

## Burton Medal Winner Has Studied Microscopy Since 8th Grade

When Joe Michael (1822) was 13 years old, his town minister in Pennsylvania sometimes complained that a science teacher at the junior high school was keeping the neighborhood kids out of church on Sunday. He was half serious.

An old RCA transmission electron microscope had been donated to Joe's school, and many of the kids, including Joe, spent countless hours after school and on weekends "tinkering around with it," says Joe. "We took it apart and built it back up so it worked right. Then we'd look at bacteria and diatoms. We loved it. Part of believing is seeing."

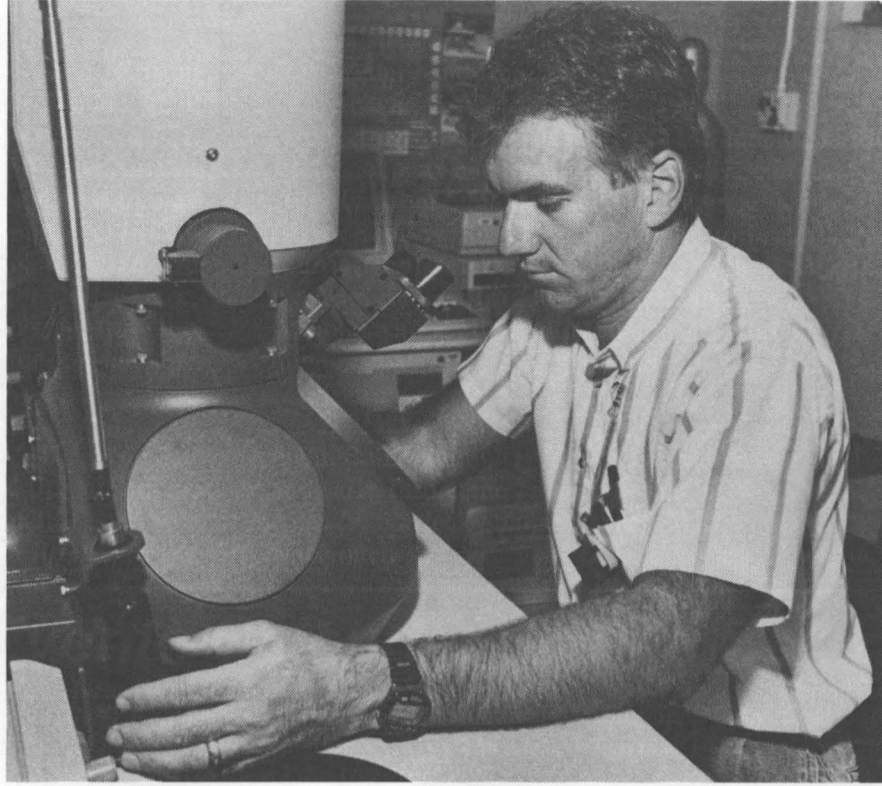
Now, 20 years later, Joe has been named the 1991 Burton Medal winner by the Electron Microscopy Society of America (EMSA) for his research characterizing materials and developing new measurement techniques using high-resolution analytical electron microscopy, a similar but much more advanced microscopy technique.

The annual award recognizes one outstanding young scientist (under age 35) internationally who has made the most important contributions in electron microscopy during the past five years.

### Look and Blink

An analytical electron microscope (AEM) is a combination of microscopy techniques, says Joe (see "SEMs, TEMs, STEMs — What's the Difference?" on page four). In an AEM, an electron gun scans an electron-transparent material sample line by line, moving back and forth so quickly that the whole area being scanned shows up on a computer screen at once. As it scans, it shoots high-energy electrons through the super-thin sample.

Detectors adjacent to the sample detect X-rays generated as electrons pass through the sample, and other detectors measure electrons diffracted



JOE MICHAEL (1822) examines a nickel weld specimen under a transmission electron microscope. Joe received the 1991 Burton Award from the Electron Microscopy Society of America Aug. 5 in San Jose, Calif., for his work characterizing materials and developing new measurement techniques using high-resolution analytical electron microscopy.

from the sample. The detectors relay an image of the sample's internal structure on an adjacent video screen. Areas of the sample permitting few electrons through it show up as dark areas, and areas permitting many electrons appear as light areas.

### Pushing the Limits

An area as small as 5 nanometers (five ten-millionths of a centimeter) can be analyzed using an AEM, says Joe. Thus, AEMs can be used to analyze not only a sample's microstructure (internal, microscopic-scale structure), but also its more-

detailed crystallographic features (how the atoms in a material are arranged).

"If you look at your finger and close your eyes for one second," he says, "one nanometer is how far your fingernail will grow while your eyes are closed. Some catalyst particles are two to three nanometers in diameter. By analyzing the electrons and X-rays emitted from a sample, we can generate information about the structure, chemistry, and crystallography of small areas of the sample."

At the Labs, the uses for analytical electron  
(Continued on Page Four)

### Now Above \$3.5 Million

## Bond Allotments Hit New Record

Sandians continued their record-setting ways during this year's US Savings Bond drive. Allotments for the current year totaled \$3,583,326. That's a 7-percent increase over last year, says Dick Prairie (320), 1991 Savings Bond Chairman.

