



# LAB NEWS

VOL. 40, NO. 7 SANDIA NATIONAL LABORATORIES APRIL 8, 1988

AND APRIL ARRIVED — with a vengeance — last Friday. Unidentified Sandian strolls snow-free sidewalk swept by seven stalwarts from Support Services Section 7813-4. Supervisor Eddie Gonzales called the crew to work at 4 a.m. to deal with

ten inches of snow in Tech Area I. Most major sidewalks were cleared by 8 a.m. This view is on the 11th Street Mall, looking north from M Street. (Photo by Gerse Martinez, 3162)

## 20 Questions — and More

### SNLA's All-Time Favorite Security Questions

Every day, it's another game of 20 Questions — sometimes more.

Employees in Safeguards and Security Services Dept. 3430 face security-related queries — many in the “repeater” category — on a day-in, day-out basis. LAB NEWS recently talked to people in several 3430 organizations to find out which questions crop up most often, and why it's important that Sandians know the answers.

Labs employees are a diverse group of people, but there's one thing all Q-cleared Sandians have in common: the badge that we show security inspectors to gain entry to “inside-the-fence” security areas (tech areas, we call them). Have you ever wondered why the inspector takes your badge in hand when you enter the area, but doesn't when you leave?

#### Checking for Alterations

“That's a question we get all the time,” says Bob Baca, supervisor of Patrol Div.-North 3434. “Of course the inspector must assure your identity by comparing your features with the badge picture. But another — and equally important — reason you're asked to hand over the badge is to allow the inspector to check for alteration or defacement, and to assure that the badge is a valid one. If it looks as if the badge has been altered in any way, the inspector will ask you to stop at the Badge Office to obtain a new one.”

When an employee exits the tech area, the inspector is required to assure only that the person has a badge. That policy — like others in place at Sandia — complies with DOE security requirements. But more importantly, according to Bob, the procedure allows an inspector to concentrate more on what an exiting person may be carrying — instead of on a credential that was inspected when the person



SECURITY INSPECTOR STEVEN WEDDLE (3434) takes the badge in hand when an employee enters the tech area, but not when he leaves. To find out why, see story.

entered the area.

From time to time, employees may experience something more than a badge check as they enter or exit the tech area; the guard on duty may also inspect packages, purses, briefcases, and similar items as part of the random gate-search program (see LAB NEWS, April 10, 1987).

Speaking of badges, Phil Rivera, supervisor of Visitor Access and Administration Section 3437-1 (that's the Badge Office to most of us) says he's occasionally asked by male employees why they can't have two badges — one for use when they wear a beard, and one for the times they decide to adopt a clean-shaven look! “We can issue only one badge at a time

to an individual,” says Phil. (Again, this is a DOE regulation.)

Another question often asked of Badge Office people relates to temporary badges, issued when an employee's official badge has been misplaced or lost. The question: Why the 10-day wait for a permanent badge replacement? The answer: Ten days allows a reasonable amount of time for a mail-return — and experience also shows that “lost” badges often turn up during that period.

Though showing a security inspector your badge

(Continued on Page Six)

# Antojitos

**Ever Wonder Why Sandia Prefers Engineers with PhDs?** "Engineering is the art and science of taking a bright idea and adding manpower, money, materials, and energy to produce a product the public wants at a price it can afford. . . . After the great expansion in science during World War II, it was recommended that engineering education be made more scientific, with the result that more theory and science courses were tacked on [to the undergraduate engineering curriculum in the US]. Something had to be sacrificed. Courses in the use of engineering tools and materials were the first to be dropped. Then those in design, manufacturing, and the use of heavy machinery were out. The graduates of programs based on the pared-down curriculum resembled research scientists more than they did engineers able to design and manufacture turbines, generators, transformers, and internal combustion engines. . . ."

"At the same time, the glamour of new technology has attracted many students away from the traditional and essential basics of engineering. Learning about electrical machinery, power transmission, diesel engines, or internal combustion has given way to learning about lasers, computers, and microwaves. As a result, industry cannot find engineers with basic engineering skills. . . . The time has come to admit that four years of undergraduate study cannot produce a fully competent engineer, any more than it can produce a fully competent physician. The undergraduate engineering curriculum should include the basics of engineering, plus the courses required for a liberal-arts education. That preparation should then be followed by specialized studies leading to a graduate degree in engineering."

—Eric Walker (Penn. State Univ.) in  
Chronicle of Higher Education 12/2/87  
\* \* \*

**Sandia and the Saudis** — Add to our last issue's list of publications that picked up the story on Sandia's parallel processing coup the Arab News, which is published in Jeddah, Saudi Arabia.

David Townsend, a Tech Reps employee who works with Sandians in Div. 6451, sent the clipping. He also notes that "Sandia, of course, has been involved in other projects in the Kingdom, notably the solar photovoltaic complex ('the world's largest') at Jubaylah, near Riyadh.

"While caught in a traffic jam in downtown Riyadh in 1982 [David goes on], I spotted a Sandia vehicle a few lanes away. I tried to get the attention of the occupants, but was unsuccessful at that or in following them. However, just seeing them made me feel a bit more at home."

Okay, preoccupied Sandians in exotic foreign lands, look out the car window once in a while.

\* \* \*

**Late Word from Cairo** — Gary Jones (6223), who spent most of March in Egypt, saw the UPI's version of the parallel processing story in the March 26 edition of Cairo's Egyptian Mail. ●BH

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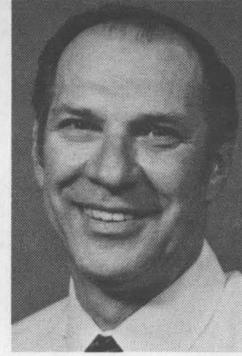
**On Work:** "Anyone can do any amount of work provided it isn't the work he or she is supposed to be doing at that moment."

— Robert Benchley

The human race is faced with a cruel choice: work or daytime TV.

—Anonymous

## Deaths



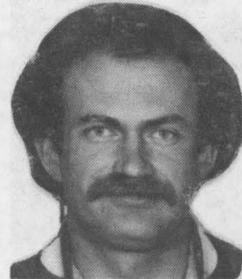
Donald Burns of ESD II and Computer Aids Development Div. 2542 died March 26 after a long illness.

He was 54 years old.

He had been at the Labs since June 1956.

Survivors include his wife, three sons, and two daughters.

\* \* \*



John Wray of Radiation Physics and Diagnostics Div. 6454 died suddenly March 23.

He was 37 years old.

He had been a tech aide at the Labs since October 1978.

Survivors include his son and his mother.

## Sympathy

To Francisco Sanchez (7818) on the death of his wife, and to Richard Garcia (7818) on the death of his sister in Tijeras, March 19.

To Fred Norwood (1533) on the death of his mother-in-law in Mexico, March 20.

To Linda McNeil (3523) on the death of her mother in Cimarron, March 20.

To Gilbert Aragon (7812) on the death of his father in Pena Blanca, March 24.

To Bobbie Taylor (7412) on the death of her grandmother in Los Angeles, March 27.

To Merlene Candelaria (22-2) on the death of her father in Chimayo, March 29.

To Melvin Johnson (7535) on the death of his father in Caldwell, Kans., March 29.

## Congratulations

To Amintha Lopez and Jay Petersen (8285), married in San Jose, March 26.

## Retiree Picnic Set

Sandia Albuquerque's Annual Retiree Picnic has been scheduled for Thursday, May 26. Invitations will be mailed to all retirees and surviving spouses in late April.

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PHIL APODACA (7556) stands beside his award-winning photograph "Keys on the Rocks." It took first place in the past presidents category of the competition sponsored annually by the New Mexico affiliate of Professional Photographers of America. "This year's theme for the category was 'keys,'" says Phil. Unable to find keys with just the look he wanted, Phil made the keys for his photo himself. Phil also received awards for "Touch of Blue," "New Mexico Silver," and "Quit for the Day."

## Device Improves Data Collection from Penetrator Flight Tests

An improved data-acquisition system built to withstand the rigors of earth and water penetrator tests has been designed and tested successfully aboard TVAs (test vehicle assemblies) by Sandia Livermore.

Called the Livermore Data Recovery System (LDRS), it stores digitized data in its on-board random access memory (RAM). The new unit is both compact (7 inches in diameter, 4.5 inches thick) and versatile (up to 32 individually programmable channels, each one with a variable frequency response). It can collect analog data at a rate of 400,000 samples per second. Earlier penetrator data-collection systems had far fewer data channels available.

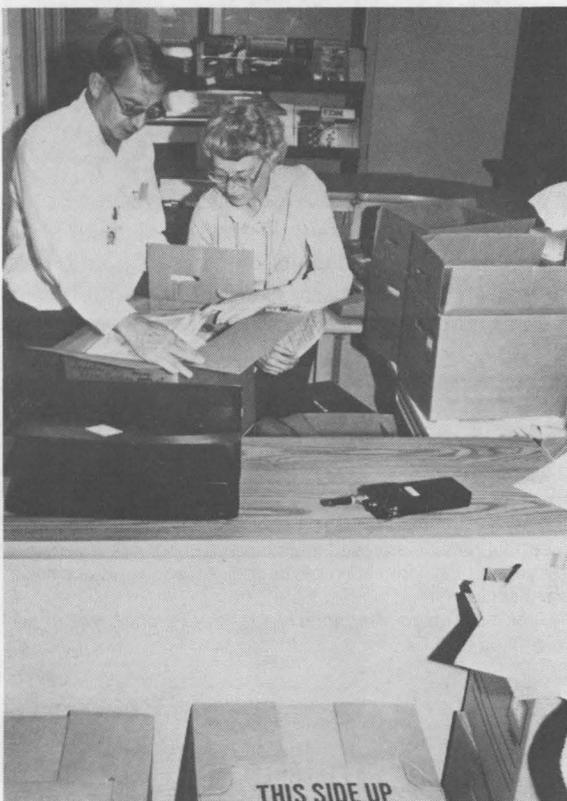
Tim Eklund of Flight Test Instrumentation Systems Div. 8142, working with Don Stoner (also 8142), designed the electronic circuitry. "The package must withstand extremely harsh environments — for example, being slammed into the ground at 2500 feet per second [1700 mph]," says Tim. "It must then continue to operate after impact for the 200 milliseconds needed to collect data, and to store the information until the test vehicle is recovered and the information is unloaded."

Once a TVA is recovered, it is brought back to Sandia Livermore for disassembly. The data are then read into a computer for analysis.

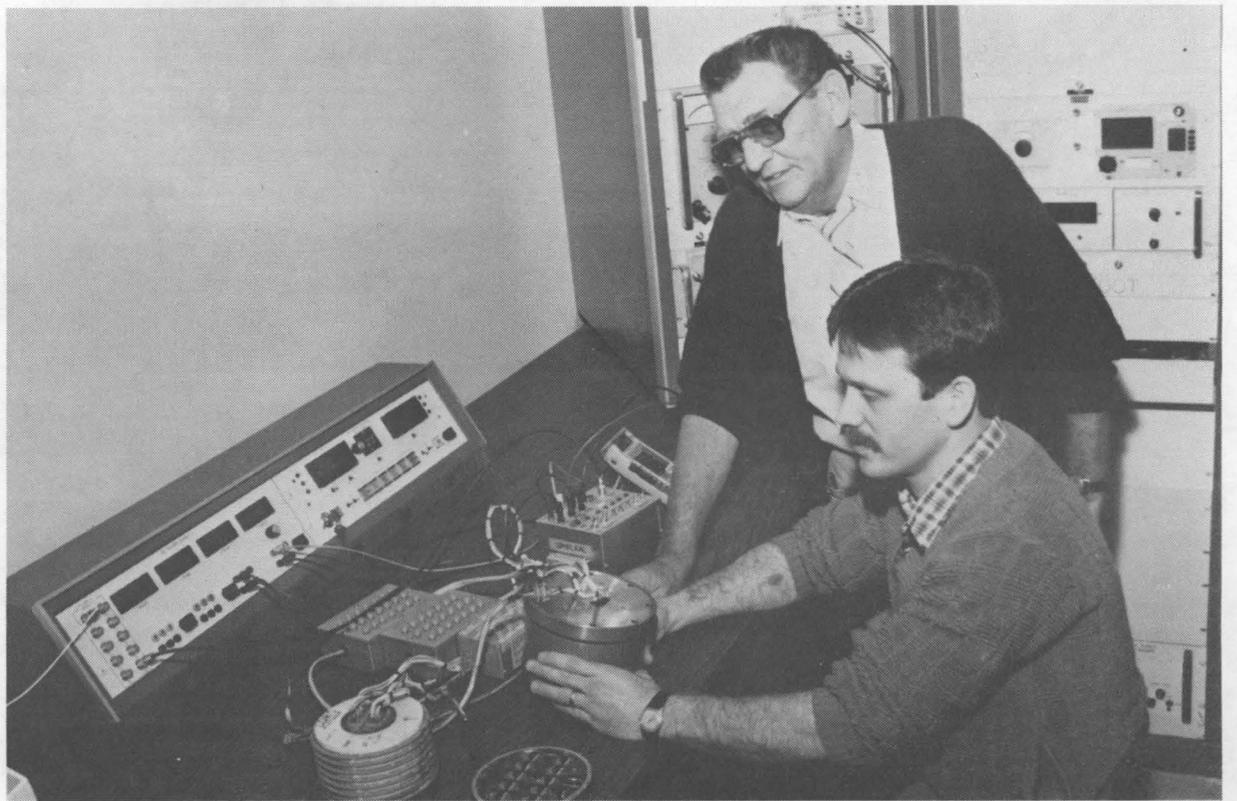
### Proved at Tonopah and Kauai

During flight tests of the LDRS at Tonopah and Kauai Test Ranges, Whitey Sorensen (8142) was in charge of instrumentation. Two types of flight tests were conducted at Tonopah; one used the Davis gun, which fires a test device into the earth to simulate the end of an earth penetrator's trajectory. The second used a mobile launcher to fire a penetrator nearly straight up; it returns to earth at speeds similar to those attainable with the Davis gun — up to 2500 feet per second.

