

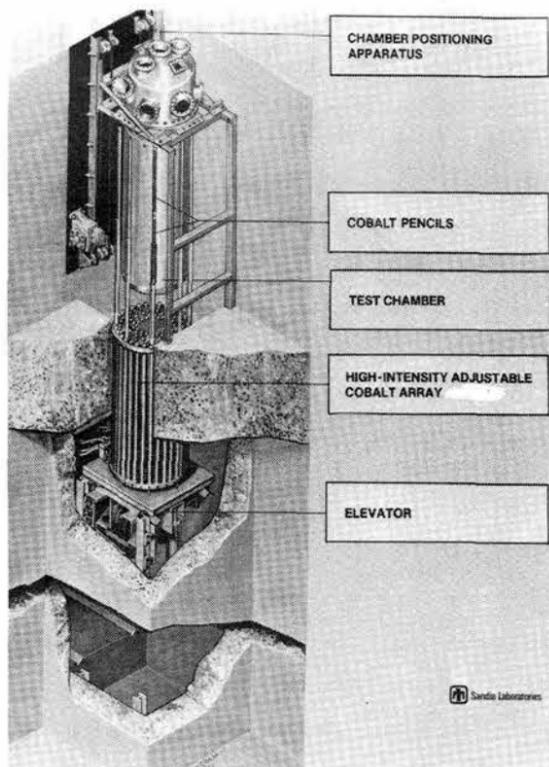


# LAB NEWS

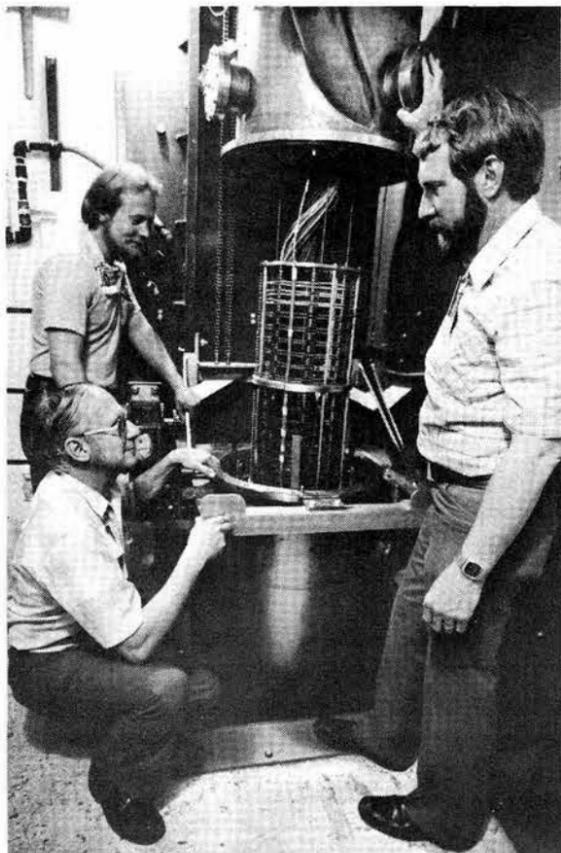
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MAY 1, 1981

SANDIA NATIONAL LABORATORIES • ALBUQUERQUE NM • LIVERMORE CALIF • TONOPAH NEV



NEW Labs facility can simultaneously subject reactor safety equipment to multiple environments—high temperature, pressure, chemical and radiation. Conditions simulate those anticipated in a loss of coolant or steam line break accident.



CHECKING OVER experiment about to be lowered into test chamber for exposure to several environments are, from left, Tim Gilmore (K-Tech/4445), John Lewin, and Frank Thome (both 4445).

## Reactor Hardware Gets Multiple Zaps In New Facility

Tests have begun in a new Labs facility which subjects light water reactor (LWR) safety equipment to the harsh temperature, pressure, chemical, and radiation environments expected during a loss of coolant or main steam line break accident.

Unlike most conventional facilities for testing LWR safety equipment, the new Sandia facility can simultaneously test items in all environmental conditions expected during deviations from normal operation. It also can perform the tests in any sequence or combination.

"Typically, reactor safety equipment has been subjected to sequential environmental tests to simulate accident conditions," says Lloyd Bonzon (4445), project leader. "The new facility should help determine whether simultaneous exposure to several accident conditions influences equipment performance differently from sequential exposure. We've already learned that the order in which tests occur influences results," he says.

Typical LWR safety equipment—transmitters, valve operators, motors, switches, and electrical terminal blocks—not only must detect the accident but also must initiate controlling actions and continue functioning in the accident environment to prevent further damage to the reactor.

A loss of coolant would occur if a pipe carrying hot, pressurized water (reactor core coolant) ruptures, allowing the coolant to escape into the containment building where it would flash to steam and cause rapid temperature and pressure increases.

If the accident progresses without

coolant, the reactor's fuel, normally submerged, could be exposed and begin to heat up. This could lead to fuel damage and release of radioactive fission products into the containment building. A steam line break would inject superheated steam directly into the building, with an otherwise similar scenario.

The new facility can expose the LWR equipment to temperatures as high as 385°F, to pressures up to 150 psig, to radiation levels which can be varied from 100 kilorads/hour to 10 megarads/hour, and to corrosive boron (contained within the cooling water) and sodium hydroxide, which is sprayed into the containment building during an accident for cooling purposes and to remove fission products from the containment atmosphere.

The facility is housed in an 8'x8'x8' concrete-walled room in the Labs' gamma irradiation facility. For a radiation exposure, cobalt-60 rods are hydraulically raised from an underwater storage area to surround the facility's stainless steel test chamber. The number of rods and the diameter of the circle they form determine the radiation dose rate.

Steam is generated in a boiler and stored in accumulators from which it can be released rapidly into the test chamber, delivering a thermal/pressure shock—in six seconds the chamber can change from ambient conditions to 325°F and 80 psig. Pressure/temperature rise and fall times can also be continually varied by motor-controlled regulators.

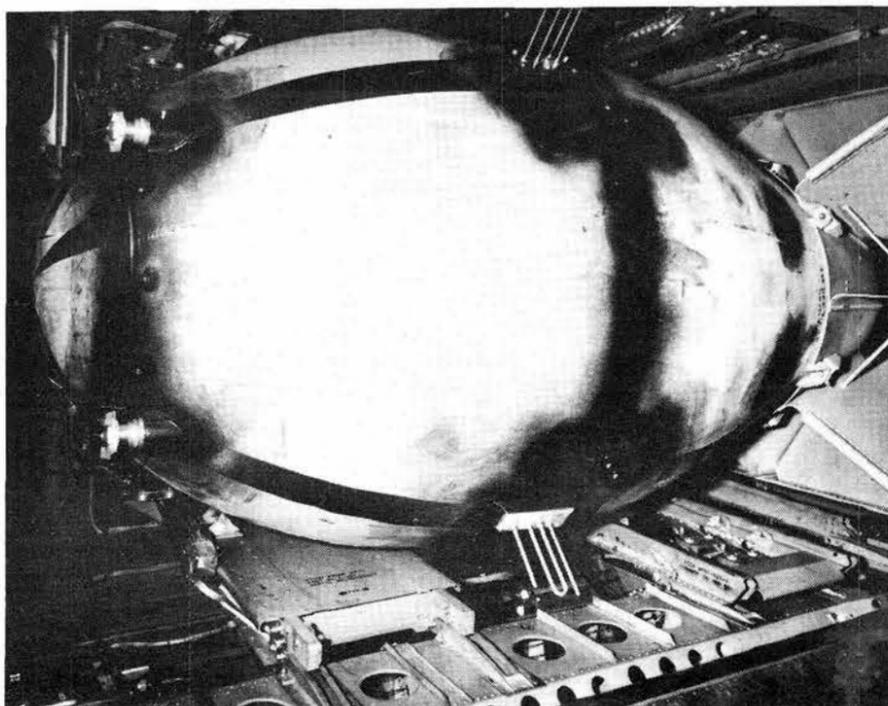
Steam also can be sent through an

[Continued on Page Seven]

### It's Fitness

### Day '81

Make the scene, have some fun, enjoy a mile-and-a-half walk/jog/run . . . music, prizes, refreshments, a speaker on fitness . . . come to the Parade Ground at noon today, May 1, bring your lunch. You can even take an extra half hour (if you participate). Bring a friend. You'll enjoy Fitness Day '81. It's staged by the Labs' Friends of Health.



FAT MAN — The bomb dropped over Nagasaki after it was loaded into the plane at Wendover, Utah. Note antennas and nose fuzes. See article on Page Seven.

# Supervisory Appointments

RIC DAVIS to supervisor of Computer Aids Systems Development Division 2424, effective April 1.

Following graduation from Northwestern with a BS in EE and an MS in industrial engineering, Ric joined Sandia as a member of the technical staff, working on the development of the Area V Data Acquisition and Display System (DADS). In 1971, as a doctoral study program participant, Ric received his PhD in computer science from Washington State University. Returning to the Labs, he worked for four years in the computing directorate and, for the past five years, has been with a Safeguards group working on development of the Experimental Computerized Alarm Display System (ECADS) project.

Ric is the past president and technical climb chairman of the NM Mountain Club, chairman of the Albuquerque Mountain Rescue Council and a member of the Sandia Peak Ski Patrol.

Ric and his wife Barbara and their children live in the mountains near Sandia Park.

\* \* \*

DON COOK to supervisor of Pulsed Power Engineering Division 4251, effective March 16.

Since coming to Sandia in September 1977, Don has had assignments with the Pulsed Power Systems Department 4250. Before joining the Labs, Don worked on the development of a high-field Tokamak design at the Francis Bitter National Magnet Laboratory and Plasma Fusion Center at M.I.T.

Don received his BS in nuclear engineering from the University of Michigan. He earned an MS in applied plasma physics and nuclear engineering and his PhD in nuclear engineering from M.I.T. in '74 and '76. He's a member of the American Physical Society and the American Nuclear Society. Off-the-job Don enjoys jogging, woodworking and camping. He and his wife Peggy and their two children live in the NE heights.



RIC DAVIS (2424) and DON COOK (4251)

## Medical Reporter

# Noon Talks Set In Go For Health Series

By Susan Harris, Sandia Medical

### Your Place In The Sun

Sunlight is clearly implicated as the major cause of most skin cancers. Its ultraviolet (UV) rays damage the skin and, after repeated damage, cells may change and become cancer cells. Because of New Mexico's high elevation, fewer UV waves are filtered out than at sea level, and a consequence is that our state has two to three times more skin cancers.

Here's what the American Cancer Society recommends to protect yourself against skin cancer:

- Avoid repeated over-exposure to the sun—especially between 10 a.m. and 3 p.m.
- Use a sunscreen or sunblock preparation to block most, or all, of UV radiation.
- Wear protective clothing such as long-sleeved shirts and wide-brimmed hats.
- Get to know your skin; see your doctor for any skin change you can't explain or which lasts over 30 days.

Most skin problems aren't skin cancer, so don't worry needlessly. When you have a question about your skin, check with your doctor. Skin cancers may appear as a rough spot that spreads, a freckle that itches, a mole that changes color, or a sore that doesn't heal. Common skin cancers are 90% curable with early detection and treatment.