"The bond effort received its usual strong support from employees at all locations — Albuquerque, Livermore, Tonopah, NTS, and Pantex," says Dick. "Sandians recognize that buying bonds is good for the country and is a good deal for them as well."

The total bond allotment translates to an average of \$34.88 per month per employee, an increase over last year's \$33.28. About 48 percent of Labs employees are now at the bond-a-month level (enough allotted to buy a \$50 bond each month).

Final statistics from the bond drive show that 95 percent of Sandians now buy bonds. "Although

**The total allotment averages out to \$34.88 per month per employee.**

that participation rate is down slightly from last year, it's still an outstanding level of support," says Dick. "And it's great that we reached an all-time high for the total amount allotted."

Four directorates achieved 100-percent participation, but the Aug. 1 reorganization changed some of the alignments. Here's the 100-percent list, translated into the current lineup, with old organization numbers in parentheses where there's been a change: 4000 (400), 7600 (3600), 300 (7200), and 4300 (7300). (Two other directorate-level organizations composed of only one or two people also achieved 100 percent.) In the "A1-  
(Continued on Page Four)

## New Sandia VPs and Directors — See Page Six

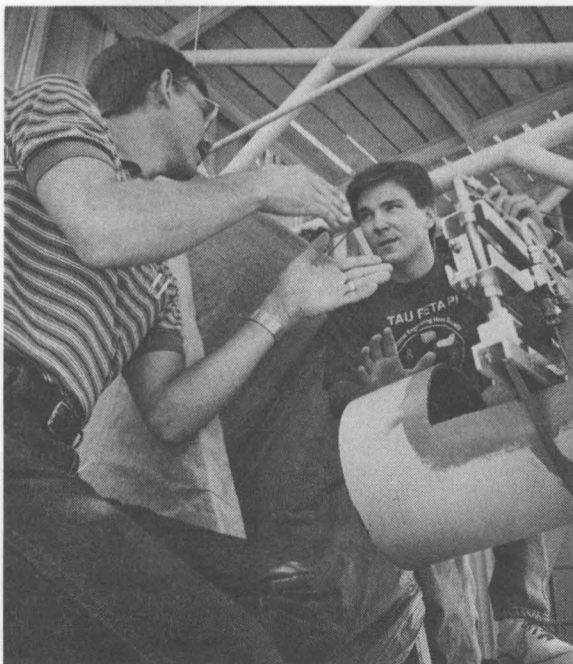


# LAB NEWS

VOL. 43, NO. 16

SANDIA NATIONAL LABORATORIES

AUGUST 9, 1991



CO-OP STUDENT Marcus Wernig (right) and his mentor David Glowka (both 6252) work together on a velocity profile apparatus developed in Sandia's Lost-Circulation Laboratory. The apparatus is used to calculate velocity and flow rate of fluids pumped into and out of boreholes during drilling operations.

### Real-World Schooling

## Co-op Attracts the 'Best & Brightest'

Marcus Wernig (6252), a fourth-year mechanical engineering student at Texas A&M University, will be returning to school this fall with much more than he bargained for when he came to Sandia in January.

Marcus expected to gain hands-on experience in geothermal research and testing. But he never expected an intensive introduction to safety regulations in the workplace. This spring's Tiger Team visit, he says, was "something they don't teach in school."

Marcus is one of 12 undergraduate students (four at Livermore) taking time off from school to work at Sandia as part of the Labs' University Engineering Co-Op program. "Companies are discovering that Co-op is a cost-effective way to attract and evaluate top candidates," says Polli Gerstle (3531), recruiting coordinator for Sandia, Albuquerque's program. "The company gets a good look at a candidate and a candidate gets a  
(Continued on Page Eight)



# This & That

**Nine Days Reorganized** - Our fingers are crossed in hopes that we didn't get anyone's organization number wrong in this issue, but I wouldn't bet the farm on it. Looking at the organization change notice that was scheduled to go out early this month, it appears that 280 or so organizations were assigned new numbers on Aug. 1. I didn't attempt to calculate the number of people affected, but it's a bunch!

\* \* \*

**Lotsa Soggy Bonds** - Another record for US Savings Bond sales at Sandia! According to 1991 Chairman Dick Prairie (320), employees will buy more than \$3.58 million in bonds this year, about 7 percent above last year's record (see story on page one).

Just how much is \$3.58 million, you may ask. At this time last year, I mentioned that the nearly \$3.35 million worth of bonds purchased - if you had that much money in one-dollar bills stretched end to end along I-40 - would stretch from Gallup to Tucumcari. Always looking for new ways to graphically describe the total, I was kicking around an idea in my office, but my crack editorial staff diverted me. I began thinking aloud, "If you had \$3.5 million in bonds and started stacking them from the bottom of the ocean . . .," and someone finished by adding, "those bonds would get awfully wet." Hey, I tried. Let's just say it's a bunch!

\* \* \*

**Sandia Trivia** - You may never need to know this, but here's some info that was put together about Sandia, Albuquerque when the DOE Tiger Team was here. I found it interesting and thought you might, too.

- Research and support activities are carried out in 862 buildings, with nearly 4 million square feet of floor space situated on some 562 square miles of land.

- Sandia maintains 35 acres of parking lots for employees and 90 miles of roadways with 13 miles of street lighting.