Water penetrator tests were conducted at the underwater test range off Kauai. Advanced Systems Division 8152 was responsible for the design and testing of both the earth and water penetrators.



MOVE INTO the first floor offices of the Weapons Engineering Lab (Bldg. 910) began March 26, with the second floor move planned for today and the third floor occupancy slated for April 16. Shown unpacking are Bob Tockey (8141) and June Winter (8142), as Dept. 8140 and Div. 8164 were relocated to their new quarters. Labs in the building will be set up between now and October. Ground was broken three years ago (April 10, 1985) for the 48,000 (net)-sq.-ft. three-story-plus-basement laboratory building, the first structure designed specifically as a general purpose laboratory on-site since Sandia began operations in Livermore 32 years ago.



DIFFERENT STAGES of assembly for the Livermore Data Recovery System (LDRS) are shown by Tim Eklund, seated, and Whitey Sorensen (both 8142).

"Our biggest problem in designing the data-collection system was to find batteries that would survive the impact shock," says Tim. The 18-volt nickel-cadmium batteries that power the data-acquisition system must be backed up by 3.5-volt lithium-thionyl-chloride batteries that allow the data to be retained in memory until the test unit is recovered. The data within the LDRS have a life of approximately six months.

"I'm happy with the way the LDRS is now operating," Tim adds. "It works well, even under the extreme shock environment of earth penetration."

One more test shot is planned for this month at Tonopah, but the instrumentation for the penetrator program is already being transferred to Albuquerque.

The telemetry engineers in Dept. 1540 are no strangers to penetrator instrumentation. They have designed a data-acquisition system similar to the LDRS, but it's smaller and has fewer transducer channels.

## Take Note

The names of these Sandia women were omitted from the list of participants in the Expanding Your Horizons conference at Chabot Valley Campus that appeared in our last issue: Bonnie Spencer (8532), Karen Sheaffer (8235), and Lynda Hadley (8285). Bernie Marx (contract employee) also participated.



## SANDIA LIVERMORE NEWS

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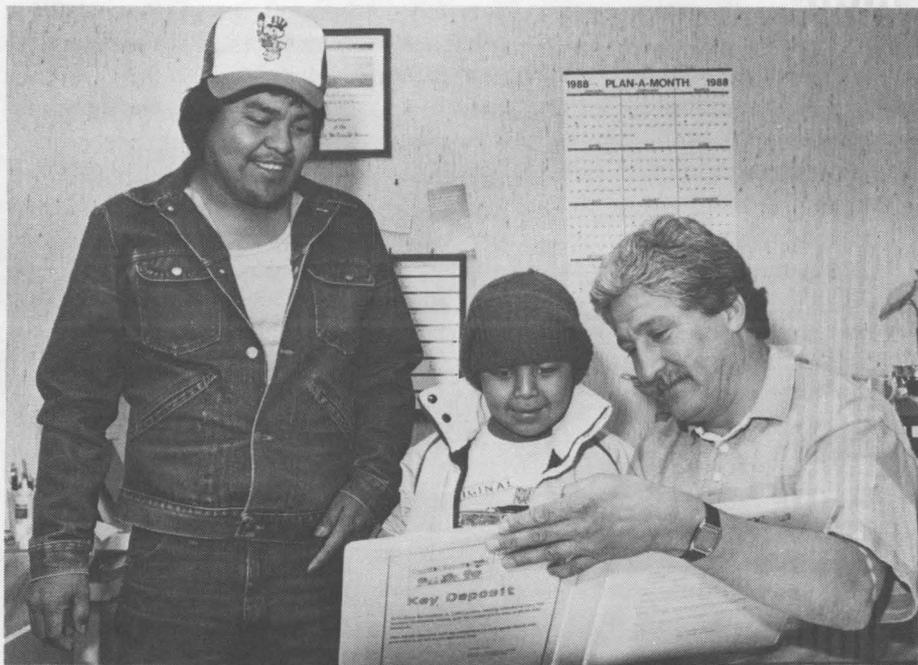
QUALITY AWARDS — Six Sandians were recently recognized for their contributions to the quality of weapons work within the DOE production complex. Making the presentations was Bob Hymer (left), assistant manager of the Office of Development and Production at DOE's Albuquerque Operations Office. Recipients were Norm Toly (8271), Pete Royval (8445), Al Reichmuth (8445), Don Starkey (8162), Morris Mote (ret.), and Jerry Hunting (8162). VP John Crawford (8000) holds the plaque to be displayed in the lobby of Bldg. 911. The Sandians' efforts led to process improvement, greater producibility, decreased rework and deviation paperwork, improved product yields, and cost reductions.



# Sandia Celebrates National Volunteer Week



SYMPHONY BRASS concert is President Welber's way of saying "thank you" to the 928 Sandians who are members of VIA (Volunteers In Action). The concert, which Irwin will host, is at noon on April 18; all Sandians — VIAs or not — are invited. Members of the Symphony Brass, a subgroup of the NM Symphony Orchestra, include (from left) Byron Herrington, Peter Bond, Steve Anderson, and Steve Rossé.



HAIL TO SANDIA'S VOLUNTEERS — In left photo, volunteer Moises Lucero (3426) helps Damon Apochito and son Diego check in at the Ronald McDonald House. "I spend one Saturday a month doing whatever needs doing — checking people in, giving rides, making repairs," says Moises. He also donates time to the All Faiths



Receiving Home. In right photo, retirees Bob Reineke (left) and Les Minnear show that four hands are better than two. They've teamed up for many years now to help out the Albuquerque Civic Light Opera. They meet there every Tuesday morning to take on any repair job that stage hands and crew can't handle.

## Spare Your Wastebasket

If you're about to retire or leave the Labs, don't toss your historically valuable records.

Corporate Historian Necah Furman (3151A) is looking for audiotapes, records, and photos.

Call her on 6-9619.

## Why is Technology Unpredictable?



... Technical experts are reasonably good at anticipating the kinds of performance improvements that can be teased out of a given technology once it has been established and its working principles are fairly well understood. Why, then, can't they deal the same way with new technologies? The answer is largely that the impact of new or improved technologies is not just a matter of translating such information into its potential economic and social significance.

Nathan Rosenberg, *American Heritage of Science & Invention*

## Retiring



Earl Morris (5152)

32 yrs.



Roger McKenzie (2340)

36 yrs.



Prospero Toledo (7818)

23 yrs.



Bob Leighninger (2343)

30 yrs.

## AT&T/Sandia Conference Narrows Gap Between Groups

AT&T's "Task Group V" — but not I, II, III, or IV — survived divestiture and proved itself alive and, well, *well* at a first-time-ever gathering of the group at Sandia last month. "Never before have so many AT&T people come to Sandia at one time for a technical exchange," says Jim King, Director of Materials Process Engineering and Fabrication 7400.

Officially called the Surface Finishing Technology Task Group, Task Group V (and its shorter-lived compatriots, such as groups on solderability, organic finishing, and interconnections) was established in the 1950s (maybe earlier) to ensure that technologies developed at any of AT&T's far-flung R&D labs and "works" (production facilities) were shared among all of them.

Because of some concerns about whether Sandia could properly protect AT&T proprietary information from other nuclear weapon complex contractors (some of whom are AT&T competitors), Sandians were traditionally not invited to Task Group V's annual meetings (see "Evolving Relationship" story).

That tradition changed for this year's Task Group V meeting. One reason is that Jim Voytko, of Printed Circuit Div. 7413, is not only a former AT&T Technologies Senior Staff Engineer; he was then and is now the chairman of Task Group V.

Jim, incidentally, is the first AT&T staffer to make a "direct transfer" to Sandia; that is, he's not on leave from the parent company.

Another reason for the change is that Jim King (who was on leave from AT&T to Sandia from 1965 to 1987, when he became a full-fledged Sandian) and Dick Schwoebel, Director of Materials and Process Sciences 1800, recognized the prospective advantages to both AT&T and Sandia of bringing together the experts in metal coating technologies for candid discussions of problems and solutions.

The recent Task Group V meeting was, then, hosted by both 7400 and 1800 with assistance from Sandia's and AT&T's legal organizations on how to deal with AT&T's proprietary information problem — treat all discussions as "company private."

The two days of technical meetings — mostly on electroplating and electrochemistry — included the presentation of 30 papers, a dozen or so of them by Sandians (see below). In addition, all the AT&T visitors toured Sandia's pulsed-power fusion facilities and Coyote Canyon Test Complex. Several of



IN A PLATING LAB, the ultimate focus of the joint AT&T/Sandia conference they and other Sandians staged, are (from left) Kay Hays (1841), Ray Bland (7413), Jim Voytko (7473), and Terry Guilinger (1841). Others on the organization committee were Don Sharp (1841), Dick Knutson (DMTS, 7411), and Ed Martinez (7473).

them also visited the labs of their Sandia counterparts to gain "on the job" insights into Sandia-developed coating techniques and facilities.

### Names and Places

Those attending the Task Group V meeting included representatives from AT&T Bell Labs locations in Murray Hill, West Long Branch, (both in New Jersey), Merrimack Valley (Mass.), Columbus (Ohio), and Atlanta. Others came from AT&T Technologies sites in Richmond, Va.; Shreveport, La.; Kansas City; Atlanta; Springfield, N.J.; Allentown, Pa.; Nassau, NY; Omaha; and Reading, Pa. And some came from AT&T's Engineering Research Center in Princeton, N.J. "The Task Group V meeting provided the first look at Sandia for many of the 46 who attended," notes Jim King.

Sandians who spoke, served on panels, and/or

wrote papers for the meeting were: Carl Seager (1143), Gerry Nelson (1823), Don Sharp, John Smatana (both 1841), Janda Panitz, Larry Pope (both 1834), Kay Hays, Art Mullendore (DMTS), Terry Guilinger, Tom Christensen (all 1841), Jim King (7400), Dave Norwood (7411), Jim Voytko (7413), Bill Conley, Dick Curlee, Scott Reed (all 7471), Dick Rohde (8310), Rudy Johnson (DMTS), Bill Bonivert (both 8312), and Duane Lindner (8313).

"I think there's a good chance that some of these Sandians will be invited to the next Task Group V meeting next year at an AT&T location," says Jim Voytko. "And, because of several requests during this year's meeting, we're investigating ways to include selected AT&T people in the distribution for relevant SAND reports.

"It was definitely a successful first-time-ever conference." ●BH

## Sandia and AT&T: An Evolving Relationship

Time was when official AT&T policy labeled Sandia a separate corporation that must be treated as such — in fact, that's the gist of an outdated CI (Corporate Instruction) from the old Western Electric Company that's still floating around some outlying AT&T locations.

"As we look back on it now, that 'separate corporation' concept created some artificial barriers, many more than necessary to protect AT&T's interests," says Dale Jones, AT&T Technologies Director of Financial Planning and Support. "The concept spawned a concern with 'conflict of interest' — AT&T didn't want to be perceived as profiting from its operation of Sandia."

"The relationship was affected by altruism on AT&T's part. It saw its operation of Sandia as a patriotic duty," says Bob Jackson, manager of Technology Transfer in AT&T's Federal Systems group in Greensboro, N.C. He's currently on a temporary assignment in Technology Transfer and Management Dept. 4030.

