/2	Tues.	Elektra	2
1/12	Fri.	Tosca	2
1/13	Sat.	Louisa Miller	4
1/23	Tues.	Werther	2
1/24	Wed.	Louisa Miller	6
2/13	Tues.	Ariadne auf Naxos	2
2/14	Wed.	Madam Butterfly	6
2/22	Thurs.	Ariadne auf Naxos	6
Hockey (\$9.50 ea.)			No. Tix
12/12	Tues.	Los Angeles	2
12/21	Thurs.	St. Louis	6
1/16	Tues.	Washington	6
1/30	Tues.	Minnesota	6
2/13	Tues.	Colorado	8
2/22	Thurs.	St. Louis	8
2/24	Sat.	Detroit	4
3/24	Sat.	Pittsburgh	6
4/3	Tues.	Atlanta	4

Volleyball

Mixed League

Division A

On November 27, Nuclods shone over Lookin's Good: 15-8, 15-10, 7-15. Diamonds over Popovers: Forfeit. Oceanography took all three games from the No Names: 15-6, 15-9, 15-13. Family Affair edged out Nuts & Bolts: 15-11, 15-8, 15-12.

Standings

Oceanography	15- 0
No Names	10- 5
Nuclods	9- 6
Diamonds	7- 8
Family Affair	6- 9
Nuts & Bolts	6- 9
Lookin' Good	5-10
Popovers	2-13

Division B

LeMufs over Leftovers: Forfeit. Wisa's vs Medical: Double Forfeit. Balls & Strikes beat the Nads: 6-15, 15-12, 15-10.

Standings

Balls & Strikes	11- 4
Leftovers	10- 5
Nads	9- 6
Wisa's	5-10
Medical	4-11
LeMufs	3-12

Employees' League

On November 29, the Bumps bumped out Toga: 21-16, 21-7, 19-21. Phoenix swept Atom Spikers: 21-14, 21-10, 21-19. Spikers vs Cool Tools: Postponed.

Standings

	W	L	Pct.
Spikers	9	0	1.000
Bumps	10	2	.833
Toga	7	8	.467
Phoenix	6	9	.400
Atom Spikers	5	10	.333
Cool Tools	2	10	.167

Cafeteria Menu

Week Ending December 15, 1978

Monday, December 11

Navy bean soup	(cup)	.30
	(bowl)	.40
Batter fried steak w/1 veg.		1.45
Franks and beans		1.10
Hot Deli - Pastrami	(on bread)	1.15
	(on roll)	1.25

Tuesday, December 12

Cheese chowder	(cup)	.40
	(bowl)	.50
Chopped steak w/1 veg.		1.15
Short ribs of beef w/1 veg.		1.45
Hot Deli - Knockwurst	(on bread)	1.15
	(on roll)	1.25

Wednesday, December 13

Minestrone soup	(cup)	.40
	(bowl)	.50
Home-made lasagna w/1 veg.		1.35
Fried rice & pork w/Chinese noodles		1.30
Hot Deli - Italian sausage & peppers hero		1.25

Thursday, December 14

Chicken rice soup	(cup)	.30
	(bowl)	.40
Irish lamb stew		1.45
Beef liver & onions w/1 veg.		1.15
Hot Deli - Barbequed beef	(on bread)	1.15
	(on roll)	1.25

Friday, December 15

Clam & celery soup	(cup)	.40
	(bowl)	.50
Pot roast w/1 veg.		1.40
Seafood cakes & spaghetti		1.10
Hot Deli - Smoked tongue	(on bread)	1.15
	(on roll)	1.25

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. 2882.

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

840. **TECHNICIAN** - To operate copying, collating and binding machines. Experience in operating duplicating and paper handling equipment is desirable. Driver's license required. Photography and Graphic Arts Division.

841. **CONTRACTS SPECIALIST** - Requires BS degree or its equivalent capabilities. Substantial experience in all phases of procurement with emphasis on contract preparation and administration. Ability to draft RFP's and knowledge of federal procurement regulations is necessary. Contracts and Procurement Div.