Dr. J. Wendall Robison, dermatologist, is the speaker in Medical's next Go for Health program, scheduled for Tuesday, May 12. He will show slides of normal skin and of skin cancers and will discuss differences in sun protection products available today. The program will be in Bldg. 815 (outside the Tech Area) from 12-12:30 p.m.

### Trying To Be Superwoman?

Major changes are occurring in the American family. The traditional family—working father, stay-at-home mother, and one or more children—is now in the minority. A record 51% of American women work outside the home. And millions of these women are trapped in the superwoman squeeze, the constant pressure to juggle home, family, and job.

Sandia Medical, noting the results of these changes in terms of increased stress and illness, has planned a series of three lectures to look at these problems. On Thursday, May 7, Peggy Van Hulsteyn, Santa Fe business consultant, will present "He works, she works, but who does the housework?" Her presentation covers the major problems faced by working women: work overload, child care, stereotyped sex roles, lack of leisure time, and lack of career goals; the resultant emotions— anxiety, tension, and stress—will be discussed.

On Thursday, May 14, Kathleen Jackson-Miller, community education specialist and counselor with The Counseling Center in Albuquerque, will discuss "New Kinds of Families." Her presentation covers changing sex roles and single-parent families. On Thursday, May 21, Beth Moise, counselor and instructor in the school of business at UNM, will discuss "The Two Paycheck Marriage," dealing with the problems arising from two jobs or careers within one family.

All of the lectures will be in Bldg. 815 (outside the Tech Area) from 12-12:30 p.m. Following this series, Sandia Medical plans to offer programs addressed to the problems discussed in the lectures.

## LAB NEWS

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*Q. It appears that the enclosed "Property Management Communication" is a throwback to the days prior to the Sandia Bulletin when we were constantly being sent uncoordinated announcements and junk mail of one kind or another. Why can't the information presented in the Property Management Communications be integrated into the Sandia Labs Weekly Bulletin.*

*A. Department 3410 has been chartered to establish a property management awareness program. As part of the program, it was determined that a separate periodic publication should be distributed. In the near future, additional "awareness" efforts will be made through signs, posters, new-hire orientations, and short seminars for employees.*

*Prior to the publication of the Property Management Communication, announcements were put into the Sandia Labs Weekly Bulletin. Unfortunately, the necessary messages were not being seen by enough of the right people nor were they practical to file for reference. With the emphasis being placed on protection, control, and accountability of government property, it is hoped that the Property Management Communication will aid in this endeavor.*

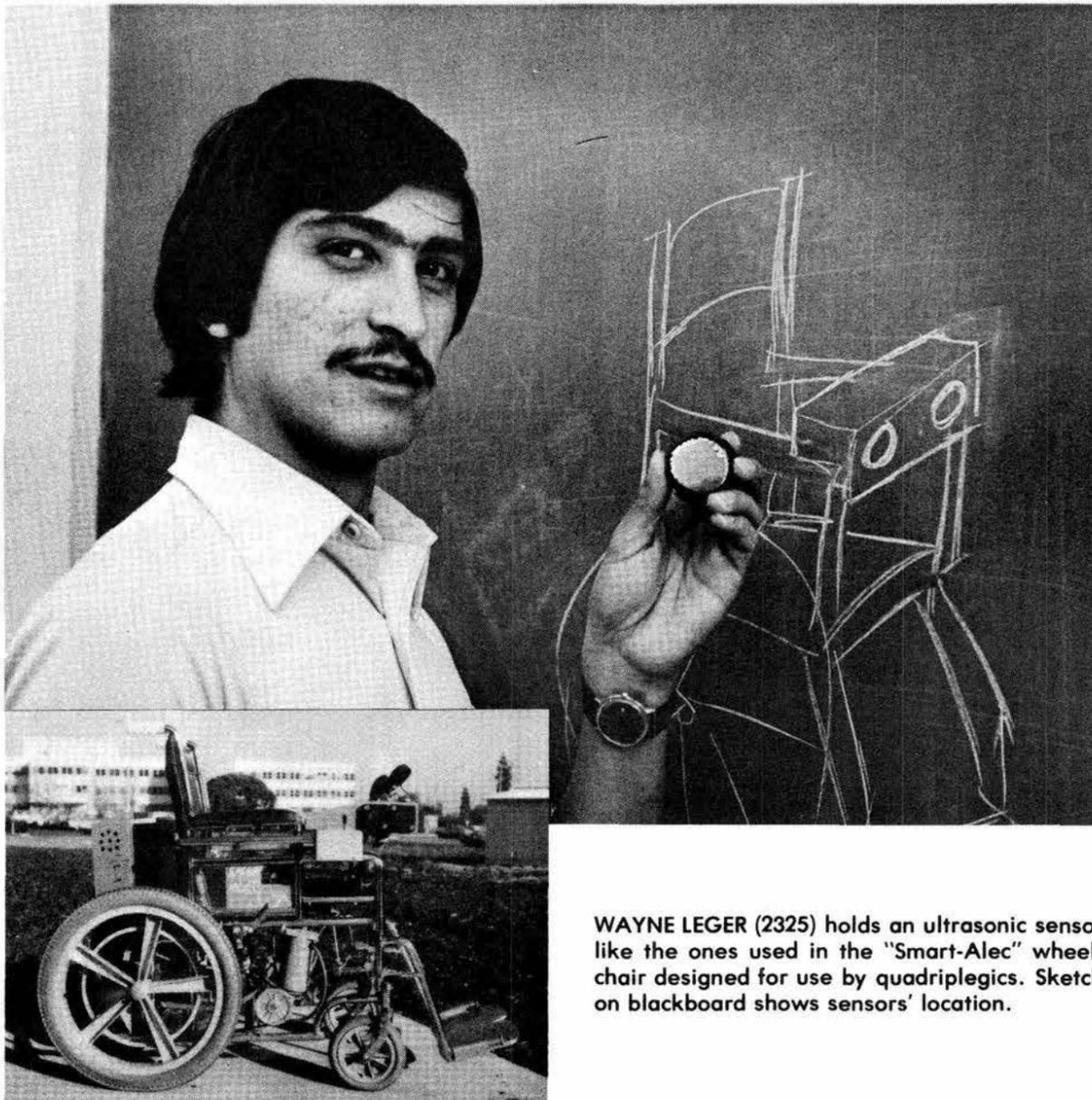
D. S. Tarbox—3400

*Q. I have just lost six hours time on my projects running around doing a job that used to be done by the expeditors before they changed the system and made them purchase analysts. We on the working and lab staffs are not up on every piece of paper needed for purchasing or returning defective equipment, etc. If the Labs really wants to cut costs, they should go back to having an expeditor for each department who can handle this paperwork much more efficiently.*

*A. Two years ago, the purchase analyst function was modified in two ways. First, the copying of information from Request for Procurement forms (RFPs) to Purchase Requisition forms (PRs) was eliminated by asking the requester to submit his information directly on the PR. The second change simply allowed the requester to use or not to use his purchase analyst since some requesters objected to having to "go through" the analyst. The time saved would allow the analyst more time to service the requester, particularly in the area of expediting. This change in routine appears to be largely successful in most areas.*

*It is difficult to clearly identify the problem in your case from your comments. You should be getting the same service now as before. Since this is evidently not the case, the situation can be corrected by calling Bob Durand, 3741 division supervisor, on 4-3851, or Bill Martin, 3740 department manager, on 4-3655 and relating the details. We would welcome the opportunity to discuss the problem with you.*

J. C. Strassel—3700



WAYNE LEGER (2325) holds an ultrasonic sensor like the ones used in the "Smart-Alec" wheelchair designed for use by quadriplegics. Sketch on blackboard shows sensors' location.

## OYOC Helps Design Space Age Wheelchair

It isn't often that a graduate engineering project not only wins an award but is also featured on national TV. That's what happened to Wayne Leger (2325) and four colleagues at Stanford University. At the time, Wayne was attending Stanford under Sandia's OYOC program.

"Our project was to develop a micro-processor-controlled electric wheelchair which could navigate itself through obstacles," Wayne tells us. "This was a completely new concept in electric wheelchairs for quadriplegics—persons paralyzed from the neck down. These people are literally immobilized, and we felt something had to be done to help alleviate their helplessness. Their paralysis is severe, but in most cases, the head isn't paralyzed which is why we chose it for control. Our system allows the user to steer the chair with head motions sensed by two Polaroid ultrasonic transducers—the kind used as automatic range finders on their cameras.

"The wheelchair operates in any of several modes including head control, wall tracking, cruise control, and stop. The user chooses a mode by speaking the appropriate word into a voice recognition unit which must be 'trained' to recognize its particular user's voice. The chair, which is powered by two dc motors, avoids objects in its path, reacting quickly enough to keep from hitting sudden intrusions—for example, a door opened suddenly. To work this quickly, it takes a sensory reading five times a second, and is capable of sensing objects five to 10 feet ahead. The wheelchair operates automatically in

crowded hallways or sidewalks, and follows a wall at a stand-off distance of at least eight inches."

The transducers are miniature radars, transmitting an ultrasonic pulse and receiving its echo. Polaroid supplied circuit diagrams for these transducers. Their sensors, however, lacked a short-range sensing capability, so the group modified the Polaroid circuits to sense objects less than a foot away.

"The class was composed of mechanical engineering majors," says Wayne. "None of us knew electronics or microprocessing, but by the end of the year a couple of us were quite knowledgeable in these fields.

"Our group named it the 'smart-alec' chair, although that's not its official name—it doesn't have any. The project was sponsored by the Veterans Administration and Children's Hospital in Stanford. There are no plans, as far as I know, to market the system—it's for the VA's use but available to anyone. I don't have cost figures but our system is inexpensive because it can be adapted to any wheelchair.

"I understand the wheelchair was featured on one of those news magazine shows. A friend called to tell me, but by the time I got to my TV a commercial was on," Wayne says.

Wayne hails from Las Vegas, N.M., and graduated from UNM before gaining his MS at Stanford. The wheelchair he helped design was given second place in the 1980 Graduate Student Awards offered by the James F. Lincoln Foundation of Cleveland, Ohio.

## Labs Taking Aim At Natural Gas

Sandia National Laboratories has been named technical coordinator of a five-year Department of Energy project to determine if natural gas trapped in tight sand reservoirs in the western United States can become a significant gas reserve.

These reservoirs, deeply buried in low permeability sandstone, have irregular shapes and are randomly located in shale formations. They may contain as much as 2140 trillion cubic feet of gas, equivalent to more than a 20-year supply at this country's current rate of natural gas use. The actual amount and distribution of the gas must, however, be determined and the recovery technology established.

Plans for the project, known as the Multi-Well Experiment, call for drilling three closely spaced wells (100 to 500 feet apart) in a typical gas sands formation, the Mesaverde in the Piceance Basin of northwest Colorado.

Depth of the Mesaverde at the test site is 4500 to 8600 feet below the surface.

Drillhole cores from the formation will be analyzed, and various surface and underground experiments will be conducted to characterize the formation and evaluate the potential of new gas recovery technologies. Gas recovered during the experiment will be routed to a nearby pipeline.

Typically, gas is recovered from low-permeability rocks by hydraulic fracturing — pumping fluid and sand into a wellbore at high pressure, creating a single large fracture which increases the flow of gas from the well.

This technique has been largely unsuccessful in producing gas from the western tight sands.