- There are 83 miles of water distribution pipe, 7 miles of gas distribution pipe, 12 miles of sanitary sewers with 33 manholes (person-holes now, I think) and more than 10 miles of storm sewer lines.

- Cooling of buildings is supported by 42 central chillers of 100 tons or larger. There are 720 smaller refrigeration units and 620 evaporative coolers.

- Electricity is supplied by a system with 21 master unit substations, 650 electric substations, 550 miles of power distribution line, 140 power manholes, some 522 high-voltage transformers, and more than 8,000 distribution panels inside the buildings.

- Last year, Sandia's environmental professionals handled more than 732,000 lb. of hazardous wastes, involving 59,000 individual items.

- Sandia manages nearly 10,000 different types of chemical wastes, a product of the Labs' diverse research efforts.

If nothing else, reading this info gave me a better understanding and appreciation for the big and often tough jobs that are done by Sandia's Facilities and ES&H employees.

\* \* \*

**Fishy Credit Manager?** - While pursuing piscatorial pleasures on vacation several weeks ago, I happened into a bait shop with a sign above the counter that read something like this: "Our credit manager is Helen Waite, so if you want credit here, go to Helen Waite." •LP

# feed liback

**Q:** I know speed bumps have been placed in the Water Tower Parking Lot north of Bldg. 887, but is there anything more that can be done to discourage speeders? Even with the speed bumps, I have observed people driving too fast for a parking lot. It is a very real safety hazard.

**A:** The speed limit in all parking lots is 15 mph. There have been many complaints by Sandia employees and contractors about flagrant speeding in the parking lots, especially the Water Tower Parking Lot. Sandia Security (3437) has monitored this parking lot since the installation of the speed bumps and has noticed a significant reduction in the number of speeding vehicles. But there are still those few who continue to disregard the speed limit. Div. 3437 has agreed to increase patrols in an effort to reduce the speeding, but does not have the resources to patrol the parking lots continuously.

Thank you for your concern and observations.  
Jose Archuleta (7823)

**Q:** Where is the "quality" when Sandia delivery vehicles sit at Gate 6 almost every day for 20 to 40 minutes waiting for the gate to open after the lunch hour? Why can't these vehicles enter through another gate that is open?

**A:** Thank you for your concern. Gate 6 is closed during lunch to provide pedestrians with safe, vehicle-free access to and from the cafeteria. An action has been initiated to amend the process and have delivery vehicles use alternate gates during this time.

Jim Martin (3400)

## Supervisory Appointment

JANE ANN LAMPH to Supervisor of Environmental Test Div. 8483.

Jane Ann came to Sandia, Livermore in 1981, joining the W82 Project Group and working on the joint flight test program in conjunction with LLNL. She next became a project engineer on the Accident Tolerant Container project.



JANE ANN LAMPH

Jane Ann then moved to the Component Development Division in the Engineering Technology Department, where she took the lead engineer role for a weapon system gas transfer development program. Next she became lead engineer for the propellant system of the ODES space platform, an SDI program. She was assigned to the W89 Alt/Mk 5 task force in 1990 in Systems Development Department II as lead mechanical engineer.

She has a BS from the University of Utah with a double major in business management and mechanical engineering. She began her mechanical engineering master's program there before completing it at UC Berkeley in the One-Year-On-Campus program.

A native of Bountiful, Utah, Jane Ann lives in Albany. She serves on the board of directors as secretary for the Alameda County March of Dimes, is on the boards of the Berkeley Conservatory Ballet and the Professional and Business Women's Conference, and is active in ASME and the Society of Women Engineers. She is an MTS recruiter for Sandia, is involved in Educational Outreach and the Expanding Your Horizons in Math and Science conference each year, and is a Change Ambassador for her department. Jane Ann enjoys outdoor sports, particularly scuba diving, and water and snow skiing.

## Earnings Factors June 1991

Long-Term Savings Plan for Management Employees (LTSPME)	Earnings Factors
AT&T Shares	1.0395
Government Obligations	1.0020
Equity Portfolio	.9463
Guaranteed Interest Fund	1.0070
South Africa Restricted Fund	.9620

Long-Term Savings and Security Plan (LTSSP)	Earnings Factors
AT&T Shares	1.0393
Guaranteed Interest Fund	1.0070
South Africa Restricted Fund	.9593
Equity Portfolio	.9459
Employer Stock Fund	1.0400

## Congratulations

To Margie and Murray (8341) Daw, a son, Devin Scott, June 23.

To Kathy and John (3153) Heald, a son, Zachary John, July 21.