842. **SENIOR EXPEDITOR** - Requires experience in ensuring the timely delivery of a broad category of materials according to purchase specifications. Accelerator Department, ISABELLE Project.

843. **COMPUTER SCIENCE ANALYST** - Requires BS in Computer Science, Physics or Applied Math or its equivalent capabilities and experience in FORTRAN and assembly languages. Will work as systems and applications programmer for time sharing systems in use at low energy physics accelerator. Experience in system level programming and data fitting techniques is desirable. Physics Department.

844. **TECHNICIAN** - AAS or equivalent capabilities in electromechanical technology with strong mechanical skills and an aptitude for careful, precise work. Knowledge of vacuum concepts and equipment and basic electronic concepts required. National Synchrotron Light Source Project.

845. **SENIOR DESIGNER** (two positions) - AAS or equivalent capabilities with demonstrated experience in the layout and detailing of precision mechanisms, weldments, vacuum components and support structures. Knowledge of materials, machine shop practice, mechanics and strength of materials desired. National Synchrotron Light Source Project.

846. **MECHANICAL ENGINEER** - BS or MS in Mechanical Engineering or its equivalent capabilities. Demonstrated experience in precision machine design, optical devices and vacuum technology. Analytical skills in heat transfer, strength of materials and vibration damping highly desirable. National Synchrotron Light Source Project.

Autos & Auto Supplies

77 PLYMOUTH FURY - wagon, a/t, p/b, p/s, radials. \$4150. Helgard, Ext. 3104.

73 RENAULT - R-12, 55,000 mi, runs well. Good tires, brakes. \$1100. Roger, Ext. 4480.

73 DODGE - 400 C.I.D. engine, H.D. towing package, adj air shocks w/compressor & reg. Excel cond, \$2000. Leo, Ext. 4688 or 475-4557 eves.

SNOW TIRES - Michelin X steel belted. New, 165SR15. 2/\$10. Ext. 4727.

TIRES - 2 steel belted radials, FR78-14 over 50,000 mi. Very good tread, \$25 each. Rickey, Ext. 2324 or 878-2705 after 7.

74 FIAT - Wagon 128, 4 spd, 45,000, good cond. Asking \$1000. Dick, Ext. 4339.

78 MUSTANG II - blk hatchback, 4 cyl, 4 spd, AM/FM, mag wheels. Must sell. \$3700. 589-0404.

73 VEGA - could use new engine. FM radio, snows, 4 spd. \$130. Joe, Ext. 4134.

PARTS - for MG Midget, wheel bearings, front suspension kit, tie rod end, starter, brushes, more; all new. \$50. Ext. 4391.

64 VW BUS - clean inside & out, new engine, seats 8. \$600 firm. Bill, Ext. 2292 or 286-0243.

TIRES - C-78-14, good cond, pair/\$25. Tim, Ext. 2060.

TIRES - 2 Firestone T&C snows, blk, G78x14, used 2 months. Both/\$62. 878-8905.

RIMS - (2) 14" 5 holes from Olds. Ben, Ext. 3392 or 475-8330.

64 NOVA - a/t, good running cond. \$350. 878-0644.

67 FORD - wagon, needs minor repairs. \$100. 698-3569.

77 PACER - wagon, a/t, radials, reclining bucket seats, insulation pkg, roof rack, AM/FM, 24,000 miles. \$3,950. John, Ext. 2070 or 283-0223.

DATSUN - rims (2), \$30, good for snows, 281-5532 eves. Lou.

MIRRORS - truck extension, two. 7x16" head, white enamel finish, like new. \$10 ea. Frank, Ext. 2534.

70 RED ROVER - 3500S. Completely automatic. Seen at Lindsay's garage. Hughes, (617) 227-3126.

74 COMET - 2 dr, 6 cyl, p/s, a/t, Michelin radials, very economical. Excel cond, \$2250. 283-6338 after 4.

NEW & USED TIRES - rims, repairs, radial, free instal, balance avail. Fred Usack, Ext. 4597 lunchtime or 475-4935 eves.

77 MOPED - Jawa, excel cond, extras. 473-7797 after 6.

73 DODGE - Dart, red, low mileage. Twin sonic lights, siren, plus extra lights front & rear. Includes 25 watt radio on fire band. Jerry, Ext. 2539.