"Fracturing operations in these reservoirs often release no more gas than small fractures," says Dave Northrop, supervisor of Sandia's Geotechnology Research Division 4753. "Also, wells within a mile or so of each other may produce significantly different amounts of gas despite identical drilling and recovery operations.

"The Multi-Well Experiment will produce a unique, comprehensive data base. For the first time, sufficient information should be available to identify factors that contribute to or detract from gas production in tight gas sands," Northrop says.

Before drilling begins, a high-resolution seismic survey will be conducted to help determine size and shape of gas lenses in the test area. Results will be integrated with core and log data from the wells and with data from later seismic surveys.

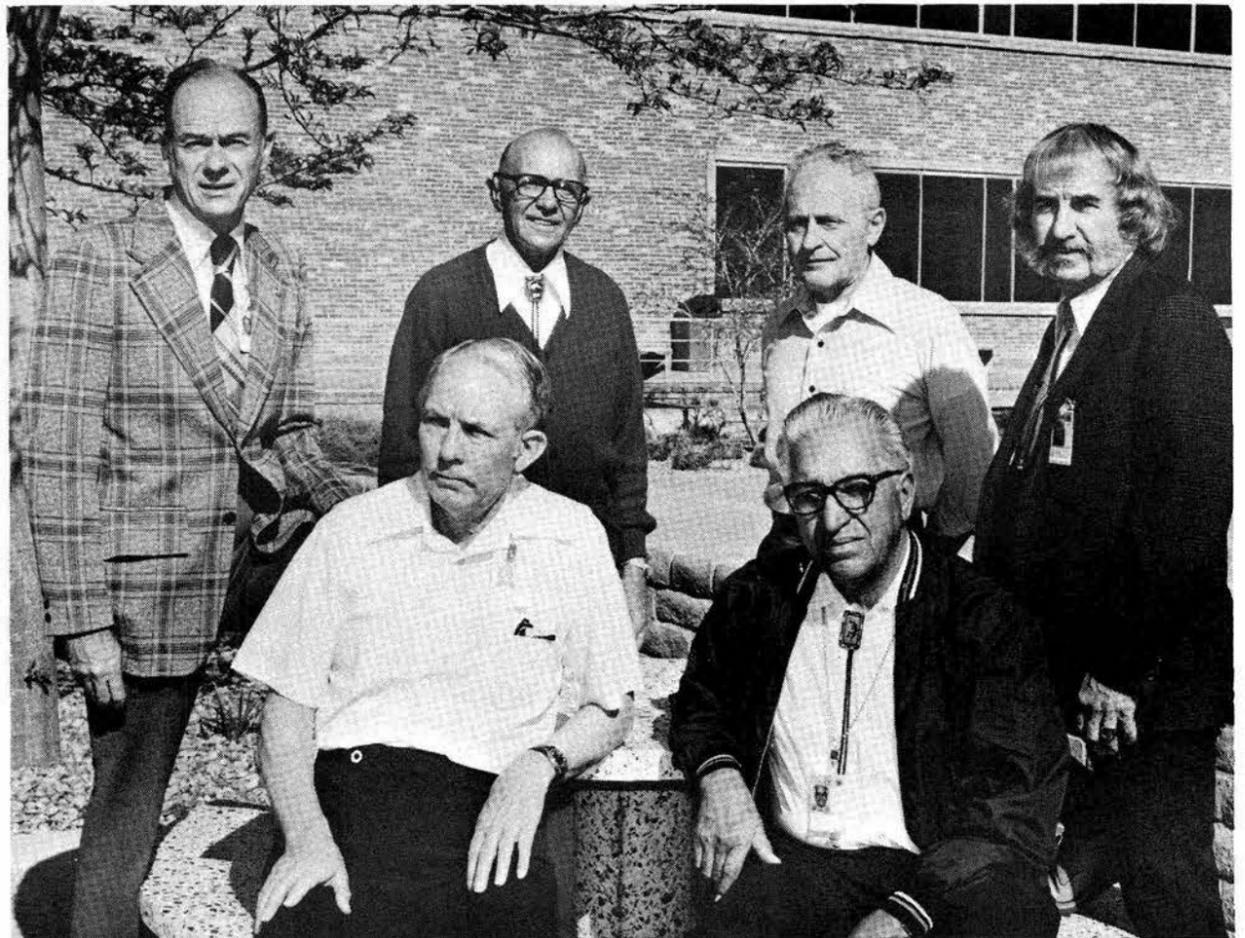
A four-inch-diameter core will be recovered from the first well along its entire 8600-ft. depth, which should cut through several gas-bearing lenses. Core samples of specific strata will be recovered from the other two wells planned. All wells will be completed so that, if needed, they may be used as production wells.

Major Multi-Well Experiment studies will:

- Determine whether gas can be recovered from lenses not intersected by wellbores.



RETIRING—Back row (l to r): Walt Scott (3644), Marvin Austin (3618), Don Weems (3644), Martin Serna (1485) and Richard Moyer (3441). Front row (l to r): Edna Bierner (3252), Bridget Corley (3252) and Betty Cordova (3653).



RETIRING—Back row (l to r): Charlie Jackson (4338), Grant Johnson (3742), Orrin Smith (4218) and Charles Katzenberger (2611). Front row (l to r): Brad Sanders (1481) and Dan Padilla (1247).

- Improve tight gas sands well logging techniques and provide data for consistent correlation between logs and cores.

- Develop techniques to reliably describe lenticular reservoirs and improve computer modeling.

- Measure how stimulation fractures propagate through a reservoir.

- Analyze unconventional stimulation techniques.

- Help contribute to new technologies that can be transferred to private industry.

Besides its management responsibilities, Sandia will also conduct all laboratory work, core analysis, geophysical field studies, and fracture and underground stress diagnostics. CER Corp. of Las Vegas will be in charge of site preparation, drilling, coring, logging, well testing, and

gas recovery. An industry review group will provide guidance during the experiment.

DOE's Bartlesville Energy Technology Center is overall manager of the experiment, being conducted on a Superior Oil Company lease assigned to CER.

### Speaker

John Holmes (4713), "The Solar Power Tower Program," Lovelace Inhalation Toxicology Research Institute Seminar, April 2; "The Central Receiver Test Facility," Albuquerque Section ASQC, April 16.

### Sympathy

To Floyd McFarling (1417) on the death of his brother in Iowa, April 14.

To Gino Carli (2420) on the death of his father in Astoria, N.Y., April 19.

## Helping the Boat People: Time-Consuming, But Rewarding

Just over a year ago, Rabbi Paul Citrin of Temple Albert Synagogue asked members of his congregation to form a Vietnamese Refugee Relief Committee. Among the eight families who volunteered were two Sandians—Jamie Wiczer (5133) and Irv Auerbach (5633).

The refugees, usually referred to as boat people, left Vietnam illegally because of oppression by the government and because of their association during the war with people from the United States. Those who survived the boat trips landed in Malaysia, Hong Kong, Indonesia, and other nearby countries as unwelcome guests and were put into camps administered by the UN.

"Many of the Vietnamese refugees are actually Chinese—they may have been born in Vietnam and speak the language, but they also speak Chinese and retain many of the habits of their former culture," Irv told us. "As a minority in Vietnam, they are persecuted by their government—burdened with restrictions which do not apply to other Vietnamese. Some of this discrimination stems from the constant border skirmishes between Vietnam and China, but much of it is based on fear and resentment because the Chinese generally are industrious and frugal; consequently they often control many small family-operated businesses."

"I couldn't help but draw a parallel between them and the Jewish people in Russia today and in Germany in 1933," Jamie says. "I wanted to help them, and this was an emotion shared in part by the other committee members."

"All of us," Irv continues, "have family members who have gone through the refugee experience. We wanted to help."

The contact for refugee sponsorship was the Hebrew Immigrant Society (HIAS), an international organization which had helped to settle many Jewish and non-Jewish immigrants. They gave the committee a choice of refugees from a camp in Malaysia—a single, older man; a family unit, or a young sister and brother, ages 18 and 22, respectively. "We decided to bring over the brother and sister," Jamie says.

Each of the eight committee families contributed \$360 and various household goods, and \$900 was donated by the congregation. HIAS paid the air fare and contributed \$400 for each person sponsored. "We began corresponding with Anh (awn) and her brother Phuong (fung) in January of last year," Irv says. "By the time they arrived in Albuquerque in August, we had found an apartment for them and furnished it—down to a refrigerator stocked with food. We even supplied each with a bicycle and made arrangements for them to meet other Vietnamese."

"We lined up a number of interpreters and through them told the youngsters we would support them for six months, and that they should concentrate on learning English and learning about our way of life," Jamie says. "They enrolled in a special program at Albuquerque High. Anh is learning English quite well and is a straight-A student. After a few months, Phuong felt that he would prefer a job to the school environment.

"We've had some problems," Jamie continues, "but there are many contributing factors. These youngsters left their moderately well-to-do home and family—brothers, sisters, parents and grandparents—and spent two years in a refugee camp. And the years Anh and Phuong were away from their family were the formative teenage years, when they especially needed the guidance of their parents."

Neither young person talks about their sea journey or their life in the camp. Their sponsors did learn about the journey of some of their local Vietnamese friends: although it's illegal to leave Vietnam, it's possible to do so by bribery—large payments in gold for space on a small boat. Their small boat was overloaded with 250 people. During the five-day trip—three of those days without food or water—people died and were discarded overboard, and the boat was trailed by a pirate ship which they finally eluded in the dark. The outcome for a boat overtaken by pirates is grim—possessions stolen, women raped and often abducted, lives lost.

"It hasn't been easy," Jamie says, "but we found Phuong a bus boy job in a hotel coffee shop. We had to teach him our work arrangements—like it's important to be at work on time. However, he's been employed for two months and is beginning to pick up a little English. He supports his sister and is becoming more independent."

Much time was spent at the outset transporting Anh and Phuong. Buying clothes, taking them to various offices associated with alien registration and medical tests, visiting medical and dental facilities, seeking employment, etc., were trying as well as time consuming events. A competent interpreter was usually needed and these are hard to find during daytime hours. Phuong's job required that he be

there at 6 a.m., but there is no bus service at that time. So committee members took turns getting up at 4:30, picking him up at 5:30, and getting him to work. He came home by bus. Now Phuong has a moped.

"In essence," Irv says, "our committee has been like a set of eight parents trying to raise two teenagers. And if you think one set of parents has differences, wait until you get eight sets together. In these discussions such subjects as patriarchy vs. matriarchy and cultural differences always came up. Usually, our interpreter was able to lead us to a compromise with his Chinese wisdom."

Jamie, Irv and the other family members consider the sponsorship a rewarding experience. "We not only helped them get a foothold in this country, but we also provided them with a home base for the remainder of the family. Action has already been taken to bring them here. The problems we encountered, in retrospect, were not large and we are grateful for a rewarding experience."

## Commuter Notes

Anyone living in Corrales or Rio Rancho interested in vanpooling to Sandia? The successful first year operation of the northwest vanpool, which originates at Rio Rancho, and vanpool inquiries from Sandians in these areas prompts this effort to develop another van. The present plan is for one van to originate at Rio Rancho and the other at Corrales. Contact Commuter Assistance on 4-RIDE if you are interested.