"But we're now also asking 'Why should we not gain from Sandia's tech transfer efforts to the same extent that other US industry does?'" Dale adds.

"Government regulations permit AT&T to request ownership of patents on a Sandia invention if it sees a way to commercialize that invention," says Bob. "And certainly Warren Corgan [Federal Systems Corporate VP] is well aware of the great technology Sandia develops — he was a director out here for several years [1969-72]. What AT&T is saying is that, just as Sandia technologies are made available to other US industry, they're to be made available to AT&T as well."

### New Ways to Cooperate

The new AT&T-Sandia relationship is corroborated by Kurt Olsen, Manager of Patent and Licensing Dept. 4050; he's on leave from AT&T Bell Labs. "The two companies continue to explore new ways to cooperate," he notes. "In fact, AT&T's contract with DOE for the operation of Sandia calls for both cooperation and the protection of proprietary information.

"Certainly the joint AT&T/Sandia Task Group V meeting is a good example of this evolving relationship," Kurt continues. "It's exactly the kind of interchange that Sandia's and AT&T's senior executives — especially Tom

Thomsen — have been encouraging."

That encouragement takes several forms. "At a minimum, the effort fosters information flow, so people in both companies have a better appreciation for the technologies developed by the other one," says Dale. "That appreciation is helped by the gradual confluence we've seen in components and microelectronics in recent years."

"In the past, Sandia went down one technical street — weapons. AT&T went down the telecommunications street," explains Bob. "But we're now realizing that both streets have common building blocks: electronic systems — microelectronics, VLSI circuits, and so forth. So there's much more convergence than divergence in our paths and, therefore, much more cause to open the lines of communication."

Opening lines of communication with AT&T includes promoting a greater flow of information in both directions to benefit both companies, according to Dale. "And it includes moving people, like Jim Voytko [7413], between the two companies — the ultimate tech transfer device."

## South Area Rules Are Different

Gate procedures "down south" at Area V raise a whole new set of questions. According to Sam Ortega, supervisor of Patrol Div.-South 3435, Area I residents are often surprised to learn they must present picture ID such as a driver's license — as well as an SNLA badge — at the Area V gate. "Area V is a unique R&D facility," says Sam. "For example, it houses Sandia's research reactors. Special attention to safety and security is necessary; that's why we have a set of different procedures in place."

Visitors to Area V must have received prior entry authorization from an Area V resident, according to Sam. The picture ID and "regular" badge are exchanged for an Area V badge and a radiation dosimeter; a record of the Area badge then goes into an accountability computer system at the gate. Should an evacuation alarm be sounded, all people inside Area V check in at Bldg. 6582, where their Area badges are "read" at the building's accountability computer station.

"The computer gives us a quick reading on which people are still inside the Area," says Sam, "and the reentry team can immediately start procedures to locate and remove them."

When Area V is evacuated, the Area III gate is secured. The question is "Why?" "The Area III gate is closed and road blocks put in place so that Area III residents can't travel past Area V and, in the process, possibly expose themselves to some hazard — radiation or other," Sam explains. "If necessary, we'll set up alternate routes for Area III evacuation."

### Military Convoys

Speaking of "down south," what should employees do when they encounter a military convoy operation in the area? "Air Force Security Police are often posted where side roads intersect with the convoy route," Sam says. "Or a chain barrier across a side road will be used to halt traffic until the convoy has passed by. An employee should stop his or her vehicle, turn off the engine [see below], and remain inside the vehicle until the chain is removed or authorization to proceed is given by a Security Police officer."

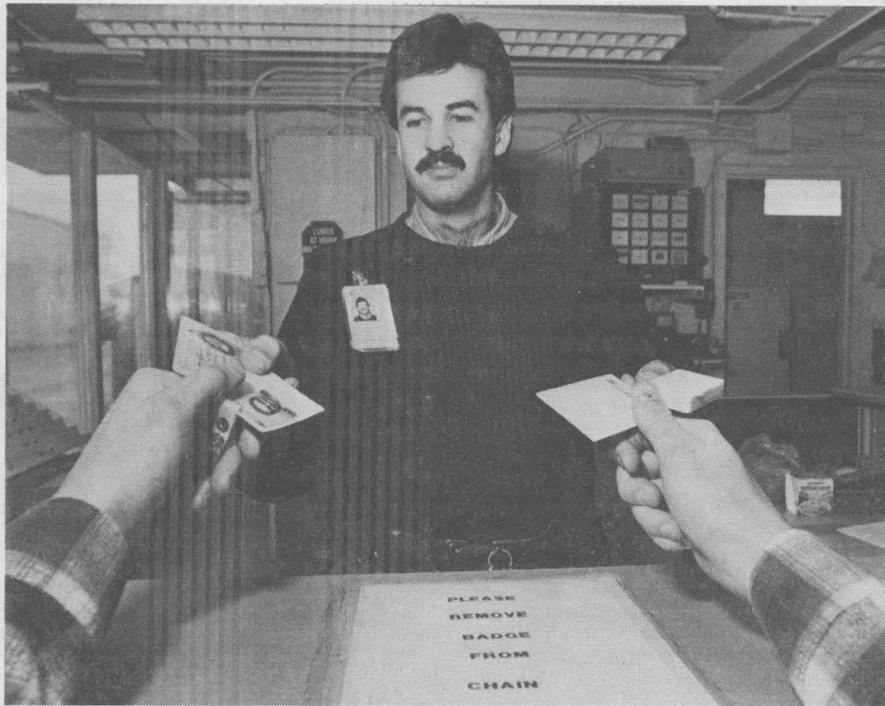
"Joggers and bicyclists should also get behind the nearest chain barrier and wait until vehicular traffic gets the go-ahead," adds Sam.

(You can use your own judgment about turning off the engine of your vehicle, Sam says; that suggestion's made in the interests of conserving fuel and avoiding any chance of carbon monoxide poisoning. However, if it's a 90-degree day — or a 15-degree one — you may want to use that air conditioner or heater.)

In case a medical emergency at a remote site in the South Area coincides with a convoy operation, procedures are set up to respond, according to Duane Hughes, supervisor of Emergency Preparedness, Security Operations Training Div. 3438. "UNM Hospital's helicopter, Lifeguard I, is on call and can reach any of our sites in about 10 minutes," Duane says.

"We've also made arrangements with the Air Force to permit a Sandia ambulance or emergency vehicle to pass through the convoy," he continues. "It's important to remember that Sandians should never attempt to cross the convoy or evacuate an injured person in a personal vehicle. That would only delay the response process and could possibly result in additional injury to the patient."

"Employees can trigger the appropriate response by dialing the emergency phone number — 144."



PICTURE ID and "regular" badge (left) are exchanged for a radiation dosimeter and visitor badge when you enter Area V. Security Inspector Paul Justice (3435) demonstrates the procedure. (LAB NEWS has learned that the picture ID requirement may be eliminated sometime in the future; however, Area V visitors would still be issued a dosimeter.)

(Continued from Page One)

## 20 Questions

at a tech area gate is probably the most common means of entry, you may find yourself entering through one of the nine Mardix booths scattered along SNLA fence lines. The booths, though unmanned, work on the same principle. After entering the booth, you place your badge on a viewer and stand in back of it so that the booth operator — at another location — can compare your features with the badge photograph. Once that's done, the operator remotely releases the lock on the door between you and the tech area, and you're on your way.

But what if you're escorting an uncleared visitor? Can you use a Mardix booth? Yes, according to Bob Baca. "Employees, though, should remember that bringing an uncleared visitor through a Mardix booth will take a little more time than bringing someone through a manned gate," says Bob. "You and your visitor enter the booth together, and the Mardix operator will lead you through the procedure. First, you'll show your badge and the escort form; then your guest must show his or her visitor's badge."

Sometimes getting through a Mardix booth — with or without a visitor — requires what seems like a very long wait. At peak hours — around lunchtime, for example — there's a good reason. "All nine booths may be in operation, and there's usually only one operator," Bob explains. "And that person has other duties as well. Still, our goal is to be able to provide Mardix-booth assistance within a minute or two." (Mardix "customers" are helped in order of arrival in the various booths, so if you've just entered a booth, you may have to wait a short time.)

### Waiting for a Clearance

Security questions aren't confined to badges and gate procedures. For example, waiting time for clearances also gets its share of attention — and understandably so — from new Sandians who must spend their time outside the fence until their "Qs" come through. The most common question, of course, is "How long will it take to grant my clearance?" And a natural follow-up: "Is there a way to check on the progress of my clearance request?" Until recently, according to Phil Rivera, the clearance process was usually completed in about eight months; now, however, the waiting period is somewhat longer. (Several reasons are behind the longer wait, including increasingly complex investigations and a limited number of investigators and clerical support people.)

And, Phil says, it does little good to call the DOE/AL security people to check on clearance progress. They are authorized to say only that a clearance is still pending. It's said that patience is a virtue, and that maxim certainly applies if you're waiting for a clearance.

Phil's group also does a booming business in Base decals — vehicles' "entry tickets" to Kirtland AFB. In the not-too-distant past, when an employee bought a new or used car, he or she could get a decal before being issued a permanent license plate.

No more, though. "People just weren't sending us the license information that we needed to complete our records," says Phil. "So now we don't issue decals until the license plate is on the vehicle."

(Sandia received special approval from the USAF several years ago to have its own decal system — provided the Labs complied with certain DoD regulations. Meeting those regulations is important; that's why Phil has a special set of rules governing decal issuance.)

### Business Travel

Before employees travel to other facilities, they naturally ask questions regarding access at those sites. Perhaps the one asked most frequently is "Can I use my Sandia badge to get inside restricted areas at [name of facility]?" The answer: Sometimes yes, sometimes no. Sandia Albuquerque has reciprocal agreements with Los Alamos National Laboratory, DOE/AL, Sandia Livermore (but not Lawrence Livermore), and Tonopah Test Range; SNLA badges are honored at those sites. If you're visiting facilities other than those, however, you'll need to submit a visit request through the Badge Office.

"Employees should be aware that it takes us two days to prepare a visit request and obtain DOE/AL approval," says Phil. "Then we notify the facility that will be visited. We transmit the forms to DOE/AL for approval just once a day — at 11 a.m. And we get them back the next day at that time."

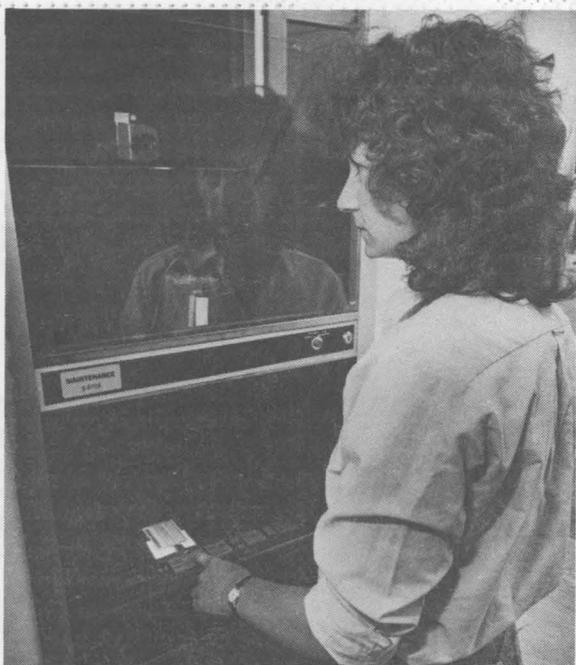
Translation: If you submit a visit request to the Badge Office in the afternoon, it won't be sent to DOE/AL until 11 a.m. the next day. Moral: Allow yourself plenty of time on a visit request, or you may find yourself handcarrying the request to DOE/AL so that you can meet your visit schedule. (If possible, visit requests should be submitted 10 working days beforehand. The Badge Office can handle requests on an emergency basis, but doing so is inefficient and means that something else has to wait.)

The handling of classified documents also generates a number of questions, according to Mike Corcoran (3437). "Often we get questions on how to get documents to shipping or to the mail room for overnight delivery," says Mike. "Or somebody asks whether there's a current mail channel to such-and-such a facility."

On the question of overnight delivery, Mike says, the mail room accepts only Confidential documents for transmittal by US Express Mail — and then only if a classified mail channel exists. Secret documents are sent via Federal Express; a shipper form is required, and the document/material must be handcarried to Bldg. 957 for processing.