TIRES - (1) HR78-14 steel belted radial, \$10. (1) HR78-14 Uniroyal snow, steel belted, \$20. (1) Philco in-dash AM pushbutton radio, \$15. Chris, Ext. 3919 or 929-3410 eves.

77 CUTLASS - Supreme, Landau, p/s, a/c, p/b, white & tan, mint cond, AM/FM, 8 track stereo, 32,000 mi. 665-4742.

VW MOTOR - rebuilt plus other VW motor parts. Will sell very cheap. 475-7668.

74 CHEVY PICKUP - 1/2-ton, 3 spd, 46,000 miles. \$2650. John, 286-9701.

VW - Superbeetle, rebuilt eng, still on guar., good tires, clean. \$1650. 289-7383 anytime.

69 PLYMOUTH - Fury II, 318 cu. in., sedan, fair shape, body rust. \$225. Gene Rohde, 363-9527.

64 MERCURY - Comet, a/t, p/s, radio, rec. tune-up, many new parts, runs well, 4 good tires, 2 mounted snows. \$200 takes. John, Ext. 4691.

74 FIREBIRD - 68,000 miles, 6 cyl, a/t, silver w/blk int, p/s, p/b, AM radio, rally whls, white lettered tires. \$2750. Mike, Ext. 7941.

74 NOVA - hatchback, 6 cyl, a/t, p/s, 59,000. \$1500. Okuno, Ext. 4261 or 3071.

73 BUICK - Electra, 4 dr, ht. \$1500. 727-5478.

RIM - 7.50 Goodyear w/rim for Chrysler station wagon, \$10. E70-14; D78-14, \$3. Sue, Ext. 4267.

TIRES - new pair of taxi "100" commercial size 7.75-15, \$25 ea. Gary, Ext. 2491

RADIO - automatic, 8 track tape deck for auto, \$20; 8 track tape deck for home, no amp. Joe Bush, Ext. 3284.

68 CHEVY - Nova, good gas mileage, new brakes, runs well. \$300. Dan, Ext. 2886 or 864-7857 eves.

78 SUBARU - 4 dr DL, 4 spd, tuff-kote, 10,000 miles. Like new, good gas mileage. \$4000. Witkover, Ext. 4607 or 368-0452.

AIR SHOCKS - Gabriel Hi-jackers, 1 month old, \$30. (2) 14" Ford wheels w/tires and chains mounted, \$10/pr. Joe, Ext. 3273.

SNOW TIRES - B78x13 on Pinto rims in very good cond. \$35. (2) H78x15 snows, will pass inspection. \$8. Bob, Ext. 4551.

SNOW TIRES - G78-14, 1 pr. 751-3014 eves or Ext. 2920, Tony.

COMPRESSION TESTER - & timing light, \$10. Ext. 2543.

PANASONIC - car radio, 12 v, AM w/speaker, excel cond, \$15. VW roof rack, \$20. Stan, Ext. 3284 or 286-1062.

76 PINTO - 2 dr, 40,000 mi, 4 cyl, \$1650. Cathy, 732-6262 eves.

71 VW - Superbeetle, all new parts, excel running cond, new tires. 821-9419.

TIRES - 2 snows, 6.00x15 on VW Squareback rims, good cond. \$25/pr. Ext. 3871.

67 FORD - Country Squire station wagon, a/t, V8, p/s. 981-2899.

76 CAPRI - 2-8, 6 cyl, 4 spd, AM/FM stereo, excel cond, garaged. 752-9113 or 757-8559 eves.

70 MAVERICK PARTS - strut rod bush, \$10, PCV \$1, Chilton manual, \$4. Ext. 4063.

SNOW TIRES - good cond, Goodyear 8.85/9.00-15, \$25/pr. Mark, Ext. 4597, 4599 or 483-6859 eves.

76 OLDS - Cutlass Supreme Brougham, mint cond, all power, a/c, AM/FM stereo, tilt wh, Landau roof, sport mirrors & wh, 39,000 mi, \$4100. Frank LaPlaca, Ext. 2461 or 331-9139 eves.