## LAB NEWS

Published Fortnightly on Fridays

**SANDIA NATIONAL LABORATORIES**  
An Equal Opportunity Employer

ALBUQUERQUE, NEW MEXICO 87185-5800  
LIVERMORE, CALIFORNIA 94550  
TONOPAH, NEVADA  
NEVADA TEST SITE  
AMARILLO, TEXAS

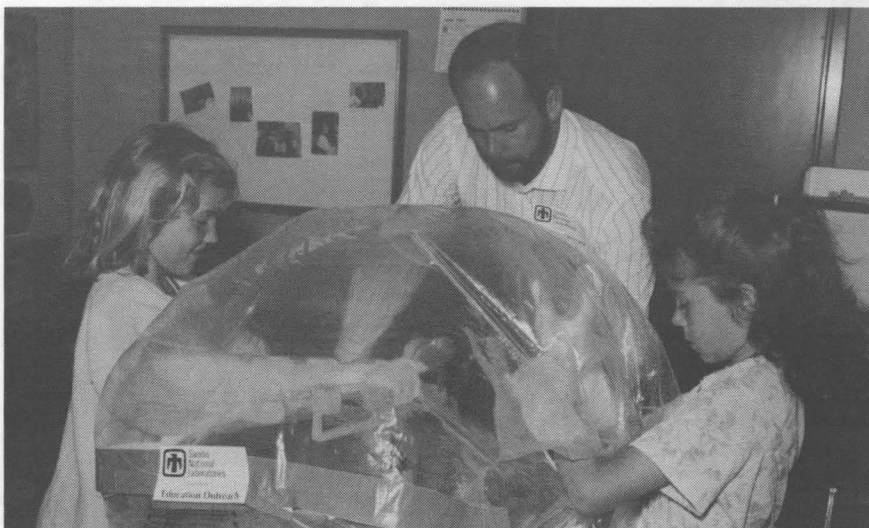
Sandia National Laboratories, a prime contractor to the US Department of Energy, is operated by Sandia Corporation, a subsidiary of American Telephone and Telegraph Co.

LARRY PERRINE, Editor (505/844-1053)  
CHARLES SHIRLEY, Assistant Editor (846-5542)  
LINDA DORAN, Writer (846-6888)  
JOHN GERMAN, Writer (844-7842)  
RANDY MONTOYA, Head Photographer (844-5605)  
MARK POULSEN, Photographer and Production Coordinator (844-5605)  
JANET CARPENTER, Editorial Assistant (844-7841)  
DAWN THATCHER, Assistant (844-7841)  
LAB NEWS FAX, (505/844-0645)  
BARRY SCHRADER, Livermore Reporter (415/294-2447; FTS 234-2447)

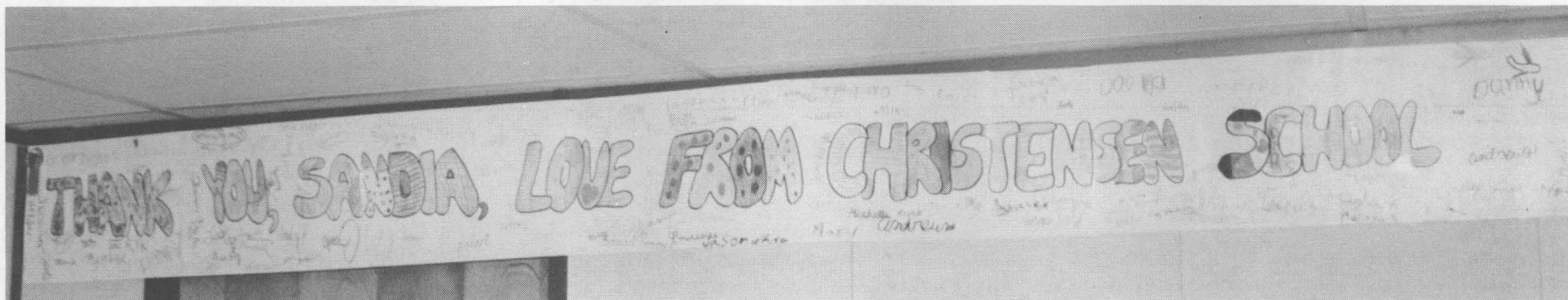


### Science and Math Carnivals Catch Students' Interest

Science and math carnivals were held recently in collaboration with science teachers at six Livermore elementary schools and one Hayward school. The carnivals were coordinated by Ray Ng (8445/8526), along with Jim Costa (8311) and Karen Scott (8526), for Sandia's Educational Outreach program. Some 47 Sandians took part. Experiments and demonstrations included a vacuum chamber, optical microscope, talking lasers, magnetic levitation, electroplating, radiation, and electricity.



LEARNING TO WORK in a glove box with a balance scale: LeRoy Whinnery (8313) shows students from Sunset School how to do it.



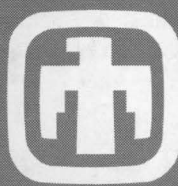
CHRISTENSEN SCHOOL students' banner, hanging above office door of Karen Scott (8526), expresses appreciation for Sandians' help in the schools.



HELIUM-NEON laser draws interest from students at Sunset School. David Chandler (8353) demonstrates the laser.



"MATERIAL MANIA": Rick Blum (8312) shows magnetic properties of a screwdriver to Harder Elementary students in Hayward.



**SANDIA  
LIVERMORE NEWS**



SAMPLES MAGNIFIED hundreds of times: Students at Arroyo Seco School get a view through an optical microscope demonstrated by Andy Gardea (8314).



MAKING "GLUEP" was a popular project, shown here by Fran Rupley (8245) at Sunset School in Livermore. The rubbery, squishy substance can be formed into different shapes.