Up-to-date mail channel information is available from several VAX systems at SNLA, according to Mike. Here's a list: Bldg. 823, SAV-00; Bldgs. 960/980, SAV-23; Bldg. 891 VAX cluster, SAV-30; Legal Management System, SAV-97; and (for 2600 users only), SAV-59. "The system works well and is available to all employees who can access a VAX inside SNLA tech areas," says Mike. "PC users also

(Continued on Next Page)



HERE'S WHAT YOU DO when you enter a Mardix booth: Place the badge (face down) on the waist-level viewer and look straight ahead into the mirror (camera).

### **(Continued from Preceding Page)**

can access the system through V-Term software. We'd like to see more people using it."

Tim Lucero (3437) fields many questions about safes and vaults used to store classified information. "People wonder, for example, whether the same lock combination can be used for more than one safe, combination lock, or vault in the same organization," says Tim. "The answer is no; each repository must

have a lock combination that's different from any other."

Tim also reminds employees that combinations are classified and should be memorized — not written down on a calendar, driver's license, or some other place. "When security inspectors patrol office areas," says Tim, "they become suspicious of notes on calendars, such as 'Sam's birthday: 10/03/34.' If 'Sam's birthday' turns out to be your safe combination, you'll get an infraction."

### **Foreign Visitors**

Tim also handles queries related to visits of foreign nationals at the Labs. The questions often relate to what approvals are required beforehand. "That depends on the nationality of the visitor and the length of the visit," Tim explains. "If the visitor is from a non-sensitive country and the stay is six days or less, the approval of an SNLA vice-president is required. If the stay is seven days or more, both VP and DOE/AL approvals are required, with a 30-day advance notice."

"Visitors from sensitive countries require VP and DOE Headquarters approval for visits of any length," Tim continues, "and that's with a 45-day advance notice." (Sensitive countries are identified by the US government; Tim has the list.)

Internal security matters are the responsibility of Security Plans, Coordination, and Awareness Div. 3432, headed by Don Jerome. "Interestingly," says Don, "one of the questions we get frequently is 'Can I bring my personal telephone into a tech area for use in my office?' The answer is a definite no; privately owned electronic equipment — telephones, answering machines, recorders, computer equipment — is prohibited in security areas."

"Another question that we often hear," Don continues, "is 'What kind of a lock — or safe or space-saver or vault — do I need to control access to classified information in my office?' Staff people in 3432 are responsible for physical security planning in all Sandia security areas. So, when a question like that arises, the staff member assigned to that particular area will go to the site, look it over, and advise appropriate physical security measures, depending on the situation."

### **Contractors and Classified**

Don's group also receives questions on contractor access to classified data. For instance: "I have a cleared subcontractor coming in to work for me. Can he immediately begin working with classified materials?" A cleared subcontractor, says Don, may work with classified documents and material. However, he or she may *not* act as a custodian of classified material; in other words, the subcontractor may neither sign for, nor control access to, classified documents and material.

"If the nature of the work absolutely requires that the contractor act as a custodian of classified data," Don adds, "arrangements can be made through the Contractor Custody Program, administered by Hazlet Edmonds [3431]."

Security awareness, as all Sandians know, is a built-in responsibility of every Labs job. It's no wonder so many questions get asked. You now have the answers to some of them, so — Security organization people hope — those mentioned above will no longer be in the "repeater" class. ●PW

## **Events Calendar**

**April 8** — Guest Artist Series: James Newton's Quartet, sponsored by New Mexico Jazz Workshop; 8:15 p.m., Keller Hall, 277-4402.

**April 9** — "The Importance of Dinosaurs," lecture by Walt Disney studio artist Bill Stout; 2 p.m., New Mexico Museum of Natural History Theatre, 841-8837.

**April 10** — Concert, Albuquerque Philharmonia Orchestra, conducted by Willy Sucre, with guest artist Alfredo Lopez on clarinet; featuring music by Carl Maria Von Weber, Gioacchino Rossini, and Howard Hanson; 2 p.m., KiMo Theatre, free, 265-0283.

**April 10** — "Performance Authenticity," lecture by UCLA Professor of Music Emeritus Robert Tusler; 1 p.m., Keller Hall, 256-9168.

**April 10** — Concert, UNM Student Trio; featuring music of Brahms, Muczynski, and Beethoven; 3 p.m., Keller Hall, free, 277-4402.

**April 11** — UNM Chamber Singers, conducted by John Clark; 8:15 p.m., First United Methodist Church (4th & Lead SW), free, 277-4402.

**April 12** — Warren Smith and the UNM Percussion Ensemble, sponsored by New Mexico Jazz Workshop; 8:15 p.m., Keller Hall, 277-4402.

**April 12** — "Frankenstein," Guthrie Theatre presentation; 8:15 p.m., Popejoy Hall, 277-3121.

**April 14** — Guest Artist Series: Furman University (Greenville, SC) professor Trudy Fuller sings the works of Britten, Poulenc, Dvorak, and Manuel de Falla; 8:15 p.m., Keller Hall, 277-4402.

**April 14** — "Impact Crisis and Mass Extinction of Life on Earth," lecture by Prof. Walter Alvarez, University of California-Berkeley Dept. of Geology and Geophysics, sponsored by the New Mexico Museum of Natural History; 7:30 p.m., UNM Northrup Hall, Rm. 122, free, 841-8837.

**April 15** — Crownpoint Rug Auction; 3-6:45 p.m. rug viewing, 7 p.m. auction; Crownpoint Elementary School, 786-5302.

**April 15-16** — Classical Concert Eight: New Mexico Symphony Orchestra, conducted by Neal Stulberg, with guest artist Santiago Rodriguez on piano; featuring works by Wood, DeBussy, and Rachmaninoff; 8:15 p.m., Popejoy Hall, 842-

8565.

**April 16** — Concert, Tony Trischka and Skyline from New York City, bluegrass and traditional music; 7:30 p.m., First United Methodist Church (4th & Lead SW), 884-1669.

**April 16** — Children's Pillow Concert, special concert for young children presented by the Chamber Orchestra of Albuquerque; 2 p.m., UNM Student Union ballroom, 881-0844.

**April 16-17** — Cactus and Succulent Society annual show and sale; 1:30-4 p.m. Sat., 10 a.m.-4 p.m. Sun.; Albuquerque Garden Center (10120 Lomas NE), free, 296-6020.

**April 16-17** — Pilar Rioja, Spanish dance; 8 p.m. Sat., 2 p.m. Sun.; KiMo Theatre, 848-1374.

**April 17** — Canterbury Concert Series: soprano Nina Hobbs and tenor Ross Sutter; 4 p.m., St. Thomas of Canterbury Episcopal Church (425 University NE), 247-2515.

**April 17** — "Death Comes to the Archdirector," fund-raiser presented by Friends of the Little Theatre, audience searches for clues; 3 p.m., Albuquerque Little Theatre, 242-4750.

**April 17 & 27** — "My Sister the Dragon," Albuquerque Children's Theatre presentation of play in celebration of "Dinosaurs Past and Present"; 1, 3, & 7 p.m. (7 p.m. April 27); New Mexico Museum of Natural History Theatre, 841-8837.

**April 18** — Keller Hall Series: New Mexico Brass Quintet, featuring new work by Warner Hutchison; 8:15 p.m., Keller Hall, 277-4402.

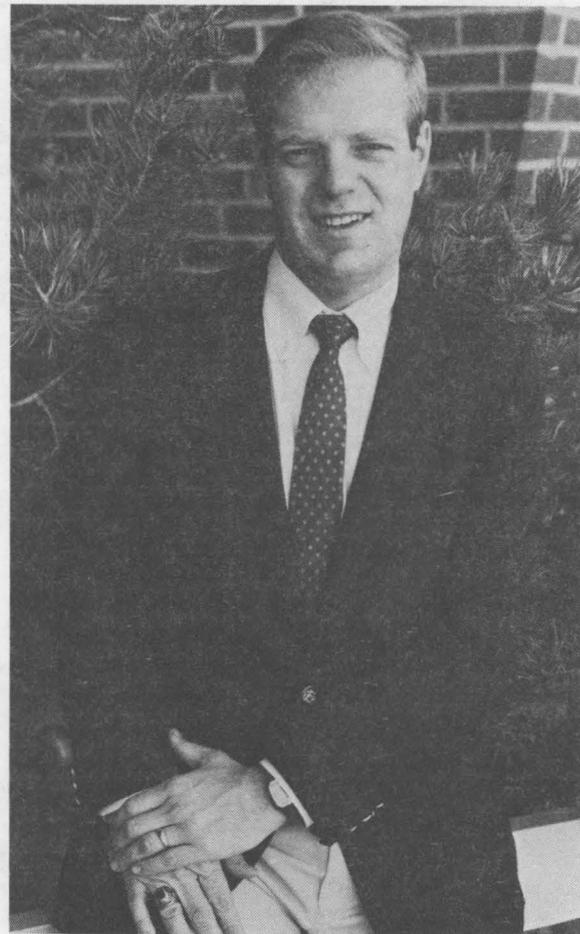
**April 20** — Chamber Music Concert, New Mexico Woodwind Quintet; 8:15 p.m., St. Andrew Presbyterian Church (5301 Ponderosa NE), 881-2986.

**April 21** — World of Music Concert No. 4: "Music of the Virgin Islands," calypso and merengue music performed by the St. Thomas Steel-Drum Band; 8:15 p.m., Keller Hall, 277-4402.

**April 21-30** — Exhibit, "Leonardo da Vinci: The Inventions," hands-on exhibit sponsored by IBM; 10 a.m.-5 p.m. Tues.-Fri., 1-5 p.m. weekends; Albuquerque Museum, 243-7255.

**April 22** — John Renbourn on acoustic guitar, English folk music blended with blues, ragtime, and jazz; 8 p.m., KiMo Theatre, 848-1374.

## **Supervisory Appointment**



ALTON ROMIG, JR., to supervisor of Physical Metallurgy Div. 1831, effective March 16.

A member of that division since he joined Sandia in November 1979, Al has used analytical electron microscopy and diffusion modeling to study long-term materials compatibility in weapon systems.

He has BS, MS, and PhD degrees in materials science and engineering from Lehigh University (Bethlehem, Pa.). He is national treasurer of the Microbeam Analysis Society, and a member of the Electron Microscope Society of America, ASM International, the Metallurgical Society, and the Materials Research Society. He holds an adjunct faculty position at New Mexico Tech.

In his spare time, Al enjoys working on cars, riding motorcycles, and target shooting. He and his wife Julie have one son and live in the NE Heights.

## Software QA Group Heads for Standardization

Weapon designers, developers, builders, testers — they all share one ever-more-common tool: the computer. Most new weapons and all new testing devices contain at least one on-board computer.

Computers are worthless without software — *quality* software. Ensuring that quality is no easy task. But it's the task facing the entire nuclear weapon complex (NWC). A recent Software Quality Assurance Information Exchange Forum at Sandia focused on that task.

Why the concern with software quality assurance (QA)? "With hardware we can usually compensate for some uncertainties; the fact is, we can never define the exact environment a weapon will see over a target. First, we can overdesign. And second, we can overtest to check a weapon's response in all credible environments," says George Merren, manager of Quality Assurance Dept. 7250 and the Sandia member of the NWC's Quality Managers group.

"But we can't overdesign or overtest software," George continues. "You just have to know what you're trying to do, then verify those capabilities through analysis and testing. And you have to think about that verification up front, when you write the software. That means preparation, intense preparation."

The 75 or so people from all over the NWC who attended the forum worked to define this preparation and to ensure at least basic consistency in standards throughout the Complex. "We spent the first part of the forum simply discussing where each organization in the NWC is today in developing software QA," says Stu Rogers, chief of the Plans and Programs Branch, Quality Engineering Div. at DOE/AL. "Only then were we able to identify those issues that need to be worked on. These include guidelines, training, and so forth.

"We're looking for consistency throughout the NWC at every step of software development," Stu adds. "The forum, sponsored by AL and hosted by Sandia, was a major step in that direction. But I don't want to leave the impression that the DOE discovered the importance of software QA only recently. Bill Donohoe [Quality Operations Branch/AL] wrote the original QA policy statement back in 1983, and he based that policy on the issues raised at several meetings similar to the recent forum."

"The need for consistency — standardization, if you will — in software QA became apparent by



CO-COORDINATORS for the recent Software Quality Assurance Information Exchange Forum were Don Harwood (DOE/AL) and Sharon Sardalos (7254).

the second day of the conference," says Sharon Sardalos of Software QA Div. 7254, who shared with Don Harwood (DOE/AL) the conference-coordination tasks. "Everything then revolved around the need for software development and software quality procedures."