BRAKE DRUMS - set of 4, resurfaced, fits Dodge and Plymouth w/14" wheels. \$40 or best offer. Joe, Ext. 2251.

74 AUDI FOX - 76,000 mi, new valves, rings. Excel gas mileage, excel cond. \$1700. Dennis, Ext. 4382 or 3178 eves.

SUZUKI SAND BIKE - RV 90, needs parts. \$45. Call 363-6850.

Miscellaneous

HI-FI SPEAKERS - Bose 501/series I, free standing, \$250 pr or best offer. Mark, 345-2862. Rm. 5 or Ext. 4254.

CHRISTMAS TREE - artificial Scotch pine, 7', perfect, w/stand. \$15. 744-3225.

OPTIGAN ORGAN - excel cond, med. cabinet and bench, many extra features. \$250. Ext. 7752 or 289-5428.

ELEC RANGE - GE 40", white, two ovens, 25 years old, perfect working cond. Best offer. 472-1097 eves.

JALOUSIE - windows, S/S. 878-1217, M. Krupski.

TAPE RECORDER - Concord Model 747, solid state stereo, reel to reel. \$150. Jim, Ext. 4476.

ENLARGER - and darkroom supplies. Bookless, Ext. 4510.

STEREO - Soundcraftsmen PE2217, preamplifier, graphic equalizer, \$285. Jim, Ext. 2067, or 732-3136 eves.

ORCHIDS - in bloom for Christmas, different varieties, prices. Also, free rabbits, order by Dec 15. Ken, Ext. 2008 or 985-5875 eves.

TABLE - Harvest, maple, formica top, approx 4' long w/2 drop leaves. Chairs (3), hardrock maple, \$60. Ext. 4464 or 286-8374 eves.

Ads left out of this issue because of lack of space need not be re-submitted in order to run in next week's issue.

GO-CART - 6 hp, elec start, many extras. \$250. HR2-1875 eves.

SKIS - Hart w/Tyrolia bindings. \$50. Bob, Ext. 3515.

REFRIGERATOR - Norge, 22 cu. ft., '71, side-by-side, coppertone, frost free. Good cond, \$150. Pat, 929-8443.

COFFEE TABLE - Double pedestal, gold & marble-like top. \$35. 928-0297 eves.

CAMERA - continental pocket, electro flash 555. \$18. Chuck, Ext. 4481.

BICYCLE - boys' Raleigh chopper w/banana seat and sissy bar, \$25; portable 3 spd Heathkit record player, \$7.50; child's leather ski boots, \$3. Bob, Ext. 4637.

GELDING - Thorough-bred, blue ribbon winner. 9 yrs old. 862-8265.

SKI BOOTS - ladies Rieker, blue w/fur lining, 5 buckles. Must sell, excel cond. \$60. 286-1076.

FREE - puppies, German shepherd mix, healthy, ready Dec 9, will hold for Christmas. Phil, Ext. 3083 or 878-2239.

CHAIRS - (2) upholstered, \$25 ea. Castro convertible, sleeps 2, \$150. Good cond., Henry, Ext. 3084.

WASHING MACHINE - GE, needs work, \$25. 2 spd belt massager, Sears model, \$50. Kcy, Ext. 4605.

CUPS - Corning, white, open handle, 4 ea, \$5; used French purse, \$2. P. Oster, Ext. 4763.

END TABLE - Heavy pine, 27"x22", new cond, \$40. Duck decoys, plastic, \$2.50 ea. 265-1072.

HOOKE RUG - cotton, w/pad, neutral colors, 10 1/2' x 15'. Very good cond. Nancy Van't Hof, AT6-0534.

CHRISTMAS GIFTS - cassette tape recorder, \$20; Polaroid cameras, \$10, \$20; Hardy Boys books, 19/\$10; 2 Kiss tapes, \$5; 2 TO&D tapes, \$5; more. David, 473-2473.

STAMPS - U.S. Commemorative, Continental Congress, Minerals 74, Postal Union, Banking & Commerce. 10 sheets each. Best offer over face value. Ext. 4240 or 286-0295.