## Congratulations

James (4713) and Agnes George, a daughter, Sara, April 2.



VERA CUSHMAN (left), President of the National Council of Negro Women, presents a certificate of appreciation to Ray Powell (VP-3000) to acknowledge Sandia Labs' support of the recent Black Women In Management conference, held in Albuquerque. Bobbie Williams (3510), looking on, was a loaned staff member to the conference and one of the main speakers. The conference was held in early April.

## To China: Rural, Friendly, Intriguing

"As we flew out over the Pacific, the pilot announced, 'The Chinese have set off an atomic explosion—we have to go south.'

"That was our introduction to the People's Republic of China and, as a result of the change in direction, our 14-hour, non-stop flight arrived an hour late," recalls Byron Murphey (8300) who, accompanied by his wife Doris, recently spent a month in the Orient.

Sponsored by the Commonwealth Club of California, the trip was a study tour of China. The Murpheys went first by rail to Guangzhou, formerly Canton, the provincial capital known for its foreign trade fairs; next to the cities of Nannin and Kunming (one-hour flights) in southwest China which have only recently been opened to foreigners; and then a two-hour flight to Beijing, formerly Peking, China's capital city and cultural center. Their itinerary also included three days in Hong Kong and nine days in Japan.

Byron returned with the feeling that the Chinese government is trying hard to do whatever it can to help China be more modern. "The people were open and friendly, and it was clear they were glad to have Americans visit. The few students who could speak English were acutely aware that they didn't have the amenities we enjoy and didn't ever expect to. In fact, some even said so.

"But 80 percent of China is rural," he continues, "and rural the way we were 100 years ago—except they use untreated fertilizer. Although they have electricity, they don't have a complete electrical network in the sense we do."

Byron says that China's transportation system includes good buses; the common person doesn't own a car and travels by bicycle—there are thousands on the streets. The gulf between influential city people and the vast majority in terms of amenities is enormous. Although the cities have made progress, the Murpheys didn't see any high rises. New construction seemed to be three- to five-story buildings that look just like the older ones, mostly wood frame and brick.

Men and women work together, and women's skills are highly advanced. "In fact, women have long been prominent on the China scene. Witness the recent trials (of Mao's widow), witness the Empress of China who built the famous marble boat that we saw at the Summer Palace in Peking," notes Byron. "We found the birth control theme runs strong. The younger people consistently mentioned their goal was to have no more than two children."

Highlights of his trip? "The opportunity to get as far from the mainstream as we did, visiting Kunming in China's far southwest," says Byron. "That was most exciting, perhaps because the people were so curious about us. They'd gather around, just looking, especially at my wife who most always wore dresses while they wore trousers and blouses. She's also very blonde and they're all so dark. They were just intrigued.

"Kunming was different from the rest of

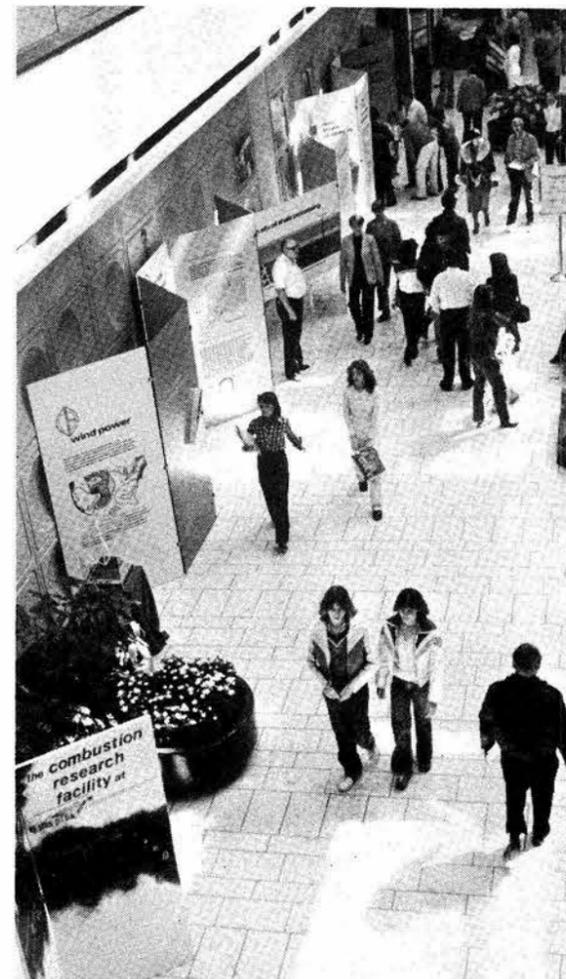
China in that there were so many different kinds of Asian people. Here one feels the impact of a variety of Chinese cultures.

"One reason we made the trip was to see first hand their temples and museums—those in the Forbidden City (in Peking) were outstanding. We also enjoyed their performing arts: a ballet (in Canton) based on the silk route trade between Persia and China years ago, beautifully done with outstanding costuming; a sort of cultured vaudeville (in Nannin) with people singing and playing instruments; then, at the 'Stone Forest' near Kunming, a type of folk dancing by local people.

"Other high spots would be our visit to the Ming tombs and, of course, the Great Wall which, according to our guide, is one of the few man-made objects visible from outer space.

"We were briefed by local guides at each location and had the opportunity to visit a commune. We didn't drink the water, but rather their soft drinks and beer—very mild. The food was good—a lot of fish, mostly carp."

Byron adds that they were able to wander around as they wanted without restriction and always felt safe and comfortable. There also were no restrictions on photography, even from the air.



THE FIRST ENERGY FAIR to be held at the new Stoneridge Regional Shopping Center in Pleasanton last month included a 40-foot-long display from Sandia Livermore. Featured were the solar, combustion, wind power, geothermal and fusion activities at Sandia. A similar display will be set up at Chabot College Hayward at the end of May when "Energy Expo" is being held in conjunction with Cal-State and the City of Hayward.

# LIVERMORE NEWS

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IN CHINA—Byron Murphey (8300) with one of the 36 stone animal sculptures lining both sides of the Sacred Way, leading to the Ming tombs near Peking. Dating from the 15th century, the statues represent a good omen, are meant to serve the Ming-dynasty emperors in the next world.

# First A-Bombs Assembled Where? By Whom?

The story of the first atomic bombs, the only two ever used in wartime, is pretty well known to most of us in the weapons labs, if not to the general public. Little Boy and Fat Man were developed and assembled by the Manhattan Engineering District (MED) at Los Alamos, right?

True, some will argue that assembly took place aboard the B-29s that transported the bombs to the island of Tinian, the last stop before Hiroshima and Nagasaki. Others say Tinian itself was the assembly point.

Comes now Les Rowe (retired from Sandia Livermore in 1970) whose new book, *Project W-47*, makes it clear that the earliest A-bombs were assembled at an obscure airbase in Wendover, Utah. Even more surprising, he presents evidence that Wendover was not officially a part of the MED, although well after the war an order was issued to make it appear that Wendover had been a part of the MED all the while.

Why such tactics? Apparently some key people within MED felt that achieving a working atomic bomb within the time allotted was unlikely. So Wendover may well have been set up to be the scapegoat if the Manhattan Project failed. When it didn't, it was time to bring Wendover into the MED fold and make it appear that it had been there all along.

The book is not wholly contentious. In fact, most of it simply recounts Les's day-to-day experiences as an Army captain heading the bomb test assembly crews at Wendover from April through August 1945. It was difficult, dangerous, dirty work under almost primitive conditions.

For example, loading a unit (every bomb, whether "hot" or not, was called a unit) aboard a B-29 meant lifting it off a flatbed trailer with an antiquated wrecker. Then its boom had to be lowered as far as possible to place the unit in the loading pit properly—so far that the 10,000-pound unit overbalanced the front end of the wrecker. To keep the wheels on the ground, several crew members stood on the front bumper.

Interspersed with such anecdotes are accounts of events taking place elsewhere within the Project, events that Les learned of later.

The book is far from polished, but it's a fascinating account of a little known facet of A-bomb history. Copies (at \$5.95) can be obtained in Livermore at Schlageter's Stationery, 2086 First St., or Goodenough Books in the Alpha Beta Square. In Albuquerque, Holman's on Wyoming at Copper NE carries the book. LAB NEWS (next to Bldg. 814) also has a few copies.

## Take Note

A benefit for Crime Stoppers is being held tomorrow night, May 2, at the Classic Hotel. It's entitled "Las Vegas Night" and for your \$5/person you get \$500 worth of chips for gambling; the tables will be open to you to gamble away those chips between 7 and 11 p.m. Six no-host bars and popcorn machines will insure your proper supply of vitamins. And there's an auction. The affair is sponsored by the Salemasters of New Mexico, a non-profit association of professional sales representatives.

\* \* \*

A release from UNM's Cancer Research and Treatment Center describes a need for volunteers: "... people interested in helping the staff at the CRTC personalize the cancer treatment experience for patients." CRTC provides diagnosis, treatment and rehabilitation for cancer patients from throughout New Mexico. Collie Hinton at UNM Hospital/BCMC is the contact: 843-2356.

\* \* \*

If getting up in front of an audience and giving a talk is your idea of unalloyed misery, then you may want to do something about it. One way is to join Toastmasters International, whose local chapter meets at the C-Club every Wednesday at noon. If you'd like more information on this, call Oscar George (5513) on 4-9159.

\* \* \*

Roberta Carter (2626) reports that some 90 artisans are involved in an arts and crafts fair at Whittier Elementary School, 1110 Quincy SE, on Saturday, May 2, from 9 to 5. Admission is free and, says Roberta, many "quality handmade items" will be on sale.

\* \* \*

If you'd like a one-day motorcoach tour to Elephant Butte Dam, the Que Pasa Rec Center on Base is offering one on Saturday, May 23, leaving the Center at 9 a.m. "You can fish, see squirrels, rent a motorboat, or just relax in the Dam Site Restaurant & Bar," it says here. Oh, and there's free beer en route. Cost is \$16/head, deadline is May 16, Que Pasa: 4-5420.

\* \* \*

Following our announcement in the last issue, LAB NEWS now sports a "Vacation Rental Directory" where people list their condos, cabins, RVs, boats and whatever that they rent out from time to time. Right now we've got a mountain home in the Jemez, condos in Hawaii and Angel Fire, a cabin near Fenton Lake, and another condo at Purgatory. But we need more entrants, so stop by to fill out a form, or call us (4-7841) and we'll mail one to you.

\* \* \*

Colloquium—On May 6 at 10 a.m., Bldg. 815 (outside), Glen Graves from Los Alamos, "Reprocessing for Plutonium Control."

## New Multiple Zap Facility

electric superheater to increase its temperature to 385°F or more, simulating steam line breaks.

An early facility experiment examined sliding-link terminal blocks removed from an operating power plant. The terminal blocks, used for electrical cable interconnections, all had cracks (caused in manufacturing) in their threaded screw-holes. The experiment showed that loss of coolant conditions would not cause the electrical circuit to be broken by causing further crack propagation.

Another test subjected ethylene propylene rubber, used as electrical cable insulation, to a series of loss of coolant simulations. The tests show that the rubber degrades differently depending on the sequence of tests.

The next major experiments will examine how insulation for factory-spliced electrical cables performs under loss of coolant conditions and will assess the survivability of electrical penetrations/connectors from a nuclear power plant under superheated steam conditions.