### QA as Independent Discipline

"I think the primary value of the forum was that we realized that software QA must become a kind of independent discipline — a formalized, structured discipline — rather than a sort of catch-as-catch-can, unplanned evolution of disparate approaches," Sharon continues. "We don't see the need for a standardized software language — not yet, at least — but we do see a need for a standardized *approach* to the process of software development: how you define a software problem, what steps you take to solve it, in what sequence.

"And we recognized the increasing need to be able to transfer software programs throughout the NWC," Sharon adds. "Test equipment, manufacturing process control, data analysis — all of these need to be transportable from one NWC site to another.

"This forum, which included most of the staff-level people directly involved with the problem, was

the first of its kind in many years," Sharon points out. "I hope we can make the forum an annual event. After all, the problem is real and growing. Think of it this way — we're now where drawings were before we had standardized symbols to do schematics!"

"It was a successful forum, a very professional job," says George. "I believe it's the start of something we'll want to hold periodically. As members of the NWC Quality Managers group, Stu and I plan to recommend formation of a sub-group on software QA during our next meeting at Mound."

In addition to George and Sharon, several Sandians took part in the forum: Herman Mauney (7200) welcomed the group to Sandia; Mike Blackledge (7254) presented Sandia's site report on software QA; Don Schroeder (5164) spoke on "Process Guidelines for WR [War Reserve] Software Development"; and Mike Sharp (5164) and Doug Mangum (2312) demonstrated the human-interface, rapid prototyping capability of the Sandia/NM State-developed MIRAGE program.

In addition, Joe Schofield (2624) served as keynote speaker for the event. He discussed, among other topics, CASE (computer-aided software engineering), electronic brainstorming, and higher-level languages (those incorporating artificial intelligence) in light of their application to software QA development.



CORPORATE CUP track competition comes up around the end of May, and SLTFC (Sandia Labs Track & Field Club) is looking for more participants. In photo above (taken at last year's meet), Steve Letourneau (7521, right) passes the baton to Peter Green (1813) during the Men's Industrial Relay (4 x 100). At left, Becky Hunter (9000) races toward her record-setting effort of 5:22 in the Women's 1500-metre run (30-39 age category). Get more info on SLTFC and Corporate Cup participation from Dave Womble (1422) on 4-8068 or Sally Douglas (1845) on 4-8707.

## Cook's Tour Ends

Out where the wild things grow, where things really do go bump in the night (and bang in the day), where fierce fires burn, where probes monitor even the lightning, someone keeps an eye on it all.

For eight years Lorraine Cook (7533) was the voice of the Coyote One radio network at Coyote Canyon Test Complex, the 50-square-mile area where environmental tests are conducted on the materials and devices developed by Sandia scientists and engineers.

She retired March 31, and turned her microphone over to Nida Gosselin (7533). Before she left, she shared some memories of her Coyote One hot seat with the LAB NEWS.

"I had to keep track of what tests were planned and where, monitor the weather conditions, and try to keep weather, wild animals, and unexpected conditions from interfering with experiments," says Lorraine.

She became familiar with roads named Coyote Springs, Mt. Washington, Target, University Ranch, Lovelace, Evacuation, Magazine, and Isleta, and a place called Madera Canyon.

### A Vital Link

From her post in Bldg. 9925, Lorraine was the link between experimenters, project engineers, and various test sites. That involved notifying anyone connected with a project when it was time to begin a test, and serving as liaison with the people at the KAFB Command Post — to let them know when to keep aircraft out of the area. She called for help when someone was in trouble.

"We've had deer caught in barbed-wire fences, injured owls, and lost people," Lorraine says. "They all came through here."

She's had to deal with the NM Game and Fish Service, Albuquerque Animal Control Center, and lost truck drivers trying to make deliveries.

Video monitors, radios, computers, and coffee



"COALSON, COALSON, this is Coyote One," calls Lorraine Cook (ret.) one last time before turning her mike over to Nida Gosselin (7533). Connie Coalson of Track and Cables Div. 7535 was a frequent recipient of Lorraine's radio messages.

machines are the equipment Lorraine handed over to Nida.

Probes stuck in the ground at the various test sites in Coyote Canyon send messages to the Lightning Early Warning (LEW) monitor in Bldg. 9925. A map on the video screen shows the various test sites and indicates electrostatic potential gradients — the danger from lightning — with numbers.

### Lightning: Test Engineer's Nemesis

Tests are called off when the potential gradient reaches 2000 volts per metre. (Lightning can strike when the potential gradient is 4000 to 5000 volts per metre.) When the gradient reaches the danger zone, an alarm sounds; Lorraine then radioed the engineer in the field and reported the potential gradient number. The field test engineers also called her to find out the potential gradient of a particular site.

Keeping track of potential gradients is important because an electrostatic charge in the atmosphere could, for example, prematurely connect the igniter wires in a test rocket. Thanks to the probes, that hasn't

happened at Sandia.

Besides monitoring the probes and calling engineers on the radio, Lorraine also provided secretarial and clerical support for supervisors and the test support crews and laborers located in Bldg. 9925.

### The Road to Coyote

She joined Sandia in December 1960 as a clerk-typist in the Reliability Division. She became a secretary nine months later and worked with various weapons divisions until she joined the Track and Cable and Explosive Testing divisions in Coyote Test Field. Three years ago, the secretarial position there was upgraded to administrative clerk.

"Communication was top priority," says Lorraine. "It was a challenge to help the guys in the field. They needed to know when material was ready — equipment often needed right away. That was the kind of information I supplied to them."

Cibola Forest rangers also kept in contact with Lorraine. She notified them when tests involved smoke, and they asked her to be on the lookout when they suspected forest fires.

"The work was exciting. No two days were alike," she says. "That's what made it interesting." There were days when she received 50 to 70 phone calls that had to be followed up by some kind of action, such as contacting engineers in the field.

"Lorraine was very good at handling responsibility," says Dave Bickel, supervisor of Track and Cables Div. 7535. "There's much more to that job than typing and filing. We need an assertive, take-charge kind of person in that position."

Lorraine plans to keep busy in retirement. She enjoys sewing, fishing, and traveling, and she has an unlimited railroad pass that she's looking forward to using. "There were always challenges working at Sandia. I want a challenge in a new area now," she says. Lorraine will retain some Sandia contact — her son Donald is a member of Process Research Div. 6212. ●JW

## Take Note

Wil Gauster (6510) was recently appointed by DOE Secretary John Herrington to serve on DOE's Magnetic Fusion Advisory Committee (MFAC) during the 1988 term. MFAC provides advice and guidance on a continuing basis to the Secretary of Energy through the Director of Energy Research on the Magnetic Fusion Energy Program.

\* \* \*

Roger Clough (1811) and Peter Ogilby (UNM) are among the winners of the 1988 Petroleum Research Fund Grants that were recently announced by the American Chemical Society. The grant proposal was for support of their studies on singlet oxygen in solid polymers matrices. The grant is a two-year, \$40,000 award; the money will be used at UNM to cover student costs and laser equipment used in spectroscopy experiments.

\* \* \*

Kay Hays (1841) was recently elected to the Executive Committee of the Vacuum Metallurgy Div. of the American Vacuum Society.

\* \* \*

More than 100 volunteers are involved each year in determining what to do with the money raised for United Way. Volunteers — not United Way staff — must decide what to give each program, based on surveys and program visits. United Way Citizens' Review Panels recently allocated funds from last fall's fund-raising campaign to 74 programs conducted by 43 agencies in the Albuquerque area. Sandians involved in the review process were chairman Herb Pitts (3100), John Clever (2612), Jacqueline Kerby (3732), Janet Klamerus (7522), Bob McIntosh (123), Fidel Perez (7485), Joe Laval, and Karen Shane (both 3163).

\* \* \*

"Are Scientists Human?" is the question John Christopher Martin, Deputy Chief Scientific Offi-

cer at the UK Atomic Weapons Establishment (formerly Atomic Weapons Research Establishment), will discuss when he lectures at Simms Fine Arts Center at Albuquerque Academy on April 20 at 8 p.m. He's done extensive research in a number of fields, most notably flash radiography, short-pulse power, and high-voltage technology. Charlie, as he prefers to be called, has worked with US scientists, including Sandians — notably Pace VanDevender (1200), who helped arrange Charlie's appearance. The lecture is free and open to the public. For more information, contact Trudy Adams on 828-3200.

\* \* \*

The November/December 1987 issue of the *AT&T Technical Journal* includes an article, "Non-linear Structural Analysis of Complex Electronic and Electromechanical Assemblies," by Johnny Biffle (1523) and Steven Burchett (1521). Sandians are encouraged to submit manuscripts to Venky Narayanamurti (1000), a member of AT&T's technical journal advisory committee.

\* \* \*

Family Day at Sandia Laboratory Federal Credit Union on April 16 marks that institution's 40th anniversary and celebrates its move to the new facility at Juan Tabo and Comanche NE. Open house from 9 a.m. to 3 p.m. includes an information fair with booths representing various credit union departments, door prizes, and refreshments.

\* \* \*

"What Am I Going To Do For Mom and Dad?" is an open forum sponsored by the Office of Senior Affairs for those concerned with providing care for the frail elderly. It will be held at the Palo Duro Senior Center on April 28 from 1 to 4:45 p.m. The forum panel includes professionals from the field of aging. For more information, contact Bar-

bara C'De Baca on 242-2266.

\* \* \*

An alcohol-free, drug-free, private "After Graduation" party is being planned by Michael O'Bryant (2858) and other parents of Highland High School students. If you'd like Mike's advice in planning a similar safe soiree, call him on 268-9049.

\* \* \*

The League of Women Voters will register Bernalillo County voters in Bldg. 800, next to the Badge Office, from 11 a.m. until 2 p.m. on April 12. For more information, call June Aydelotte (3543) on 4-7433.

\* \* \*

A District One Congressional Candidates Forum on national security will be held April 25 at 7 p.m. at the UNM Student Union ballroom. All Republican and Democratic Congressional candidates have been invited to participate. The forum will focus on three issues: US policy in Nicaragua, SDI, and the consequences of reduced defense spending for New Mexico. The program is free and open to the public. Time will be included for questions from the audience. For more information, contact Colleen Butler on 243-2223.

\* \* \*

The Zia Chapter of Federally Employed Women (FEW) is sponsoring a seminar, "Blueprint for the FEWture," on April 26 at the Albuquerque Convention Center from 7:30 a.m. to 4 p.m. FEW is an international nonprofit organization that represents women in federal government, concentrating on two major programs — training and legislation. The sessions are open to anyone. For more information on FEW and seminar registration forms, contact Lynn Wienecke (AL/CIPD) on 6-3329 or Sunny Bandy on 6-9953.

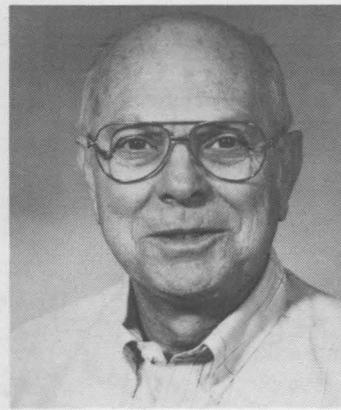
# MILEPOSTS

## LAB NEWS

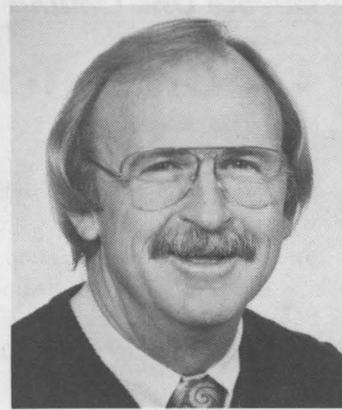
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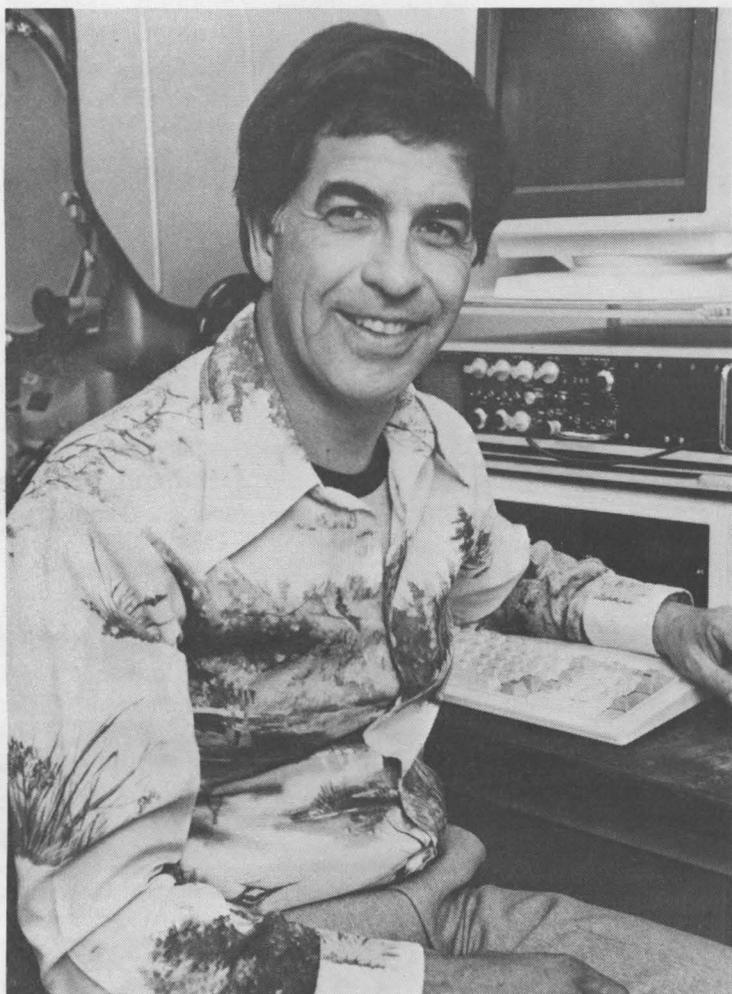
Dick Silva (8513) 25