DRESSERS - (2), 42"W x 32"H and 32"W x 42" H w/mirror. Very good cond. \$55/all. 281-7844.

12 GAUGE - reloader "Lee Load-All" used 5 mos., \$20. Neal, Ext. 4019.

TV GAME - Odyssey 200, \$30 incl powerpack. Never used. 744-7587.

HEADBOARD - for full size bed, twin mattress, lamp, curtains, chair. All in good cond. 473-2754.

ICE SKATES - girls', size 3, Pine cobbler's bench coffee table, walnut dresser, 9x12 oval braided rug. 924-7193.

STONE MARTEN - scarf, 4 skins; white satin wedding gown plus hoop. Ext. 2260 or 286-1214.

CAMPING LANTERN - Portable Eveready, \$7; warming tray, \$3; auto egg cooker, \$3; shoulder pad gun for telephoto lens, \$2; exacta 2 1/4 bellows, \$10. Kathi, Ext. 2913.

TABLE - for kitchen and 6 chairs, \$75. Girls figure skates, size 4, never used, \$3. Bill, Ext. 4068 or 473-3171.

FIREWOOD - seasoned, 4'x8'x18", \$50. 381-8016 eves.

DINETTE CHAIRS - 4 carmel color w/saddle bag straps. \$80. 281-0843.

MANGLE - 21" roller, 1200 watts. \$15. H. Brown, Ext. 4773 or 286-9257.

WASHING MACHINE - Sears, 1 yr old, used twice, asking \$225. Tom, Ext. 3535.

STEREO - preamplifier, dynaco pat 5, factory wired, state of the art sounding preamp. Sac. \$225. 473-8426 eves.

TOYS - Playskool pet hosp, \$5; DoBee dough machine, \$3.50; Sesame St puppets, \$2; games, puzzles. 475-5150.

BICYCLES - (2), 26", 3 spd \$20 each. 286-8526 eves.

TV - GE 12" b&w, almost new, \$59. Nakahara, Ext. 2225 or 3076.

BEDROOM SET - dk wood, \$85; dresser, \$20; ice chest, \$10; bathinette, \$5; toys, games, clothes. Palais, Ext. 2913.

AM/FM STEREO - digital clock radio, music alarm, snooze-sleep features. New, Radio Shack brand. \$50. Dalal, Ext. 7751.

BEDROOM SET - complete, good cond., \$200. Nick, Ext. 2524.

DESK - office model, 60" long, blk metal w/wood-grain, formica top, 5 drawers, \$75. Julie, Ext. 2942 or 929-6460.

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

BROOKHAVEN HAMLET - 3 bdrm ranch, att gar, x-large fin bsmt, bar, 2 f/p, screened porch, new appl, extra insulation, beautiful landscaped 0.82 acre near Bay. 212-831-6157 after 6 p.m.

SHOREHAM - 4 bdrm Colonial, att 2 car garage, w/w carpeting throughout, storms & screens, 2000 sq ft of lvg space, Shoreham-Wading River School Dist. \$56,500. 744-2821.

BOHEMIA - Mobile home, 12'x60', 2 bdrms, w/w carpeting, 4 appl, tool shed, fenced patio, 50'x100' plot, quiet, family park. Must sell. 589-7067 eves.

HEAD-OF-THE-HARBOR - (St. James) Custom farm ranch, 1 mi from beach, 6 bdrms, 5 baths, 3 fp, 2+ acres heavily wooded, all appl. Must sell, price negot. 584-6058 or 981-1327.

BELLPORT - 3 bdrm, 1 bath ranch, lr w/fp, oil hot water heat, assumable 8 3/4% VA mort. \$42,500. 286-3709.

SHOREHAM VILLAGE - Lg Clarendon custom Colonial, 4 br, 2 1/2 baths, den w/fp, eik, formal d/r, 1 1/4 wooded acre, deck, walk to tennis, beach, country club. \$80,000 reduced. 744-1935.

CALVERTON - 3 br ranch, oil fired heat & water, storms & screen, fin bsmt w/bath & kit, 1 acre. \$34,000. 727-9058.