These experiments are funded by the NRC's Qualification Testing Evaluation Program as part of Sandia's NRC-sponsored nuclear reactor safety research. Besides Bonzon, other principals in this new facility include Frank Thome (4445), overall facility project leader; Tim Gilmore and John Lewin (both 4445), facility development; and Bud Gauerke (2533), steam system and test chamber design.

If 200,000 square feet of orange nylon polyimide gets you excited, then head for the Albuquerque Museum to see the "Valley Curtain Documentation Exhibition" by one Christo, an artist who likes to operate on the grand scale. Seems he hung this curtain across a gap at Grand Hogback in Rifle, Colorado, 1368 feet wide, 365 feet high. It was a couple of years in the hanging, then 28 hours after completion a 60 mph gale came along . . . must have been quite a flap. The exhibition runs through Sunday, June 28.

\* \* \*

On Tuesday, May 5, a videotape repeat of Dr. Judy Ewing's lecture, "Changing Health & Illness Patterns," will be shown in Bldg. 815 (outside). It runs from 12 noon to 12:30 and is part of Medical's series, "Let's Talk About Aging."

\* \* \*

In observance of Armed Forces Week, a banquet is being held on Thursday, May 14, at the Kirtland Officers' Club West. Speaker is Lt. Gen. Richard West, the Army's comptroller. The no-host cocktail hour begins at 6:30 and dinner will be served at 7:30. Cost, \$6.50/person, with reservations needed by May 12. Contact: Sunni Tucker, 842-0220.

## Scientists' Role In Human Rights Described

Is there a connection between science and human rights? An unequivocal "yes" is the opinion of Joel Lebowitz, Rutgers university mathematician and cochairman of the Committee of Concerned Scientists. At the April 10 colloquium, Lebowitz spoke of the plight of "refusenik" and dissident scientists in the Soviet Union. (The former are persons whose applications for exit visas have been denied, and the latter those who are critical of Soviet policy but who do not wish to emigrate.)

Lebowitz, who was born in Czechoslovakia and spent the greater part of his youth in the Auschwitz and Bergen-Belsen concentration camps, pointed out that science is a humanistic enterprise and scientists bear a special responsibility in the area of human rights. They are aware of the "precariousness of human existence" and should strive for a "world of peace." And a good place to start, Lebowitz added, is human rights for scientific colleagues.

The USSR's treatment of its refusenik and dissident scientists is of special concern to the Committee of Concerned Scientists. Although the Soviet Union, according to

Lebowitz, is "not the worst offender in this regard"—Uruguay and Argentina, for instance, often treat their dissidents more brutally—the USSR is of special concern because "it has the power to destroy the world." It also has a large scientific community and many of its scientific achievements are on a par with or superior to our own. Although conditions in the Soviet are much better than in the "dark days of Stalin," Lebowitz said there is still much room for improvement.

Lebowitz described three recent visits he made to the USSR—in '77, '78, and '80. While there he got to know many Soviet scientists including dissidents and refuseniks who had lost jobs, been demoted, or had suffered harassment. Victor Brailovsky, a computer scientist jailed for the last five months without charges, originated the "Sunday seminar"—informal meetings where refusenik scientists who have lost jobs gather in an effort to continue their professional activities. Although these seminars are officially legal, Soviet authorities are unhappy with them, especially when visiting foreign scientists attend, as they often do. The police claim that the

neighbors "complain," but Lebowitz suspects that all the neighbors are KGB men.

Lebowitz said there is a debate under way among U.S. scientists as to the best way of dealing with such infractions of human rights in the USSR and other countries. Some favor making human rights an international issue and severing all professional exchanges and contacts with the Soviets. The other approach, which Lebowitz favors, is to continue such contacts for the benefit of persecuted scientists as well as for whatever "progress toward peace" can be brought about. Said Lebowitz: "There are good and valid reasons to continue scientific relations with scientists of distasteful governments."

Recommended actions are to write to the concerned governments directly, work through such organizations as Amnesty International, or apply pressure through the U.S. government by contacting legislators, the State Department, or the President about particular cases or situations. "And if you visit the Soviet Union," Lebowitz urged, "make every effort to attend one of the Sunday seminars." •cm

## Hugh Church Likes To Enjoy A Deep Breath

Like many of us, Hugh Church (4533) is concerned with the quality of the air we breathe. His concern led him to volunteer his services to the American Lung Association of New Mexico and, last year, he became its president.

"We're a volunteer health group that grew out of the New Mexico Tuberculosis Association," Hugh tells us. "Now that TB is as good as eliminated, we seek to educate the public on other lung disorders such as emphysema and asthma. We're also concerned about issues like air pollution and nonsmokers' rights. We support legislation that would restrict smoking in public places. So far we've had limited success—the tobacco lobby is well organized and financed, but we also have a lobbyist in Santa Fe.

"Since the major source of air pollution in Albuquerque is the automobile, the Lung Association is supporting the vehicle inspection and maintenance program. We work closely with the New Mexico Environmental Improvement Board which is responsible for the implementation of statutes to keep pollutants under control."

Hugh expresses the Association's concern with current attempts to de-emphasize the Federal Clean Air Act: "There've been many improvements in cleaning up the air and to throw the whole thing out now would be a mistake. Many people with health problems find these problems worsened by pollutants."

Although the American Lung Association is not involved directly with occupational health, it supports Sandia Medical's

anti-smoking campaign—a freedom-from-smoking, self-help packet of literature is available from the Association for a \$5 donation. Says Hugh: "The individual has to be motivated to stop smoking—group activities are not all that effective for smoking cessation. Our objective is not only to help a person to quit but also to make the quitting permanent."

The Association provides many services among which are workshops for health professionals, speakers for schools, civic groups, and university health classes, and Life and Breath Clubs for patients and their families. The Association also sponsors Camp Stoney for asthmatic children—it's located south of Santa Fe on the way to Glorieta. The group is in its third year of participation in ECP. Additional information on any of the above or other programs can be obtained by calling 265-0732.



**BUT THEY'LL PROBABLY INSIST ON THE MINIMUM WAGE . . .** Chinese scientists at one time experimented with fertilizing a chimpanzee with human sperm in an attempt to create a "near-human ape," and they may try it again. The chimp was three months pregnant before the first experiment was halted in 1967, when the laboratory was smashed by Cultural Revolution rioters and the animal died of neglect, one of the original researchers says. Recent Western research has indicated that such a crossbreeding could be successful. Ji Yong-xiang (Su Jiao Tuen Hospital, Shenyang) says the research, if it is ever resumed, has the potential to develop creatures with sufficient intelligence to speak and perform simple tasks. A second researcher at the Chinese Academy of Science said there were plans to resume such testing . . . In an interview with the Shanghai newspaper Wen Hui Bao, Ji said that the benefits of such creatures would be legion. They could be used for herding sheep and cows and driving carts, he said, and they could be used in exploring space, the bottom of the sea and mines . . . Ji, who was one of two doctors who did the ape experiment in Shenyang, said the primary object of the experiment was to develop a creature with a larger brain and mouth.

—Philadelphia Inquirer

## Events Calendar

May 1—UNM Symphony Orchestra and Choruses, 8:15 p.m., Popejoy.

May 2-3—La Cienega Spring Festival, traditional Spanish colonial crafts, field planting, food, entertainment. Old Cienega Village Museum, Rancho de las Golondrinas (turn off I-25 about 9 miles south of Santa Fe).

May 2-31—Taos: "Three New Mexico Santeros," Millicent Rogers Museum.

May 3—Cochiti Pueblo: Coming of the Rivermen, corn dance.

May 3—Taos Pueblo: Santa Cruz Day, green corn dance and children's races.

May 3-July 11—Santa Fe: "Ledgers & Legends: Narrative Images from the Plains," Wheelwright Museum.

May 7 & 9—Albuquerque Opera Theater, "Madame Butterfly," 8:15 p.m., Popejoy, 277-3121.

May 8—Benefit dinner concert for Friends of the Library, U of A, featuring guitarist Hector Pimental and dramatic reading by Alan Cheuse and Rudolfo Anaya: Ole buffet, University Center, 6:30 p.m.; concert, Stage II, 8 p.m., U of A, 831-1111.

May 9—Astronomy Day activities at Four Seasons Motor Inn, Cotillion Room 3. Schedule of events: static display, 1-10 p.m.; solar observation, 1-5 p.m.; star party, 8-midnight.

May 14-15—NM Symphony Orchestra concert, choral concert with soloists, 8:15 p.m., Popejoy.

Through June 28—NM Watercolor Society exhibition, Albuquerque Museum.

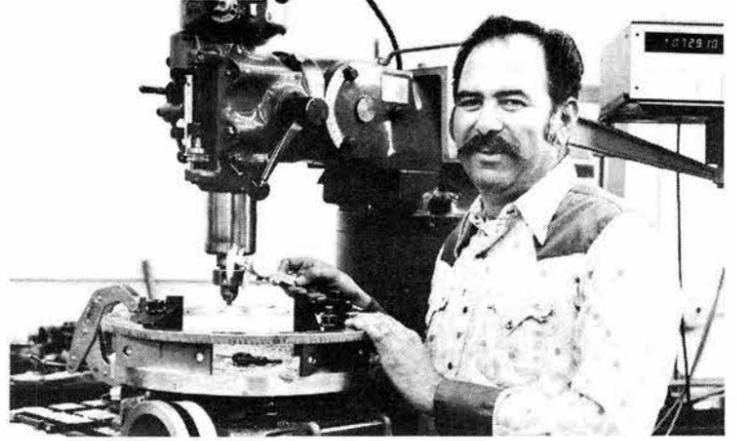
# MILEPOSTS

## LAB NEWS

MAY 1981



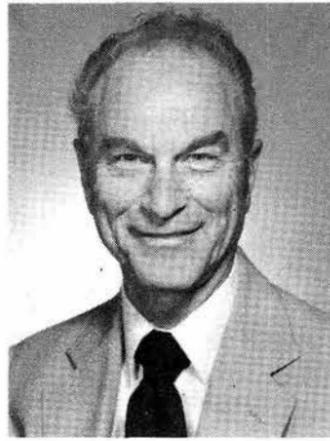
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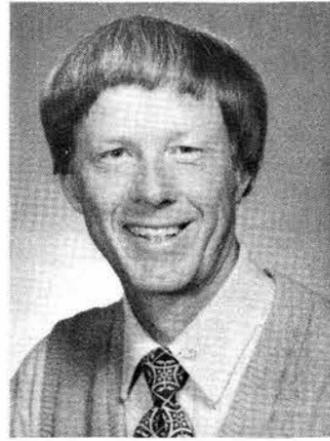
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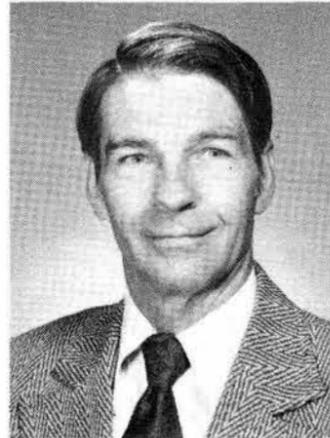
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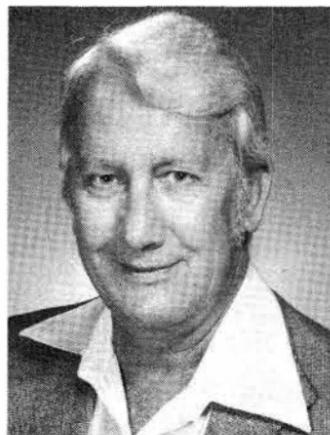
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Pat Maurer - 3744 20