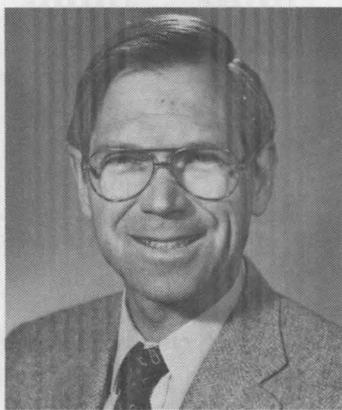
Charles Arning (5213) 30



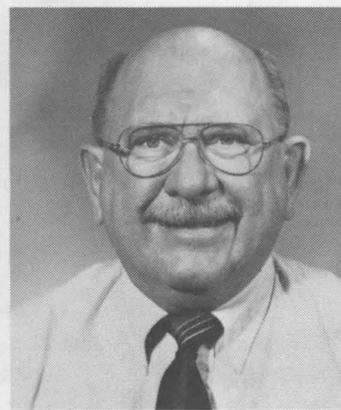
Conrad Stayner (8132) 25



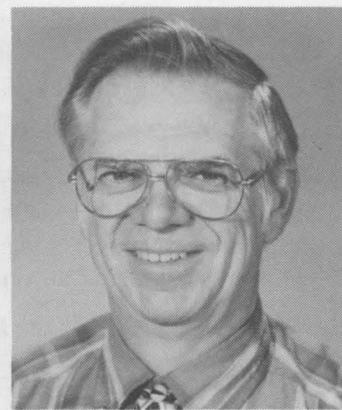
Don Marchi (2512) 20



Bill Dawes (2501) 20



Jerry Kennedy (7130) 25



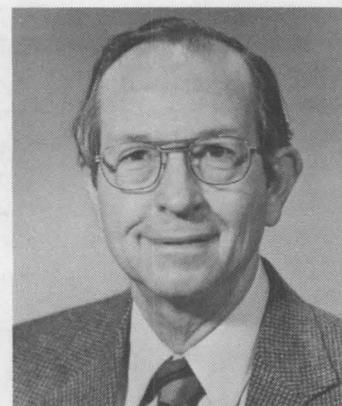
Bob Tomlinson (7521) 30



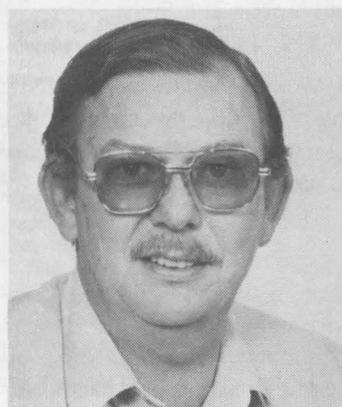
Sandy Moore (8430) 15



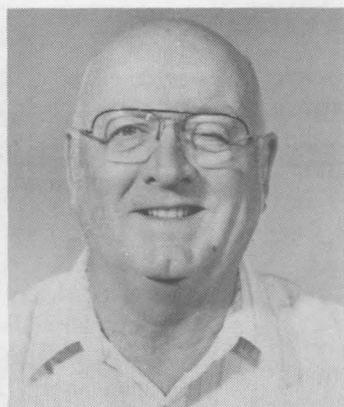
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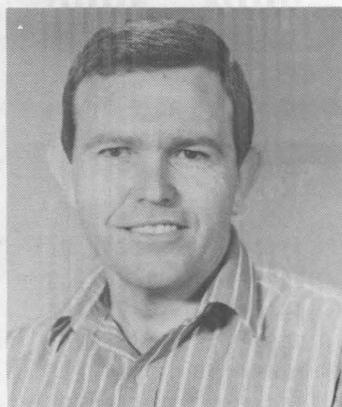
Melvin Brock (7265) 35



Doug Hanson (8271) 20



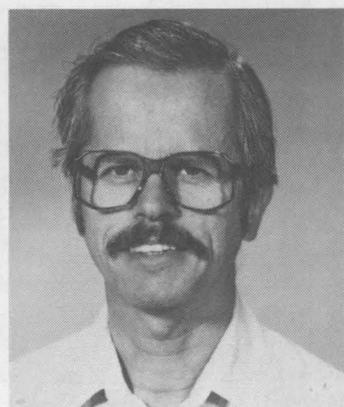
Max Littleton (7263) 35



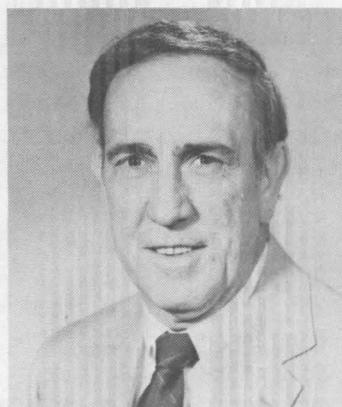
Chuck Looney (9211) 25



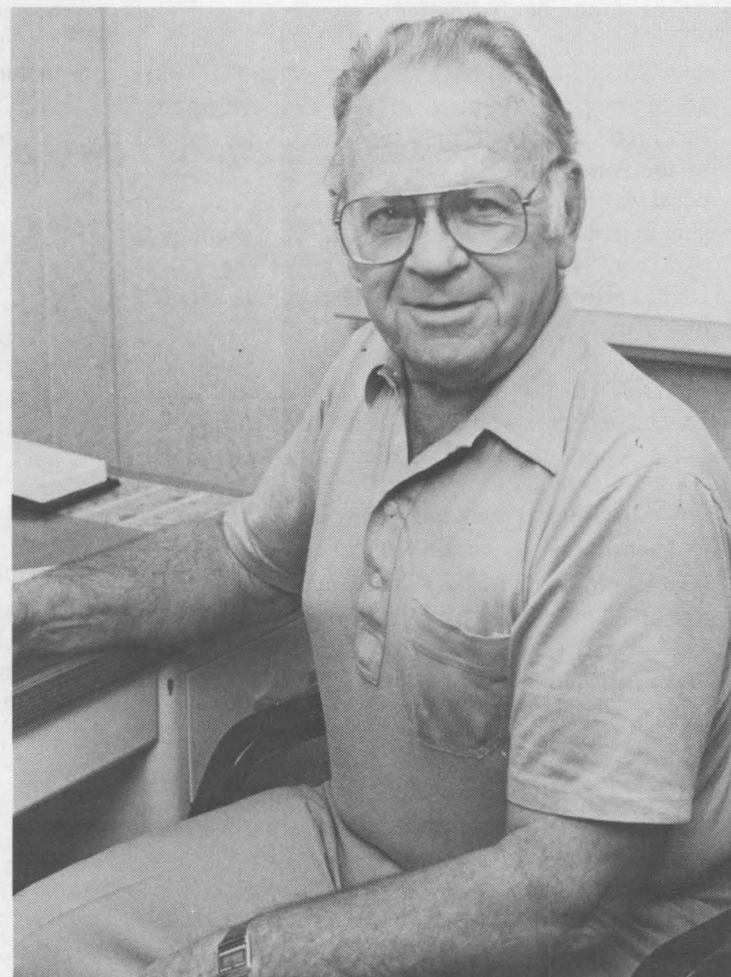
Ken Dolan (8444) 20



Doug Schuler (7266) 20



Don Stone (3451) 25



Gene Mead (5126) 35

# Welcome

Albuquerque

Dianne Gropper (3141)  
James Larson (3432)

Arizona

Joseph Clarke (7831)

Just Shooting the You-Know-What



A T-shirt featuring a belly-up bull is being sold in honor of the Oct. 19 stock market crash by No More Bull Partners, Greenwich, Conn.  
Lynn Asinof, Wall Street Journal

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**Deadline: Friday noon before week of publication unless changed by holiday. Mail to Div. 3162.**

## Ad Rules

1. Limit 20 words, including last name and home phone.
2. Include organization and full name with each ad submission.
3. Submit each ad in writing. No phone-ins.
4. Use 8 1/2 by 11-inch paper.
5. Use separate sheet for each ad category.
6. Type or print ads legibly; use only accepted abbreviations.
7. One ad per category per issue.
8. No more than two insertions of same "for sale" or "wanted" item.
9. No "For Rent" ads except for employees on temporary assignment.
10. No commercial ads.
11. For active and retired Sandians and DOE employees.
12. Housing listed for sale is available for occupancy without regard to race, creed, color, or national origin.

## MISCELLANEOUS

FOUR TEAK DINING ROOM CHAIRS, \$150; office chair, \$20. Crego, 292-0266.

BRASS DOUBLE BED, ceramic decoration, w/mattress and box spring, \$350 OBO; 9-month-old female cat and 2-year-old dog (buddies), both housebroken, free to good home(s). Bell, 255-3570.

OAK BUFFET, antique, w/mirrored back, appraised at \$1000, \$600; oak reproduction dining table and chairs, 2 leaves, \$850. Haines, 298-4194.

RABBIT HUTCH, \$25. Harris, 268-7648.

BROYHILL SOFA, 6', casual white cotton upholstery, \$75. Godshall, 294-2214.

TROUBADOR HARP, 1986 Aoyoma, 34-string. Hughes, 265-1698.

LIFE VESTS, PFDs, Stearns "Sans Souci," Type III, adult, zipper plus belt, adjustable, \$25/med., \$15/X-large. Schkade, 292-5126.

MAN'S GOLF CLUBS, Lynx Super Predator, irons, woods, bag, caddy, used one season, \$350. Alexander, 881-2292.

WEDDING DRESS, never worn, size 10; square-dance dress, shoes, accessories, size 14-16; formals, various sizes. Street, 298-5784.

INSULATED SHELL, fits '80 Toyota, \$220 or consider trade for non-insulated one; full-size box spring and mattress, \$45. Lane, 884-4566.

KING-SIZE WATER BED, mirror headboard, 6-drawer pedestal, padded rails, mattress pads, set of sheets, \$200. Sam, 892-7338.

UPRIGHT PIANO, \$225. Smith, 256-0861.

FIBERGLASS TRAVEL TRAILER, 13', new tires, refrigerator, stove, sink, heater, Porta-potty, sleeps 4, 1000 lbs., \$2200. Jones, 281-3762.

SOFA, 62" long, brown and gray pattern, \$125 OBO. Young, 884-7836.

REFRIGERATOR w/ice maker, 15-1/2 cu. ft. Petterson, 299-0164.

CUSTOM DINING ROOM SET: 6' table, 6 chairs, dark pine, \$1000; Whirlpool range, continuous-clean, gold, \$150; squash blossom. Stone, 298-4641.

CAR STEREO: AM/FM cassette, used one month. Rodacy, 293-2668.

SERVICE MANUALS: '73 Chevelle, Camaro, Monte Carlo, Nova, and Corvette, \$3.50/ea.; '74 GMC light-duty trucks, \$5; '76 Pacer owner's manual, \$3; '55 Motor's Auto Repair, \$4. Padilla, 877-2116.

DRAW DRAPERIES for standard 6' patio door, \$30; rod & hardware, \$10; Sears portable spa, \$50. Goselin, 884-0542.

KING-SIZE WATER BED MATTRESS (firm) and heater, \$50 OBO. Stormont, 281-9214.

LOCKHEED MOTORCYCLE RACING BRAKE CALIPERS, aluminum alloy, dual piston, new, w/pads, \$75/ea.; Mikuni 27mm smoothbore carbs. Barnard, 831-4114.