(Continued from Page One)

## Savings Bonds

most-100 Club" (98 percent or more) are 2800, 3500, 6300, and 2700 (7500). Honorable mention, for 97 percent participation, goes to 100, 2300, 2500, 5300 (8100), 6400, 6600, 9100, 9200, 9300, and 9500 (5200).

The top vice presidency was 2000, with 97.25 percent participating.

"This year's outstanding results came about because of the work of a lot of people," says Dick. "The campaign committee members, VP representatives, directorate coordinators, and campaign canvassers all did a super job."

"Both thanks and congratulations go to these people, as well as to all the Sandians supporting the bond effort." ●CS

# feed **feedback**

*Q: We need a short motto that can be remembered, serves as a banner, typifies our attitude, and unifies the Strategic Plan, Quality Plans, Ethics, conduct of operations, ES&H — in other words, the way we do business. Let's borrow the phrase from President Truman, "exceptional service in the national interest."*

*A: While we have no plans to formally adopt a short motto, I find myself and other Sandians frequently using the phrase, "exceptional service in the national interest," and it does sum up what Sandia is all about.*

We have been involved in the second phase of our strategic planning efforts, including striving to coin a concise strategic intent statement, and I

had hoped that the results would address your concern. However, we do not yet have agreement on a concise statement.

Possibly we are a bit too diverse and complex, but we did come up with a concept for strategic unity. We envision a tree with roots representing our core competencies, a trunk representing our dedication to convert science and technology into national security, and branches representing our lines of business with an enduring commitment to our support of the nation's nuclear deterrent. How to convert this insight into a catchy phrase still awaits inspiration.

Al Narath (1)

(Continued from Page One)

## Burton Medal

microscopy are many — for example, looking at metallizations on silicon chips, characterizing electro-optic materials such as PZTs, and studying cracking in nickel welds.

### A 'Hot Topic'

Other applications include analyzing compositions of catalysts for coal gasification and production of alcohols — "a hot topic in industry right now," says Joe — and examining the relationship between the structure of a material and its mechanical properties. By looking into the microstructure, chemistry, and crystallography of many materials, researchers can also glean information about how to improve the strength, fracture resistance, or ductility of materials.

Joe, Steve Plimpton (1424), and Al Romig (1830) have recently developed a massively parallel computer code that performs probability analysis of electron scattering within a given material. "This code helps us predict electron scattering in materials and perform some computations 1,000 times faster than if we used a VAX," says Joe.

Sandia is also installing a class 1,000 clean

room (no more than 1,000 particles per cubic foot for particles of 1/2-micron diameter or greater) in the scanning electron microscope (SEM) lab, which will enable lab workers to prepare microscopy samples in a clean environment and do failure analysis of clean semiconductor chips while the chips are electrically active.

"We can now use the SEM lab to study defects on electrically active chips and other micro-

### "This code helps us perform some computations 1,000 times faster than if we used a VAX."

electronic devices," says Joe. "Also, the clean room will be useful for studying defects in solar cell materials."

While earning a bachelor's degree in metallurgy at Lehigh University, Joe was the first undergraduate to present a paper at the International Congress on Electron Microscopy, sponsored by an EMSA Presidential Scholarship. He received his PhD in high-resolution microanalysis from Lehigh in 1984.

From 1984 to 1990, Joe ran the microscopy lab at Bethlehem Steel Corp. in Bethlehem, Pa., performing studies in steel alloy development.

He came to Sandia in February 1990 and is now the project engineer for the SEM lab, in addition to performing his own research. Sandia's SEM lab characterizes as many as 1,000 individual specimens a year for other Labs organizations, says Joe.

"I was glad to come to Sandia," he says. "Steel is a mature industry; there's not a lot of change. Here, there's a wider variety of material research to do."

Joe's award was presented Aug. 5 at the 49th Annual EMSA Meeting in San Jose, Calif. He is the second Sandian to receive the Burton Medal (Al Romig received the honor in 1988). EMSA is a national organization with approximately 4,500 members. ●JG

### Sympathy

To Phyllis Padilla Owens (3521) on the death of her mother-in-law in Albuquerque, July 7.

To Mike Bencoe (3124) on the death of his mother in Albuquerque, July 15.

To Della Pacheco (9313) on the death of her mother in Albuquerque, July 21.

To Emil Steinkraus (2726) on the death of his wife in Albuquerque, July 23.

To Larry Gillette (2723) on the death of his father in Iowa, July 24.

### Three Kinds of Microscopes

## SEMs, TEMs, STEMs — What's the Difference?

Microscopy used to imply looking through a light microscope at small things, such as cells or bugs, to see how they're put together. Today, however, using advanced electron microscopy techniques, scientists are looking not only at the surfaces of materials but also at their chemical compositions and how their atoms are arranged.

Electron microscopes fall into three categories. A transmission electron microscope (TEM) — good for studying the microstructure of a sample (phases, grain size, etc.) — is similar to a common light microscope except that an electron gun replaces the light filament. This electron gun supplies a beam of electrons, an "e-beam," which is focused onto one area of the sample by electromagnetic coils that act as lenses.

TEM samples must be thin enough to be transparent to electrons. A typical sample is a tiny (3-mm-diameter) metallic or ceramic disk with a barely visible dimple in the center. This dimple represents an area so thin that most electrons pass through the disk when the e-beam is focused on this spot.