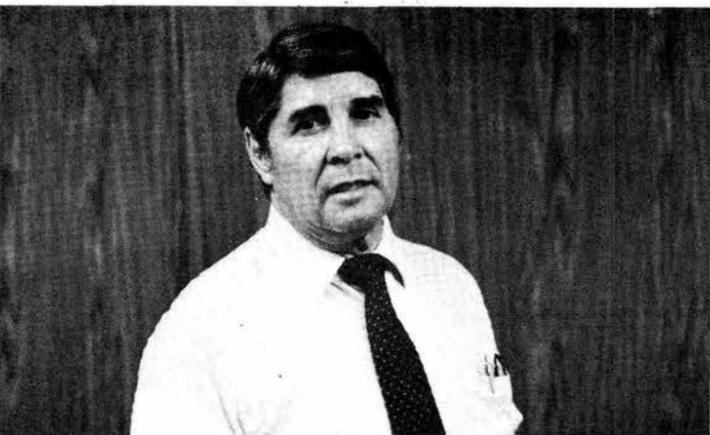
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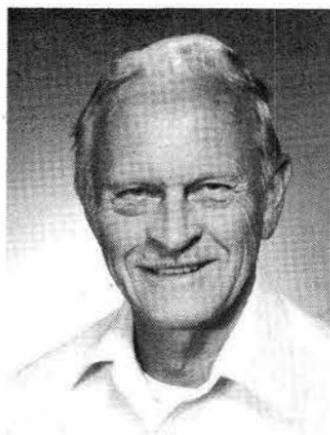
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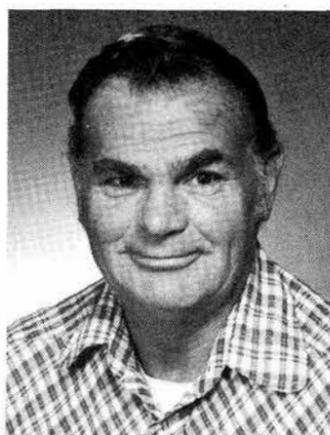
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Tony Lopez - 3425 30



Gardner Green - 3426 15



John Snyder - 1254 25



Florencio Aragon - 1541 10



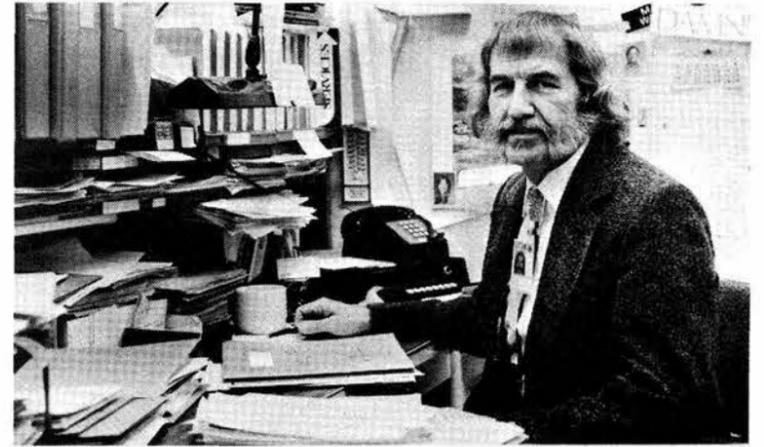
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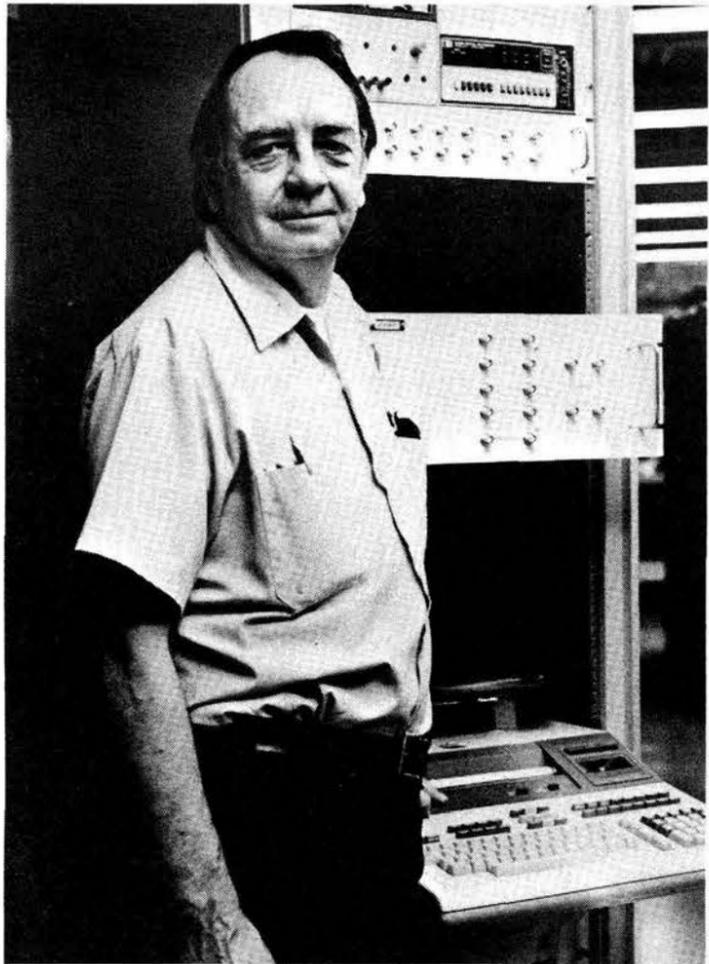
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Charles Katzenberger - 2611 35



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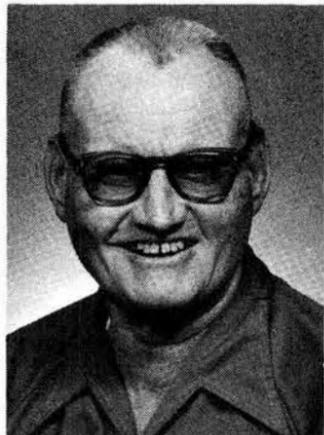
Lloyd Fuller - 3720 30



Keith McCoy - 1261 25



Harry Holmes - 1545 30



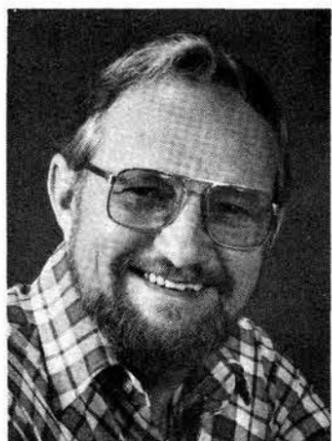
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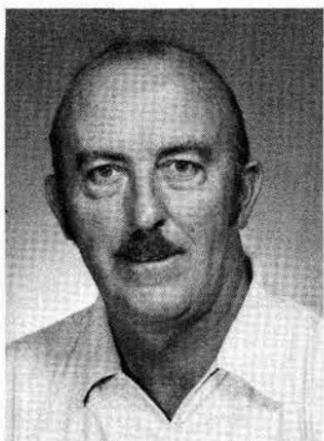
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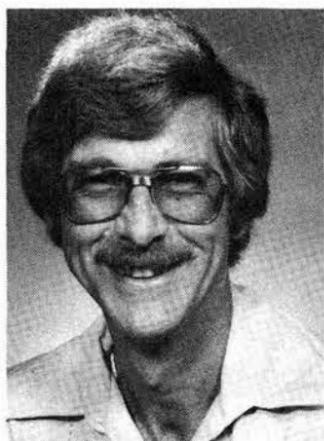
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George Cosgrove - 8423 20



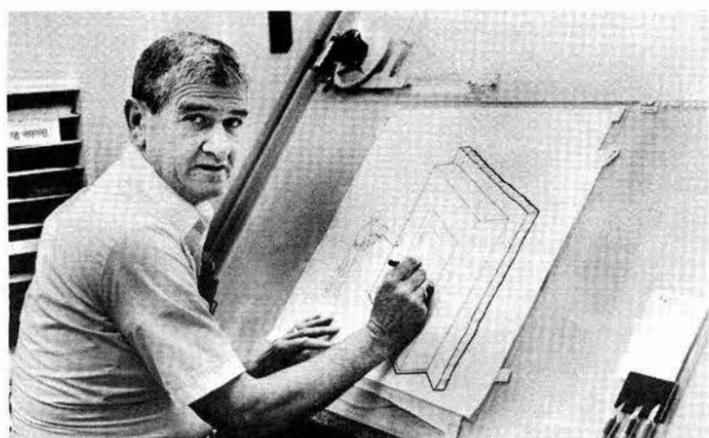
Bill McAtee - 4713 20



David Huskisson - 5822 10



Phil Owens - 2433 35



Tom Dragoo - 3155 15



Truman Daniel - 3451 30



William Rogers - 1241 25



Warren Curry - 5636 30

# My Favorite Old Photo

[Got an old photo that means a lot to you? Bring it over to LAB NEWS and tell us about it.]

THAT'S MY DAD on the left and my uncle showing off a brand-new Buick in the early 1920s. They had the first Buick dealership in Bloomfield, Iowa. There's still a car dealer there—though now it's a Chrysler-Dodge showroom (Verne Christy—ret.)



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7. No more than two insertions of same ad.
8. Include name & organization.
9. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.

### MISCELLANEOUS

BOOK SALE, LAB NEWS (next to Bldg. 814), also caps, \$5; T-shirts, \$6; windbreakers, \$15. S. Hwy. 14 Village Project.

CLEAR fluorescent tubes, 48" long, for solar project, 15 cents ea.; block & tackle, 1/2" rope, \$15; hunter's hoist, 3000-lb., \$10. Stuart, 299-9190.

PRINTING ADDING MACHINES: Victor or Remington-Rand; Ditto machine; recessed brass light fixture; small inventory type filing cabinet. Hall, 299-0009.

TV TABLE, 24"x15 1/2"x15"H, on casters, \$12; recliner chair, \$30. Newcom, 293-5180.

12", 1/2" Cu pipe, \$6; 11", 3/4" Cu pipe, \$8; 17", 2" PVC pipe, \$8; '77 Honda Civic/CVCC service manual, \$5; Panasonic AM hand radio, \$5. Wright, 296-7670.

BOW, laminated wood, recurve, Darton Co. 50" 18-lb., good for child or beginner, \$20. Douglas, 293-6704.

KITCHENAID built-in KDC-17 dishwasher, 5 yrs. old, works but needs adjustment, best offer over \$50. Tolman, 296-8239.

GE REFRIG., man. def., 2-dr., top dec. panel, \$175; approx. 60 sq. yds. 2-tone green short shag carpet & pad, clean, \$290. Magruder, 266-1006.

MOTORCYCLE trailer; packing boxes, book size; water skis; assort. size curtains & rods. Sherman, 292-3297.