THIRD SEAT for '87 Chev. Suburban, blue, \$200; Class III trailer hitch for GMC pickup, \$30. Arnold, 294-7160.

ENCYCLOPAEDIA BRITANNICA, 1982, leather-bound, complete set including all yearbooks, \$900 OBO. Gunn, 839-0363.

SANYO REFRIGERATOR, 13 cu. ft., almond color, approx. 2 years old, \$150. Castillo, 294-0624.

SOLAR COVER FOR SWIMMING POOL, 20' x 40', used one season, cost \$125, sell for \$75. McMullen, 298-2801.

SEARS WOOD LATHE, bench, full tool set, faceplate, live center, \$275 OBO. Smith, 892-8633.

NORDICTRACK X-C SKI MACHINE, Pro model, w/pulse meter, cardiovascular exerciser, \$550. Rasmussen, 266-1097.

QUEEN-SIZE SOFA BED, \$100; Naugahyde love seat, \$20; Universal trunk-mount bicycle rack, \$15. Klaus, 843-6439.

BENTLEY MOVIE CAMERA and portable projector w/film, cost \$300, sell for \$175. White, 293-2219 after 5.

BROWNING AUTO RIFLE, new, 7mm cal., \$450. Greene, 299-4163.

WOMAN'S GOLF CLUBS; Octagym; desk; ski boots, sizes 6-1/2 and 7-1/2; bookshelf; microwave table; component stereo. Johnson, 298-8621.

DRAFTING TABLE, professional style, w/metal frame and solid wood top, \$150. Costin, 821-4951.

EIGHT 60-GAL. WATER CANS, painted green outside, black inside, \$5/ea. Bland, 265-6286.

COMPUTER MONITORS: Commodore 1701 color w/LCA cable, \$125; NEC green screen monochrome, \$50; both have audio inputs. Hale, 298-1545.

SINGLE-AXLE TRAILER, 5' x 10' x 3', two spares, drums for electric brakes, used for wood hauling; wood rack for LWB pickup, 24" tall, \$100. Boruff, 298-4365.

TWO CHERRY END TABLES; two ceramic lamps, white w/gold design. Mosteller, 256-3227.

ELECTRIC LAWN MOWER, Sears heavy-duty, 21" rear bag, used 3 seasons, \$75. Smailer, 821-0148.

COLOR TV, 20", cable-ready, remote control, 4 months old, cost \$449, sell for \$290. Smith, 255-5662.

CARTOP CARRIER, used once, \$40; Atari 5200 w/game tapes, \$40; jogging trampoline, \$10; pair walkie-talkies, \$50. Parson, 291-8394.

O'BRIEN SAILBOARD, 6.0 sail, retractable DB, for skill levels through intermediate. Fine, 268-4491.

FOUR TIRES, 2 Uniroyal Tigerpaw, 2 PwrKing; mounted, 5-hole, chrome, WW, steel radials, P235/75R15 M+S, 4-ply, \$50/ea. Hernandez, 268-5000.

ARMCHAIR, end table, records, books, jewelry, small appliances, ceramics, yard sale, 10 a.m.-3 p.m., April 9-10, 6927 Arvilla Pl. NE. Duvall, 881-4406.

BACKPACKS, Coleman & Svea stoves, ponchos, 9' x 11' nylon tarp, paint sprayer with 1/4-hp motor. Nelson, 265-2248.

CAB-OVER CAMPER, 11', Mobile Traveler, fully equipped, sleeps 4, AC, toilet, stove, oven, closet, \$950. Denney, 897-7550.

SWAMP COOLER, side draft, 28" x 33" x 23", \$60. Talbert, 298-9036.

TREADMILL, 3-spd.; above-ground swimming pool, 4' deep, 18' diameter. Stinnett, 298-5085.

TANDY 4 COMPUTER, 2 disk drives, 128K, graphics card, spread sheet, games, software, Epson printer. Pelzman, 828-1868 leave message.

WASHER AND DRYER, electric, Sears Kenmore, \$150/both. Carmel, 889-8826.

COOLER MOTOR, 1/4-hp, dual-speed, \$15; oscilloscope, 5", \$25; tape-writing adding machine, \$10. Cole, 298-1464.

PORTA-POTTY, Continental, 50 flushes, padded lid, used one trip, \$75; 1-1/2-ton hydraulic floor jack, \$25. Sublett, 884-4426.

SLEEPER SOFA, full-size, 6' wide, \$200; antique marble-top dresser and washstand, \$175/both. Jones, 281-3450.

FURNITURE: matching teakwood sofa, 2 chairs, 2 end tables, coffee table, \$575. Williams, 268-9757.

HUMIDIFIER, floor model, w/20" drum, 3-spd., \$20. Schuster, 822-8969.

ZENITH COLOR TV, 25", console, horizontal-hold problem; cartop carrier, fits VW Bug; outdoor color TV antenna; best offer. Gendreau, 268-3436.

MOS VIDEO CAMERA, \$250; Atari 2600, w/games, \$35; boat seat, \$20; hanging light fixture, wrought iron, \$25. Garcia, 293-3937.

BABY ITEMS: Fisher-Price swing, \$35; Century car seat, \$30; toddler car seat, \$30; boy's clothes, 3-12 months, Health-Te Oshkosh. Tomari, 836-1772.

STORM DOOR, w/screen, adjustable height, \$40. Neidig, 296-6727.

BLACK LABRADOR PUPPIES, 6 weeks old, no papers, 4 males, \$35/ea., \$139/all. Schaub, 265-0004.

COMMODORE 64 COMPUTER, 1541 disk drive, 803 printer, 1702 monitor, KoAla pad, more than 50 disks of software, \$500. James, 296-3597.

GARAGE SALE, 20 families, April 16, 8 a.m.-4 p.m., 2100 Bluecorn Maiden Court (near east end of Menaul). Hendrick, 296-2163.

BEIGE SCULPTURED CARPETING, 9' x 12', unbound, \$20. Pfeiffer, 299-3951.

UMBRELLA-STYLE CLOTHESLINE, 10' diameter, 2" central post, U-beam radial struts, \$20. Lagasse, 293-0385.

SEARS SHAPER w/cutters; '83 Sunfish, always protected. Hanson, 298-2120.

SOFA AND LOVE SEAT, L-shaped, rust-colored, \$200 OBO. Case, 299-0923.

BALLOON SHARE in Early Riser Balloon Club, w/'85 Cameron 77 and replacement kitty, \$2750. Weirick, 281-1462.

PANASONIC PORTABLE CELLULAR TELEPHONE, 7 months old, under warranty, \$1400 OBO. King, 298-3771 after 5:30 and weekends.

## TRANSPORTATION

'86 KAWASAKI 600 NINJA MOTORCYCLE, 5.8K miles, \$2500. Kerr, 296-1991 after 5.

BMX BIKE, 16" tires, chrome frame, coaster brake, \$40. Dandini, 296-4975.

10-SPD. BIKES: man's 21" Panasonic, \$125; woman's 19" Schwinn Sprint, \$60; woman's 19" Schwinn LeTour, \$75. Miller, 298-5699.

'69 CHEV. EL CAMINO, new engine, tires, paint, 350 V-8, AT. Hesck, 268-6122.

'67 CHEV. PICKUP, 51K miles on rebuilt, short wheelbase, stepside, rebuilt bed, 6-cyl. Phillips, 293-2738.

'79 SUZUKI GS 550E, new rear tire, chain, and battery, 14K miles. Jones, 294-1954.

'84 COUGAR, PS, PB, AC, cruise, new tires, \$7500. Terry, 293-5440.

'79 CHEV. MONZA, 4-cyl., 4-spd., AM/FM cassette, \$1450. Syler, 299-2941.

'86 MAZDA RX-7 GXL, all options, leather, 5-spd., sunroof, 22K miles, \$12,700 OBO. Pletta, 281-4177.

BOY'S BIKE, 24" Sears, 10-spd., red, new tires, tubes, and cables, \$40. Patrick, 265-4569.

'73 WINNEBAGO INDIAN, 28', extras, \$10,000; '80 AMC Eagle SW, \$2000, serious inquiries only. Guay, 281-3891.

'85 BAYLINER BOAT, 14' bowrider, 50-hp, extras, \$3500; '80 Yamaha IT175 dirt bike, \$400 OBO. DiBona, 823-2965.

'77 MOBILE TRAVELER RV, 22', rear bath, \$9750. Smith, 881-3580.

'78 HONDA 750 SUPERSPORT, 3.1K miles, completely tuned by M&M Honda, \$775 OBO. McCoy, 821-2509.

'68 PONTIAC FIREBIRD, 39.8K miles,

PS, PB, AT, 350 CID, all reasonable offers considered or trade for pickup and cash. Zarick, 836-5703.

'86 BASS BOAT, Hydra-Bass Glass Stream, 17', 140-hp Suzuki, extras, ski-ready, ski equipment included, \$8000. Adams, 821-9079.

'65 FALCON FUTURA SW, 4-dr., 289 manual, needs body and engine work, runs; girl's 10-spd. bike, \$60. Stone, 298-4641.

'81 BMW MOTORCYCLE, 650cc, fairing, luggage rack, 4.3K miles. Surran, 256-7344.

'83 SUZUKI 300GS, 2.6K miles, 2-cyl., \$1000. Oscar, 344-2767.

'81 SUZUKI GS1100E, garaged, \$1600. Prevender, 296-8586.

'83 FORD F150 PICKUP, w/camper shell, 44.7K miles, 4-spd., PB, PS AM/FM cassette, long wide bed, 6-cyl. Sanchez, 299-0443.

12-SPD. CENTURION RACING BICYCLE, 27x1 tires, never raced. Stuart, 299-9190.

'76 EL CAMINO, V-8, loaded; '85 Mustang, 4-cyl, 4-spd., AC, PS. Fisher, 293-0011.

'87 KAWASAKI ZL1000, 5.6K miles, red, water-cooled, drive shaft, saddle bags, more. Rasmussen, 266-1097.

'73 CHEV. PICKUP, long bed, 6-cyl., stick shift, 1/2-ton, new tires and battery, \$1000. Jones, 281-1186.

'83 EL DORADO MOTORHOME, 27', Ford 460 CID, loaded, rear bed, generator, awnings, new tires, 24K miles. Wenger, 822-1487.

'77 APOLLO MOTORHOME, 30', 47K miles, \$21,700, trades possible. Fine, 268-4491.

FISHING BOAT, aluminum, 12', bow eye, stern handles, fold-down seats, drain plug, 15" transom, oarhorn sockets, travel cover, \$250. Hughes, 299-6674.

'82 KAWASAKI 650 CSR, 16K miles, maroon, trunk, side bags, full shield, accessories, \$1000 OBO. Kemper, 821-5271.

'81 TOYOTA TERCEL, 3-dr., 5-spd., AC, AM/FM cassette, \$1450. Newman, 266-9418.

3-SPD. BICYCLE. Stinnett, 298-5085.

'78 KAWASAKI KZ400; '67 Suzuki S32-2; Batavus moped; '72 Pinto hatchback; all run. Talbert, 298-9036.

'76 CHEV. CAPRICE, 2-dr., AC, PS, cruise, power seats and windows, white, new tires, 454 engine. Arning, 256-9229.

'72 HONDA MOTORCYCLE, 15K miles, street Dunlops, carrying rack, \$600. Casares, 877-0369.

'78 RENAULT LeCAR, new brakes, \$699 OBO. Beaulieu, 865-1781.

'81 KAWASAKI KZ750E, 13K miles, 1/4 fairing, tank bag, cover, 2 helmets, \$1300 OBO. Brusseau, 892-6840 after 6.

'75 YAMAHA RD350, 18K miles, \$350; '63 Ford Galaxy SW, runs, 260 V-8. Shapnek, 281-5913.

10-SPD. BIKE, made by Puch for Sears, 22" frame, new 27" x 1-1/4" tires and seat, mirror, rack, \$45. Jones, 255-4539.

'79 DATSUN 280ZX, 130K miles, \$3900 OBO. Bruce, 897-7416 or 256-3323 after 5.

'69 SILVERLINE V-HULL SKI BOAT, 150-hp Chrysler/Volvo I/O w/5-hp outboard, \$3850. Jones, 281-3450.

'82 FORD F-150, Supercab, 6-cyl., standard, long bed, heavy suspension, 54K miles, tan, \$5200. Dalphin, 265-4029.

'81 BLACK CORVETTE, 350 engine, T-tops, loaded, \$8500. Gregory, 293-6545 after 5.