After the electrons are refocused by a series of projector lenses (also electromagnetic coils), an enlarged image of the specimen appears on a

video screen, made up of light and dark spots indicating areas where many electrons passed through and areas where electrons were scattered or stopped. Electrons scattered (or diffracted) from the specimen can also be used to provide crystallographic information about the specimen by changing the configuration of the TEM.

### Moving E-Beam

Another kind of electron microscope, a scanning electron microscope (SEM), moves a focused e-beam back and forth quickly across the surface of a sample, typically covering a larger area than a TEM. However, an SEM reads the electron scattering and X-rays emitted from the surface of the specimen, providing a surface image only. Detectors adjacent to the specimen surface read areas of high- and low-density electron scattering and translate the information to light and dark areas on a video screen.

TEMs are capable of producing magnifications of 1,000,000 times or more; SEMs, 10 times to 50,000 times. Thus, TEMs are capable of viewing what lies inside a material — such as microstructure and phase details — while SEMs are most useful for studying surface details such as tiny fractures on material surfaces and semicon-

ductor circuits not transparent to electrons.

Analytical electron microscopy (AEM), a combination of SEM and TEM techniques (sometimes called STEM for "scanning transmission electron microscopy"), uses both a scanning electron beam and a variety of X-ray detectors. Electromagnetic lenses focus the beam of electrons onto a specimen (an e-beam diameter is typically 4 to 5 nanometers but can be focused down to 1 nanometer). X-rays given off from a small area of a thin material specimen are detected and converted to information about the specimen's chemical composition.

Each type of crystallographic arrangement within a material gives off a recognizable electron diffraction pattern — a fingerprint of the structure of a particle — that can be used to obtain specific crystallographic information (measurements of atomic composition and arrangement). Thus, AEM techniques yield both chemical and crystallographic data.

"Most jobs require analyzing specimens qualitatively and quantitatively," says Joe Michael (1822), who supervises the SEM lab at Sandia. "The three techniques complement each other, and many problems require all three techniques."



**A Year of Work, a Summer of Success****Sandia Intern Wins Title in National Competition**

While Sandia's Career Enrichment Training Program gave Tony Cannon (6418) the opportunity to gain valuable work experience, a recent national science competition provided "the experience" of his summer.

Tony, an intern at Sandia since October, earned the right to compete in the 1991 National Afro-Academic, Cultural, Technological, and Scientific Olympics after his physics/electronics project claimed local and regional victories. The NAACP-sponsored program promotes academics for black youths.

Tony's project, an optical card reader for controlled access to personal computers, received the first place award at the July competition in Houston in the physics/electronics division. Tony returned from the competition with a gold medal, a scholarship, and a new computer.

"Passwords and keys are typically used to control access to personal computer systems," Tony says. "I wanted to show how an optical card could be used instead.

"My project was in two parts," he says. "The software part was a program I wrote in Pascal. The hardware part was an optical card reader that used two infrared LED/phototransistor gates to read a card. My system assigns each user a random, 8-bit, binary card code which is translated into black and white bits on a piece of transparency. When the card is inserted into the reader, the bits are translated to a decimal number that can be looked up in a list to identify the user who will then be given access to

the system."

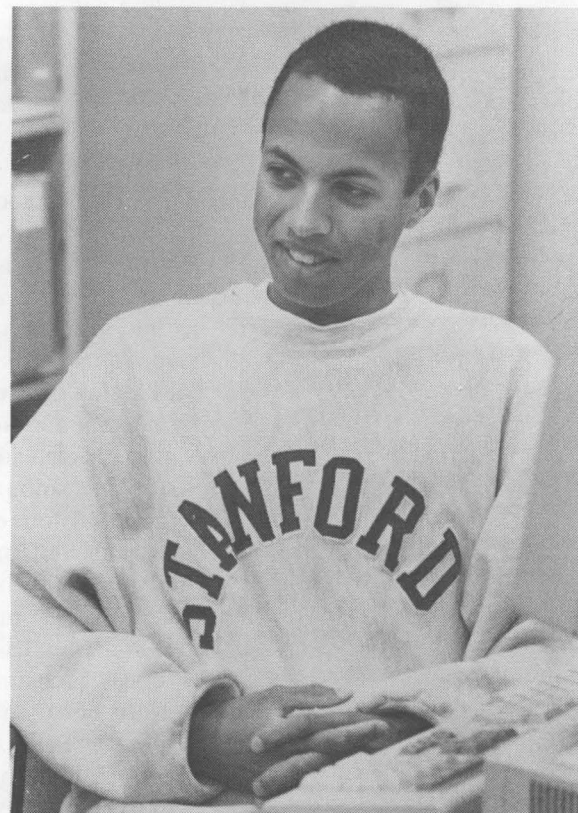
Using Tony's system, optical cards can be disabled to prevent unauthorized use of computers. For example, he says, an employee would no longer have access to company files after having quit or been fired.

**Off to School Now**

Tony will attend Stanford University this fall and plans to major in computer science. He says his optical card project and interning at Sandia helped him with his academic choices.