TRANSCEIVER, Hallicrafters SR400A, HA-20 DX VFO, power supply, manuals, set of new spare tubes, \$500; Heathkit phonepatch, \$30; unicycle, \$40. Huddle, 881-2971.

MAHOGANY pedestal dining table, 40x60, 3 leaves, 5 chairs, \$150. Cox, 296-1337.

MOWER, 3 1/2 HP, clean but requires a tune-up, \$40 or best offer. Wilcoxen, 296-8295.

BROWN sectional couch; kitchen table w/4 chairs; refrigerator; telephone stand w/chair; 2 green rugs; 2 iron folding cots. Mora, 881-2150.

ENCYCLOPEDIA, University Society, 22 volume, child-resistant finish, w/2-vol. dictionary, \$350. Barnard, 831-4114, evenings.

NEW side-by-side 20 cu. ft. frost free, \$600 or trade for new smaller frost free; 10' picnic table, \$146. Gallegos, 255-5264.

SEARS Craftsman Eager-1 20" rotary 3.5-HP lawn mower, \$145; Scott Spreader (PF-1), \$28. George, 292-5368.

IRISH SETTER, 2 1/2 yrs. old, has all shots, needs room to run, \$75. Miller, 281-3189.

AIR HOCKEY TABLE, \$100; beer tap, \$100; lg. throw pillows, \$6 ea.; 8 hp riding lawn mower, \$350. Mercer, 821-6449.

36" GAS STOVE, white w/grill, \$50; gas dryer, \$57. Padilla, 877-2116.

WARDS exercycle, new, \$50; Ruger .22 auto. pistol, \$100. Roeschke, 298-0365.

SEARS dishwasher, \$125; Sears vacuum cleaner, \$50; 2 day beds, \$75 ea. Adams, 881-6836.

CAPTAIN'S BED, solid oak, twin size, modular design w/lots of drawer space, mattress included, \$325. Setchell, 281-5600.

TELESCOPE, Cave 8" f/15 Cassegrainian, equatorial mount, clock drive, 5 eyepieces, 6mm to 25mm f.1, \$600. Brice, 344-4855.

BROWNING .25 ACP auto. w/carrying case, \$225. Yingst, 884-3812.

STEREO, Craig AM-FM, 8-track, BSR turntable & 2 speakers, \$150; Moyer, 2916 Florida NE, 881-0754 after 5.

FREE TO GOOD HOME, 1 1/2 yr. old Collie cross, good w/children, had shots. Paylor, 266-0764.

OLD oak buffet, beveled mirror, dove-tailed, much storage space, top rail, \$350; church pew, 8" long, \$150. Katzenstein, 344-5193 or 255-4903 after 6.

GOLF CLUBS: MacGregor Jack Nicklaus starter set for youth, 1, 3 woods, 3, 5, 7, 9 irons, putter & bag, \$35. Perkins, 299-8941.

STAR PATTERN crystal service, circa 1920; flexsteel sofa, brown tones, \$95, tube type stereo, \$30. Birdsong, 299-3529.

RECLINING CHAIR, brown tweed, \$50 or best offer. Calvin, 293-8523.

TURBOCHARGER, will fit engine 320 to 400 cubic inches, boost control & intake hardware, \$375. Bentz, 256-9720.

POOL FILTER, Doughboy, stainless steel, \$75 or best offer; dog house, small dog or rabbits, \$10. Shipley, 298-2433.

HAND lawnmower, Scott's Silent 20", grass catcher included, \$25. Pendall, 265-3008.

BABY CRIB & mattress. Frenkel, 299-3258.

KODAK Colorburst 250 instant camera, \$35. Wempe, 884-7325.

FLYING CLUB membership: 1/10 share in '65 Cessna 182 (Skylane); asking \$2100, flying rate \$32/hr. (wet); dues \$20/mo. Schkade, 292-5126.

BRASS antique umbrella stand, 26" high, solid brass base w/5 individual holder rings, \$65. Allen, 821-8533.

12 GA. single shot shotgun, 12 ga. Lee reloader, \$75 together; 3-dwr. metal desk, converts to typing desk, armed metal chair, as set, \$60. Edmund, 881-7974.

ROLL BAR, white 3" bar, fits SWB trucks, \$75. Lesperance, 255-1237.

DISHWASHER, Sears portable, can be built in, \$100. Stang, 299-5139.

SILKY TERRIER, 2 yrs. old, AKC, \$175; teacup peek-a-poo, 1 yr. old,

\$75; 7700 BTU air conditioner, \$100. Bolwahn, 294-3475.

TUBELESS mud & snow grip tires, 9.50x16.5, \$75 for pair. Curtis, 296-6994.

BACKPACK STOVE, lt. wt. gasoline, Svea model, used 4 or 5 times, \$20. Elliott, 266-7612.

SEARS sewing machine in cabinet, cams included for zig-zag stitches, \$75. Barton, 268-7349.

19" COLOR GE TV, portable, \$150. King, 299-8768 after 5.

TRAVEL TRAILER, Shasta 14'; camper shell, short wide bed, w/top rack. Martinez, 865-7795 or 865-9035.

ORGAN, Baldwin Cabaret, 2 key boards, foot pedals, fun machine, \$1300 or trade for piano. Rand, 299-1048.

MATCHING refrig., freezer, harvest gold; game table; captain's chairs; chests; Magnavox stereo console; decorator & desk lamps. Clement, 299-2324.

ELECTRIC STOVE, Signature, 30" white, timed bake, self-cleaning oven, \$125. Williams, 268-0045.

TRAILER HITCH, class 2, bolt-on, fits '71-'72 GM sedan; trailer towing fender mount mirrors. Mauth, 821-5911.

TWIN BED, complete, \$35. Moss, 296-4109.

LAWN EDGER, elec., Black & Decker, blade type, \$15. Stephenson, 296-9330.

REVOLVER, Smith & Wesson .357 magnum, model 27, 5-inch barrel, never fired, \$300. Erickson, 298-4809.

### TRANSPORTATION

'79 DATSUN 510, 4-dr., AC, AM-FM, AT, under book \$4500; or '76 Fiat 4-dr., 131, AM-FM, 5-spd., \$2100. Lackey, 898-6638.

'80 KAWASAKI 750 LTD, low mileage, w/extras, 40-50 mpgs. Adzija, 293-1043 after 6.

'79 CHEVY Malibu stn. wgn., low mileage, AC, PS, assumable maintenance contract, 2 yrs. remaining, \$5295. Martinez, 821-8692.

'77 KAWASAKI KZ 400, fairing, helmet, luggage box, new sprockets, 50 mpg, \$800. Wilcoxen, 296-8295.

'72 AMC Sportabout, \$1375 or best offer. Sandlin, 299-8786.

'76 HONDA CB750E, windshield, dbl. saddle seat, luggage rack, 48 mpg, many extras, \$1500. Redder, 831-5067.

'73 FORD 3/4-ton pickup, small V8, \$1600 or best offer. Garcia, 293-3276.

'78 CHEVY pickup, 1/2-ton, HD chassis, 25,000 miles, 250 6-cyl. engine, \$4100 w/homemade insulated shell, \$3900 without. Barnard, 831-4114.

'79 HONDA 750 K-four, 3200 miles, \$2500 cash, bluebook is \$2850. Gallegos, 255-5264.

'77 PENTON MC-5 400 6-spd., extra tank, metzlers, low time, \$975; Highlander motorcycle trailer w/spare, \$300. Boruff, 298-4365.

VOLKSWAGEN STN. WGN., 9-passenger, AT, PS, AC, low mileage, make offer. Gardner, 344-2547; Kraft, 299-2157.

'79 HARLEY DAVIDSON, Sportster, extras. Whiston, 292-5279.

'75 KAWASAKI 90cc dirt bike, includes helmet, face mask & repair book, \$250. Carlson, 268-9726.

SAILBOAT, 12' Hobie Monocat, \$500. Lenander, 256-0777.

PARTING OUT/or whole '76 Monza, custom machined 262 V8 engine w/trans., \$800 or best offer for engine. Jacobs, 292-6174.

'71 HORNET 2-dr., no reverse but adjustable, \$175. Brockway, 344-1901.

'73 VOLKSWAGEN bus, extra mounted snow tires. Zanner, 281-1789.

'79 HUSQVARNA 390 OR low hours, never raced, \$1350 or offer. Gajewski, 292-2857.

PORSCHE 356SC, 14,000 on rebuild, Konis, Michelins, BRA, cover, \$8500. Fisher, 298-0526.

BICYCLE, 10-spd. Free Spirit, made in Austria, chain & lock included, \$25. Pendall, 265-3008.

'76 TORINO Elite, 351 2-dr. HT, PS, PB, AC, AT, Michelins, cruise control, 65,000 miles, \$2750. Kubiak, 265-6525.

'75 MUSTANG II, V6, 4-spd., 43,000 miles, AM-FM stereo, \$2150. Gar-ton, 298-8510.

'78 BUICK Skyhawk, AC, PS, 5-spd. manual, Michelin tires, 22K miles, \$3800. Rand, 299-1048.

'74 VOLKSWAGEN Dasher, AT, PB, \$1375. Wood, 298-3489.

'72 OLDS Delta 88 4-dr., AT, PS, PB, AC. Clement, 299-2324.

BICYCLE, BMX CYC Stormer, candy red & metallic decals, Shimano equipped, pads & spongy grips, tuff wheels, \$75. Graham, 296-8163.

'72 AMC stn. wgn., 6-cyl., AT, AC, \$975. Ball, 292-2740.

### REAL ESTATE

3-BDR. HOUSE, all brick, lg. corner lot, super-sealed, insulated & expandable, \$63,500. Aragon, 294-4275.

REAL ESTATE for sale or build to suit. Bear Canyon area, \$21,000 w/full set of houseplans. Wilson, 296-5965.

8x35' American mobile home, liveable but needs work, \$2250, offer? trades? Brockway, 344-1901.

'SMART' house, well-insulated, under 1000 sq. ft., 3-bdr., 1 1/2 bath, garage, low interest, \$45,000. Korak, 296-1165.

RIDGECREST, 2-bdr., 1420 sq. ft. house, separate 2-car garage, shop, \$20,000 (or equity REC?) to assumable loan, \$635/mo., no qualifying. Feltz, 294-0175.

RENOVATED 3-bdr. house, 1950 sq. ft., pueblo style, Ridgecrest area, 3 1/2 miles from Sandia; assumable 10-5/8% mortgage, low equity, terms. Corradini, 266-4307.

2-STORY, 1685 sq. ft. mountain house on 1 acre, woodburner, country kitchen, stone fireplace, views, Sandia Knolls, assumable. Winslow, 281-1148.

### FOR RENT

HOUSE, 4-bdr., Eastridge area, walled yard, 5 miles to Base, available for summer only, \$400/mo. Lieberman, 299-7739.

### WANTED

BABYSITTING in my home, weekdays, Menaul & Wash. area. Lesperance, 255-1237.

HOME FOR CHULA—an exuberant 4-yr.-old Springer Spaniel, female, spayed, excellent watchdog, affectionate, loves to play. Harris, 268-7648.

PORTABLE GAS GRILL, patio chairs. Boyd, 298-4712.

PORTABLE dishwasher. O'Neil, 892-6754.