'84 NISSAN MAXIMA, AT, 6-cyl., 37K miles, AM/FM cassette, sunroof, make offer. Gendreau, 268-3436.

'72 IMPALA CUSTOM, 62.5K miles, 400 V-8, AM/FM cassette, cruise, PS, PB, AT. Adams, 889-3738 nights.

'68 FORD F-250 PICKUP, 4x4, 360 V-8, radio, extra tanks, camper shell, maintenance record, \$2600. Chavez, 299-5102.

SCHWINN 10-SPD. BICYCLE, \$30. Pfeiffer, 299-3951.

'83 HONDA INTERCEPTOR 750, 15K miles. Hanson, 298-2120.

TWO BMX BICYCLES, Redline, chromemoly frames: chrome Proline, \$150; white MX III, \$135. Weirick, 281-1462.

16' GLASTRON SKI BOAT, \$3595; 20' pontoon boat, \$3995; '50 Jeep C-5, \$995. Gabaldon, 268-8679 or 1-744-5393 at Elephant Butte.

'87 YAMAHA SV700 VIRAGO MINT, 153 miles, w/helmet, under warranty, \$3200 OBO. King, 298-3771 after 5:30 and weekends.

## REAL ESTATE

26 ACRES, oak-covered, hill country near Austin, Tex., consider trade for home here, \$91,000 value, \$51,000 equity. Haines, 298-4194.

REFURBISHED DOUBLE-WIDE MOBILE HOME and 1.4 acres in Meadow Lake, discount for cash or will finance. Barnett, 268-8356.

2-BDR. MOBILE HOME, 1979 Redman Flamingo, 14' x 60', in Four Hills Park, covered carport and patio, 1 bath. Phillips, 293-2738.

4 + ACRES COLORADO RIVER FRONTAGE, on Rio Grande near South Fork, water, electricity, \$35,000 OBO. McCoy, 821-2509.

3-BDR. ALL BRICK HOME, 1/2-acre in Bosque Farms, 1-3/4 baths, 2100 sq. ft., \$96,000. Gay, 869-6293.

2-BDR. CONDO, Winrock Villa, 1 bath, \$49,000, refinance. Gibson, 898-3529.

3-BDR. HOME, mountain views, 1-3/4 baths, LR, DR, FR w/FP, covered patio, landscaped, floored attic, 11-1/2% assumable, \$92,500. Gregory, 821-2125.

WOODED 1-ACRE LOT, near Regina, 13 miles from Cuba, water system, stocked lake, \$6000 OBO. Mora, 281-9815.

3-BDR. HOME, Wyoming & Constitution, 1300 sq. ft., 1-3/4 baths, LR, DR, garage, \$68,900. James, 296-3597.

3-BDR. HOME, NE, 1-3/4 baths, 1600 sq. ft., cul-de-sac, pitched roof, attached garage, detached workshop, solarium, landscaped, auto sprinklers, \$88,900. Fleming, 255-4513 or 293-0414.

5 ACRES off South 217, 25 miles east, wooded, access, proven water, underground phones, electricity, \$3000/acre firm. Silva, 265-5523.

3-BDR. HOME, Glenwood Hills, 2600 sq. ft., 2 baths, formal LR & DR, den, office, hobby, 2-car garage, pool, open house April 10 from 12 to 5 p.m., 4509 Skyline Ct. NE, \$215,000. Strascina, 294-0305.

3-BDR. PRINCESS JEANNE HOME, 1-3/4 baths, new roof, 1-car garage, fenced back, Morris/Constitution area. Kureczko, 298-1577.

2-BDR. MOBILE HOME, 1985 model, 14' x 50', all appliances, book value \$10,000, asking \$8250. Habbit, 293-7216.

3-BDR. HOUSE, available Aug. 1, Jacuzzi bath, sauna, yard, Rio Grande and Candelaria, \$1100/mo. Oscar, 344-2767.

## FOR RENT

3-BDR. HOUSE, available Aug. 1, Jacuzzi bath, sauna, yard, Rio Grande and Candelaria, \$1100/mo. Oscar, 344-2767.

MASSAGE THERAPY TABLE. Pompeo, 898-2846.

CHILD'S SKI BIB, sizes 5, 6, or 7. Sellers, 292-0466 after 5.

SKI RACK for full-size Bronco. Taylor, 869-2934.

PIANO ACCORDION, 120 bass, good condition. Young, 884-7836.

CEMENT MIXER, to rent, borrow, or possibly buy. Rodacy, 293-2668.

CHESTS OF DRAWERS, prefer oak or maple. Essenmacher, 865-7066.

PACKING BOXES for moving. Oliphant, 821-2751.

ELECTRIC DRYER, good working condition, don't mind dents, prefer white. Hovorka, 299-0224.

CAMPER TIE-DOWNS for cab-over. Chavez, 299-5102.

## WANTED

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## Places to Go, Ports of Call: Travel Fiesta Has It All

GET THE LOWDOWN on trips to all sorts of exotic places when you attend Travel Fiesta '88 on Thursday, April 21, from 4 to 7 p.m. Enjoy a complimentary wine tasting, hors d'oeuvres, and live entertainment while you learn about this year's hottest travel-scene deals from reps of some 20 agencies. Those faraway places may not be as far away as you think! Door prizes, furnished by participating travel agencies, will be given away throughout the evening. Fiesta-goers need not be C-Club members; the party's open to everyone who works on KAFB.

A couple of other special deals are available at Fiesta: if you join the C-Club that night for the first time, you'll get a \$5 discount on the annual fee. And those who sign up — again for the first time — for pool/patio passes also get a \$5 discount on their yearly membership dues.

LET YOUR HAIR DOWN and stomp around a little tonight (8 to midnight) when those Isleta Poor Boys gallop in from south of town. Beforehand, the finest of trail fare's available at the two-for-one chow line: prime rib or scallops. Help out El Rancho Coronado kitchen hands with a reservations call right now (265-6791).

### Retirement Planning Seminar

Fred Lancaster, New York Life Insurance Co., discusses retirement planning on April 13 from 5 to 6:30 p.m. in the Conquistador room. Whether you plan to retire in 10 or 15 years — or you're geared up to go out the door in the next month or so — Fred's ideas on "Retiring in Paradise" and "Resting in Peace" may assist your planning. Phone your RSVP to him on 883-5757.

T-BIRD CARD SHARKS plan to shuffle up a storm at two sessions this month — on April 14 and 28; wheeling and dealing starts at 10 a.m. both days. As usual, you get several bonuses along with the gaming: good conversation, free munchies, and a chance on a door prize.

GONE FISHIN': That's where Thunderbirds will be after they catch the monthly program on April 11. Join your friends (about noon) for lunch at the south end of the ballroom; then stick around for a 1 p.m. presentation by NM Dept. of Game and Fish reps on "Fishing in New Mexico." T-Bird Board meeting follows the program.

And speaking of fishing, the T-Bird Roadrunners head for Caballo Lake later this month (April 26-28). More info from wagon masters Duane Laymon (822-1749), Tom Brooks (344-5855), or Joe Shelby (292-4605).

SHARE THE CHAMPAGNE at Sunday brunch on April 17 from 10 a.m. to 2 p.m. As usual, the menu (served with a glass of complimentary bubbly) includes a vast variety of goodies that will please every member of the family. Combine that with a price break for members (up to \$2/family) and you have the best deal in town.

GRAB YOUR COAT, get your hat, and leave at least *one* worry on the doorstep — because wearing your ten-gallon at the Western Night wingding on April 15 gets you a free drink. Right after the two-for-one dinner special (prime rib or snow crab), Trio Grande belts out sagebrush tunes from 8 to midnight.

IF APRIL WINDS BLOW, can summer be far behind? A reminder of that pleasant prospect is the fact that pool/patio passes for summer '88 — and

tennis club passes, as well — are now on sale at the recreation office. Pool/patio prices: individual, \$16; couple, \$32; family of three, \$48; each additional family member, \$8. Tennis tabs: individual, \$40; couple, \$60; family of three, \$75; each additional family member, \$5. (And remember — you "night people" can enjoy tennis in the cool of the evening, thanks to those new lights.)

IT'S A SMALL, SMALL WORLD — when you sign up for some of the super sojourns planned by that ever-efficient C-Club Travel Committee. For instance:

*Gambler's Getaway (April 29-May 2)* — Head for Laughlin, Nev.; the \$162/person (double) tab includes RT charter bus fare, three nights' lodging at the Riverside Hotel/Casino, some meals, and side trips. (The latter could also be called roulette respite, keno kibosh, or lotto liberation!)

*Rockies Retreat (Aug. 27-Sept. 4)* — This one's tailor-made for photography buffs. Enjoy nine days of awe-inspiring scenery in the Canadian Rockies as you travel the Trans Canada and Yellowhead highways through Yoho, Glacier, Jasper, and Banff national parks. For \$876/person (double), you get RT air fare to Calgary, eight nights' lodging, motor coach transportation through the Rockies, a couple of boat cruises, a snow coach tour of the Columbia Ice Fields, several meals, baggage handling, and more. This trip is likely to fill up fast, so sign up right away with a \$300/person deposit. Balance not due until July 27.

### Congratulations

To Brenda Langkopf (6312) and John McBrayer (6224), a son, Dominic Nathaniel, Feb. 6.

To Debra (3712) and Stephen Clouten, a son, Christopher Colin, March 10.

To Karen and Elmer (6313) Klavetter, a son, Kyle Christopher, March 10.

To Sally and Tom (6314) Hinkebein, a son, David Andrew, March 13.

To Juanita and Clint (1534) Hall, a daughter, Whitney Marie, March 15.

To Francine McCoin (7553) and Raymond Island, married in Albuquerque, March 26.

To Pattie and Randy (9243) Rembold, a son, Ryan Christopher, March 27.

## Fun & Games

*Bowling* — Winners of the SANDOE Bowling Assn. 4-Game No Tap Tournament held at Holiday Bowl on March 19 and 20 were Kathy Mitchell (153) and Ken Carson (guest) with a 1627 combined handicap series. Second went to Dominic and Pat (DOE) Bellino with a 1554 combined handicap series.

The last scheduled SANDOE bowling tournament is a Scotch Doubles at Iceland Bowl April 9-10 (previously set for April 16-17).

\* \* \*

*Running* — The fourth annual world-class Bill Recinos Memorial Run is set for April 10 at Albuquerque's Kit Carson Park. The two-mile fitness walk/run starts at 9 a.m. and the 10K run is at 10 a.m. The run is held to honor the memory of Bill Recinos, a UNM medical student and competitive long-distance runner who was killed by a car while roller-skiing four years ago. This year, the Run will donate a portion of the proceeds (\$14 with T-shirt, \$8 without) to United Way. Racers may register and pick up their numbers at a runners' clinic and fair on April 9 from noon to 4 p.m. at the Sheraton Old Town hotel. Entry forms are available at the LAB NEWS office (Bldg. 814).

\* \* \*

*More Running* — "Jog Your Mind, Run to the Library," a 5K fun run, is set for April 23 at 9 a.m. It's sponsored by the Rio Grande Chapter of the Special Libraries Assn. in celebration of National Library Week, April 17-23. Runners start at the UNM Law Library and run (mostly downhill) to the Albuquerque Public Library downtown. Registration forms are available at Gil's Runners Shoe World and from Nancy Pruett (3142) on 4-2684.

\* \* \*

*Tennis* — The Sandia Tennis Assn. has scheduled its first tournament of the season for April 23-24. Included are both Men's and Women's Doubles in a round-robin format. If you'd like to participate but don't have a partner, or if you would like more information, contact Fred Cericola (7542) on 4-3205 or Mark Tucker (7544) on 4-2346.

### The Color Purple: Best for Eggplant?



A group of researchers at Clemson University and a U.S. Department of Agriculture center in Florence, S.C., are exploring how plants respond to different colors of reflected light. Using colored mulch to bathe plants in reflected light of certain hues, the South Carolina group has begun to explore what colors plants prefer in agricultural growing conditions.

Last year, for example, the group found that tomatoes grown with red mulch — made with plastic sheets painted red — had 20 percent higher yields than those with black mulch. Preliminary results this year show that potatoes and bell peppers grow best in white mulch. (The scientists) caution that more research is needed to establish which colors are best for different plants in varying climates and at different points in their growing cycles.

David Stipp, *Wall Street Journal*



MADELEINE GOODMAN (right), professor of general science and women's studies at the University of Hawaii, discussed her current research on breast cancer at a recent program sponsored by the Women's Program Committee and the TLC (Total Life Concept) program. Here, she goes over her notes ahead of time with TLC program manager Susan Harris (3330). Goodman spoke to a packed house at the Coronado Club.