MASTIC BEACH - Long-line ranch, 2 lg br, cabinet-lined kit, formal d/r, den, full bsmt, bsbrd heat, 1/4 acre. \$27,995. 281-5498.

MORICHES - wooded 1/2 acre property, beach & marina, low taxes, will hold partial mort. 878-1912 after 6 p.m.

FLUSHING, QUEENS - 3 fmlly hse, 5, 5, 2 1/2, gar, gd cond, gd investment. \$79,500. 924-8213 after 5 p.m.

MATTITUCK - secluded 3 bdrm, 2 bath ranch in priv wooded area w/deeded beach rights, w/w carpeting, drapes, appl, fam rm w/fp, low taxes. Ext. 3559 or 298-4592 for appt.

MORICHES - Ranch, quiet & priv, water rights & water view, 4 bdrms, 2 baths, lr, dr, fp. 878-1272 after 5 p.m.

N. PATCHOGUE - 7 rm, 4 bdrm cape, 1 acre, fp, sun porch, indoor rock garden/waterfall, 2 car gar, pool, walking distance to school & shopping. Mid 50's. 286-1285.

CENTER MORICHES - 4 bdrm, 1 1/2 baths, sunken lr, fp, near water. \$43,500. 878-2196.

For Rent

SELDEN - 3 bdrm ranch, unfurn, 2 baths, full dr, full bsmt, 1 car att gar, available Jan 1, 1979. \$300/mo + util. 884-2660 after 5 p.m.

YAPHANK - Duplex apt, 2 bdrms, lr, dr, full bsmt, 5 min from Lab. \$340/mo heat incl. 581-2909.

MT. SINAI - 1 rm furn efficiency apt, priv entrance, female preferred, min 6 mo rental. 331-2779.

VERMONT CAPE - fully equipped, 3 bdrms, fp, gar, ski X-country or down hill. 732-6499 after 5:30 p.m.

WESTHAMPTON - house rental, immed occup thru 5/79. Fully furnished, eik, garage, nr stores, 15 min from Exit 70. \$175/mo plus utilities. 543-7464 eves.

Car Pools

RIDE - needed to & from Lab from Rocky Point. Will share expenses. Jayne, Ext. 4304.

DRIVER - from Bellport vicinity. Bob, Ext. 4850.

DRIVER - wanted in Smithtown-Commack area. Ext. 3268.

DRIVER - wanted to complete 5 man car pool from Huntington. lrv, Ext. 4581 or Herb, Ext. 3611.

RIDE - paying rider, from Middle Island to Stony Brook, spring semester, class MWF 9-10 a.m., flexible. 924-7756.

Wanted

TICKETS - King Tut (4). Helen, Ext. 2841.

PIANO BENCH - Ext. 3335.

SAXAPHONE - for resident of adult home. It's all he wants for Christmas. Do you have one to donate? J. Binnington, Ext. 3489.

MUSICAL TAX DEDUCTION - Bellport area group seeking used but sound/repairable musical insts for use in schools. Donation of insts are tax ded. Stewart, 286-9616.

MATURE WOMAN - to care for 15 mo boy & 9 yr boy, Center Moriches, 8-5:30 M-F, fee neg, ref req. Ext. 3325, 878-4864 after 6 p.m.

ROOMMATE - to share house in Mastic Beach. \$150/mo incl util. Don, 399-1401.

TO RENT - or possible open to buy, 2-3 bedrm house Suffolk area, pets allowed, can supply ref. K. Brunn, 584-6406.

75 DODGE - Tradesman 300 service repair manual & 76 Nova repair manual. Kathleen, Ext. 2913.

TIRE & RIM - 5:60x15, 5 hole VW Bug type, reasonable price, Ext. 3293 noon or after 5 p.m. Tony.

OLD POOL LINERS - for use in experiment, we will pick up. Ernie, Ext. 3499.

USED - split rails for fencing, also lge stones for wall. Ext. 3396.

TRAINS - Lionel any "O" gauge, cars, track & equip. Frank, Ext. 4212.

HOCKEY PADS - and equip for 15 yr old boy, in gd cond. 928-6654.

SNARE DR