BUY or rent deep sea fishing gear—poles & reels. Massis, 299-5584.

COMPOST shredder, gas-powered. Roberts, 255-9527.

CANOE, prefer 15'. Martin, 296-8249.

APRIL 1974 issue of *American Cinematographer*; stereo cameras & accessories. Mattox, 821-3945.

SEARS 18 cu. ft. over/under refrig. w/freezer on top. Zanner, 281-1789.

AQUARIUM for kindergarten group, any size. Romero, 897-0083.

BUY OR BORROW: "First German Reader" and "German Stories," both Bantam paperback dual language books. Clark, 298-4913.

CHEVY V8 engine, rebuilt or rebuildable; 4-speed truck transmission for Chevy/GMC. Caskey, 881-9234.

BOAT TRAILER; swing set. Martinez, 865-9035 or 865-7795.

ANY WITNESS of a brown car that repeatedly attempted to run silver motorcycle off the road at Eubank, near the race track, Fridav a.m., April 24. Wolfe, 298-6394.

INFORMATION or experience pertaining to air ionizers for allergy relief. McConnell, 268-3109.

### SHARE-A-RIDE

WANTED, one carpooler from Rio Rancho, non-smoker. Elliott, 892-5895.

### LOST & FOUND

FOUND—Turquoise stickpin (initials B.P.); turquoise necklace; key, Curtis Y152; key for Ford Product #3607 in black holder; Rx glasses, men's, silver frame in black case; 3 pair ladies' sun glasses; gold earring (pierced); 4 pair ladies' Rx glasses, grey frame, black frame, brown frame, silver frame (bi-focal); brown sweater, man's.

LOST—Blue jean jacket, bicycling patches; 35mm slides; earrings; beige wool cap; gold chain bracelet; Toyota key; dark blue sweater (buttons down the front); cosmetic bag; car keys; Bensus watch, 17 jewel. LOST & FOUND, Bldg. 814, 844-7885.

# You're Invited To Open House

**HAPPY HOUR** tonight starts a brand-new month of activities at the C-Club. Your calendar discount coupon is good for \$2.50 off the top. Try the barbeque beef and ribs on the buffet. The Country Showmen play for dancing from 8 p.m. until midnight. Happy Hour prices (very reasonable) are in effect all evening.

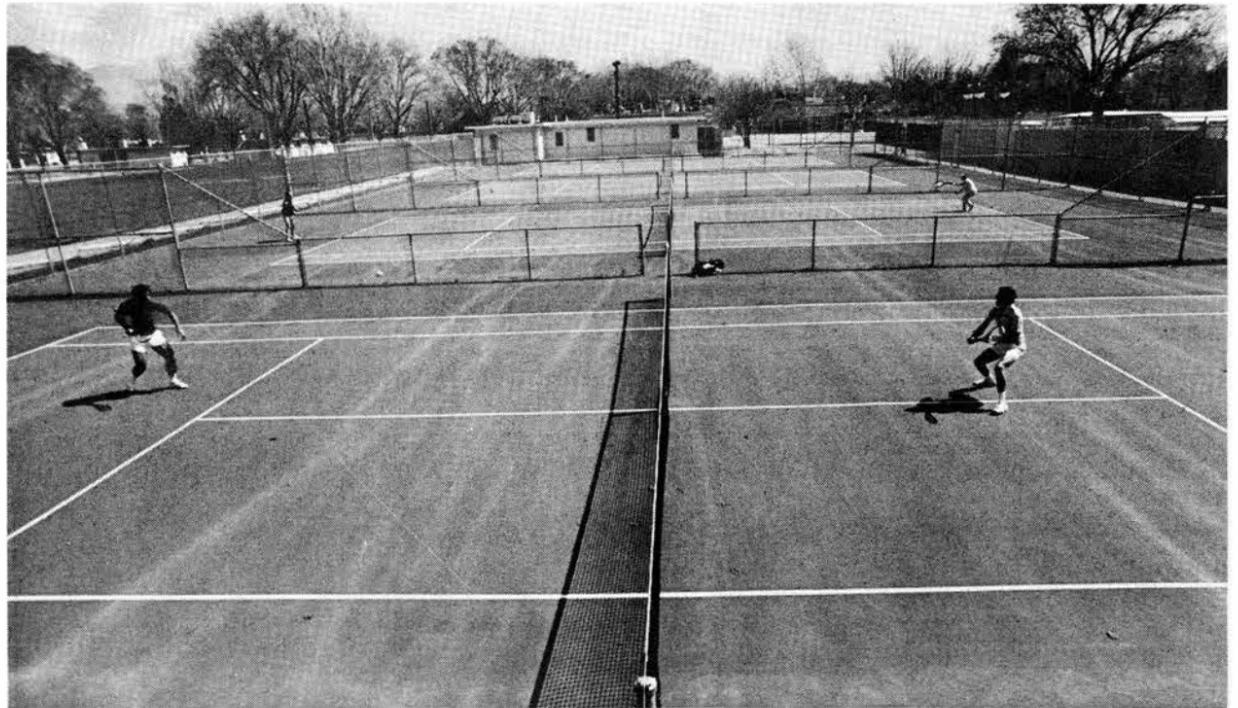
**VARIETY NIGHT** tomorrow features a Disney classic—*Bedknobs and Broomsticks*. This one bubbles with fantasy and fantastic animation. The kids will dig it—they'll also dig the super supper available at 5. The movie starts at 6. Admission is free to members and families.

**HAPPY HOUR** on Friday, May 8, features O. J. Metzger entertaining in the lounge and a group called Together holding the ballroom. The buffet features a 16-oz. T-bone with the works for \$7.

**ENROLLMENT** for swimming classes starts May 9 at 9 a.m.—first come, first enrolled. Classes are limited. If you're not a Club member, you can join the Club and enroll for swim lessons at the same time.

**THE CLUB INVITES** all Sandians and employees of associated contractors to an open house on Thursday, May 14, from 7 to 9 p.m. Come visit the Club and see what offerings there are for you and your family. Refreshments will be served.

**THE SIT-DOWN DINNER** this month is scheduled Friday, May 15, beginning with Happy Hour at 4:30. Oysters, escargots and sweet and sour meatballs are the appetizers available for nibbling. Dinner starts at 5:30 and features prime rib or king crab followed by cherry pie a la



**CORONADO TENNIS CLUB** has a limited number of temporary memberships available for the remainder of the year. Cost is \$65 for family memberships (\$44.50 for individuals) for full use of the four courts located west of the C-Club plus use of pool and patio facilities. Call Tom Lenz (4-8486), Ron Ward (4-2297), or Ed Leeman (4-7949) for sign-up.

mode or black walnut cake. No reservations required.

**TRAVEL DIRECTOR** Frank Biggs (4231) announces a new eight-day tour June 7-14 to the West Coast. The package includes the Riverside Casino in Laughton, Nev.; boating on the Colorado; a boat trip to Havasu City; visiting London Bridge; Disneyland; Sea World, Zoo and Balboa Park museum in San Diego; the Arizona Sonora Desert; and Old Tucson. The package also includes drinks and snacks on the bus and some meals. Cost is \$340 per person with a \$75 deposit required right

away. The tour visits Disneyland after Albuquerque schools are out but before the California schools close for the summer. Guests are welcome on this trip. Deadline is May 29 for signing up.

The bus tour to Las Vegas/Hoover Dam is a go trip May 24-27 but five seats are still available for \$132 per person.

Other trips open include Chaco Canyon (May 16, \$20), Mazatlan (June 1-8, \$354) and Cozumel (various dates, \$359).

See Frank in the lobby tonight between 6 and 7 and talk about China or New Zealand or details on any of the above trips.

## Fun & Games

Fitness Day '81—Is today. See page 1.

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**Silk screening**—Photo silk screening and other screening techniques will be taught in a class offered under the Labs Recreation Program at the Base Arts & Crafts Center. Beginners and advanced students are welcomed. Contact: Tom Lenz, 4-8486.

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**Running**—Coming up: May 2, Marine Corps 10k run for muscular dystrophy at Taylor Ranch; May 9, 1st annual 5k Symphony Run at Eldorado High. LAB NEWS has entry forms.

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**Biking**—If you're thinking about biking to work but are a bit concerned about the route to take, then call LAB NEWS (4-1053) for a copy of "Bike Guides," a list of Sandia bikers who have volunteered to show the new biker the routes they have found best. The list is arranged according to the principal intersection nearest to the home of the bike guide.

The Century, the 100-mile Tour of the Rio Grande Valley, is this Sunday (May 3), but if you haven't already signed up, you're too late. No registrations will be accepted on Sunday. Coming up: the inaugural Gardenswartz Sportz Criterium on May 17

with races of 20 and 25 miles and \$800 in prizes.

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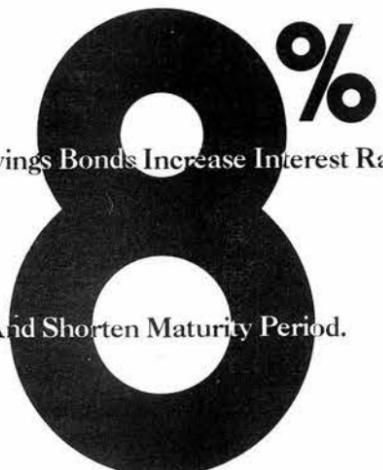
**Corporate Cup**—The 100 and some Sandians who have signed up for this event (scheduled for the weekend of May 16-17) have two more opportunities to practice at Milne Stadium—Sunday, May 3, from 2 to 4 p.m., and Sunday, May 10, from 4 to 6 p.m. Make an effort to attend one of these sessions, says Coach Henry Dodd—he needs your times in order to optimize team organization. Also, if you don't have your Sandia T-shirt (required under CC rules), stop by the LAB NEWS office to pick one up.

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**Motocross**—At last weekend's Rattlesnake-100 Desert Race in Espanola, four Sandians placed in this grueling motorcycle event: Carlos Quintana (5811) with a 2nd, Jim Buttz (1761) with a 4th, Ben Martinez (1521) with a 2nd, and Mike Garcia (1723) with a 3rd.

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**Frisbee**—Larry Kovacic (1471) reports that you'll have an opportunity the weekend of May 9 and 10 to see a brand of disc flipping that's pretty far out. The occasion is the qualification round for the World Frisbee Championships in the Rose Bowl this summer. It takes place at Johnson Field at UNM, and spectators are invited to come out and enjoy the action.



U.S. Savings Bonds Increase Interest Rates

And Shorten Maturity Period.

**Here's some good news** for those already holding or about to purchase U.S. Savings Bonds.

The Treasury has announced that effective Nov. 1, 1980, all Series EE Bonds will earn 8% interest if held for 9 years. Intermediate yields will also rise from 4½% to 5½% after one year and to 7½% after five years.

All outstanding Savings Bonds will also benefit from a 1% increase to their next maturity. U.S. Savings Bonds are now growing bigger, faster. So they're an even better way to save than they have been over the years.

They're still safe, still guaranteed, still easy to buy through the Payroll Savings Plan. But now the interest rate has been improved. And the maturity is shortened so that you reach that full 8% a lot quicker.

Take another look at Bonds. As a saving instrument. At the tax benefits. At the new interest rates. The shortened maturity. Bonds do make sense. For you and for your country.