Members of Department 6410 say Tony was not the only one to benefit from his 11-month Career Enrichment Training internship. Wynona Sexton (6410), who instructed Tony in the maintenance of the 6000 organization's VAX computing system, says he really earned his keep, assisting with everything from printer maintenance to interfacing computer hardware with software. "He did an excellent job of performing weekly and monthly backups of our system, dealing with users, writing Fortran codes, and fixing up some procedures," adds Sam Thompson (6418), Tony's supervisor.

"My internship and experiences this year have been invaluable," says Tony, who is the son of Tom Cannon (2850). "Through them, I have been exposed to different ways my computer science talents can be used individually and in a work environment." ●DT



TONY CANNON'S (6418) optical card reader project for controlled access to PCs received a first-place award in Houston this July in the NAACP-sponsored National Afro-Academic, Cultural, Technological, and Scientific Olympics.

**Sandia News Briefs****Alzheimer Elected to ASME Executive Committee**

Bill Alzheimer, Director of Manufacturing Technologies 2400, has been elected to a 5-year term on the Executive Committee of the Production Engineering Division of the American Society of Mechanical Engineers (ASME).

The committee's charter is to advance the knowledge of manufacturing sciences and promote new technologies to improve production performance, quality, and economic viability.

Bill has been at Sandia for 25 years. His responsibilities have included performing analytical work in applied mechanics and structural analysis, managing the W-74 and B-83 weapon programs, and serving as Director of Design Engineering.

He is also the technical consultant for Sandia's *Manufacturing Technology Newsletter*.

ASME's Production Engineering Division has more than 15,000 members. "Sandia's efforts to gain more of a presence in the world of manufacturing go hand in hand with the committee's work," says Bill. "The Production Engineering Division is essentially ASME's manufacturing arm."

**Sandia Opens Center for Solder Science**

Sandia has established a Center for Solder Science and Technology to aid in the understanding of this crucial manufacturing process.

"Sandia has been a leader in soldering since the early 1970s, when two Sandians invented the hot-air solder leveler, a technology that has saved printed circuit board manufacturers hundreds of millions of dollars," says Bob Eagan (1800). "Today industry is interested in the fluxless soldering and laser soldering techniques we are developing."

The center is working closely with industry, universities, and government research facilities to improve solder techniques and analyze such problems as solder failure — the prime cause of failure in electronic equipment.

Solder technology is also of environmental concern because current techniques often require the use of chlorinated and fluorinated solvents, and most soft solder contains 40 percent lead. These substances are all targets of federal legislation.

Another research activity at the center is finite element modeling of phenomena related to soldering — elastic and plastic deformation, creep, stress relaxation, and thermal stress and strain.

**Progress Reported in Reactor-Driven Lasers**

Sandia researchers in Nuclear Energy Technology 6400 report that they have made "substantial technical progress" in demonstrating key features of reactor-driven laser operation.

The technology has the potential to scale reactor-pumped lasers to extremely large optical power outputs, says Paul Pickard (6462). A primarily self-powered laser system could be relatively compact and capable of long run times without refueling.

In the FALCON (Fission Activated Laser CONcept) reactor-pumped laser program, researchers are examining the feasibility of high-power systems pumped directly by the energy from a nuclear reactor. In such a system, highly energetic fission fragments from neutron-induced fission are used to excite a large-volume laser medium.

Reactor-laser experiments at Sandia have consistently demonstrated lasing in gas lasers at pump rates representative of full-scale systems. The experiments have also shown efficient coupling of the reactor energy to the laser medium.

**Take Note**

The Annual Meeting of the Coronado Club membership will be held in the club Monday, Sept. 9, at 5 p.m. Each year, seven directors are elected. Voting times are as follows: from 4:30 to 5:30 p.m. at the Annual Meeting; from 11:30 a.m. to 1 p.m. weekdays from Sept. 3 through Sept. 9; and from 6 to 8 p.m. Friday, Sept. 6. Current Board members seeking re-election include Anna Bachicha-Reynolds (DOE), John McAuliffe (3562), and Frank Villareal (112). Other nominees include Harold Barnett (ret.), Janice Bauer (154), Tom Hesch (2412), Willy Morse (9567), and Archie Stannish (3714).

\*\*\*

The University of New Mexico Third Annual Total Quality Management (TQM) Forum will be held Sept. 24-26 at La Posada de Albuquerque, sponsored by Sandia, the UNM College of Engineering, and the Albuquerque Chapter of the American Society for Quality Control. General Session presenters include representatives from 1990 Malcolm Baldrige National Quality Award winners IBM Rochester and Federal Express Corp. Workshop topics include management issues in TQM, implementing TQM, problem solving skills, design for manufacturability, TQM in research & development, communication skills, supplier quality, competitive benchmarking, empowerment, introductory statistics, cost of quality, and facilitation skills. Attendees are invited to participate in the "Meet the Experts Forum" Thursday afternoon, Sept. 26. Registration is \$525 per person. A 15-percent discount is available for organizations registering five or more individuals. To register or for more information, call Katherine Love on 277-6061.

\*\*\*

Sandia Laboratory Federal Credit Union is offering a free seminar that teaches you to be a smart car shopper on Saturday, Aug. 17, 10 a.m., at Credit Union Center (Juan Tabo & Comanche NE), in the first floor meeting room. The seminar covers determining how much you can afford, being an educated shopper, and negotiating your best price, and offers information about financing alternatives. For reservations, call 293-0500, ext. 303.



# Profiles of New Vice Presidents and Directors

*In this issue, the LAB NEWS profiles roughly half of the new vice presidents and directors who "assumed command" on Aug. 1. The other new VPs and directors will be profiled in the next issue. The profiles include only those individuals who were promoted, not existing VPs or directors who made lateral moves Aug. 1.*

**PAUL ROBINSON** to Vice President of Laboratory Development 4000.

"As VP of Laboratory Development, I will be involved in issues that concern the Labs as an institution, particularly requests from Washington that require a Sandia answer to a wide variety of questions," says Paul. A former Director of Systems Analysis 9400, he adds, "It is also my hope to make it easier for new programs to take root and develop at Sandia. I want to develop some flexible options that can help us create new programs and make them successful."

Paul received a PhD in physics from Florida State University in 1967, joined Los Alamos National Lab as a staff member, and soon served as chief test operator at the Nevada Test Site. Between 1971 and 1980, Paul led laser research activities in chemical and explosive driven lasers and created and led the LANL Applied Photochemistry Division. Paul has received 15 patents in lasers, laser-induced chemistry, laser isotope separation, and other applied science devices.

In 1980, he was named principal associate director responsible for LANL's national security programs. He next became senior vice president and principal scientist at Ebasco Services Inc., a division of ENSERCH Corp., an energy, engineering, and construction firm. While at Ebasco, he led the effort to write the State of Texas' winning proposal to locate the Superconducting Super Collider there.

Former President Ronald Reagan appointed Paul to serve as US ambassador to the Nuclear Testing Talks in Geneva, Switzerland, in 1988. Reappointed by President Bush, he completed the negotiations for two treaties and protocols. These were unanimously ratified by the US Senate in September 1990. Paul joined Sandia in October 1990 as the Director of Systems Analysis. In 1991, he was appointed Chairman of the President's Technical Advisory Committee for arms control issues related to Warhead Dismantlement and Special Nuclear Materials.

Paul, who lives in Sandia Heights, enjoys singing bass in the Sangre de Christo Chorale, bicycling, and skiing. He and his wife Suzanne have two adult children.

\*\*\*

**HEINZ SCHMITT** to Vice President of Engineering Design and Development 2000.

"Organization 2000 provides capabilities and technologies that are required for development throughout the Laboratories," Heinz says. "With this role comes the responsibility of providing services in a quality, cost-effective, relevant manner. My goal will be for 2000 to be viewed as a desired place to go for

Sandia's engineering design and development needs. We've lost some customers in the past," he says. "We'd like to get them back. We can only do so by making 2000 a desired entity at the Labs."

Heinz says he believes his many years of experience as a customer of Org. 2000 will prove valuable in his new job. "It's good to have been on both sides of the equation," he says, "as the consumer and the provider."

Heinz began his career at Bell Telephone Labs in 1955. In 1959, he began work for General Electric. Heinz joined the Labs in 1961 as a member of the Quality Control Division, working on the design of experiments, process control, and in Archimedes Spiral Solenoid development.

He was appointed Supervisor of the Exploratory Development Division in 1968. In 1974, Heinz became Manager of the Weapons Development Department and in 1983 was chosen Director of Design Engineering. He moved to Director of Systems Evaluation in 1986, and to Director of Weapons Development in 1987. Heinz was appointed Acting Vice President of Defense Programs in 1990.

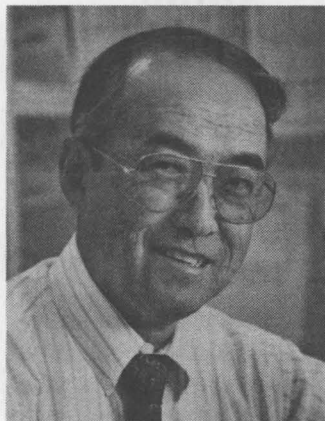
Heinz has three mechanical engineering degrees, a BS from the Polytechnic Institute of New York, an MS from the University of New Mexico, and a PhD from Oklahoma State University.

Off the job, he enjoys skiing and fishing. He and his wife Barbara have two children and live in Sandia Heights.

\*\*\*

**DENNIS MIYOSHI** to Director of Nuclear Security Systems 9500.

Dennis joined the Labs in 1969 as a member of the Instrumentation Development Division in the Upper Atmospheric Projects Department. His work included developing rocket system instrumentation and studying properties of underwater light. In 1972, he transferred to Systems Research Division II, where he did systems studies and studied antisubmarine warfare effects



DENNIS MIYOSHI

on the stratosphere. He joined the Instruments and Sensors Division in 1974 and worked on infrared technology, stratospheric studies, and site security.

He was promoted in 1976 to Supervisor of a Special Projects Division that supported safeguards programs. In 1977, his division was transferred into the Facilities Protection Department to work on designing and implementing safeguards and security systems at DOE facilities. Dennis was promoted to Manager of Safeguards Engineering Department II in 1983 and managed DOE R&D programs for physical security.

"The advanced technologies being developed in the Nuclear Security Systems Directorate for the benefit of DOE facilities can be applied today to better protect our families, homes, cars, schools, and hospitals," says Dennis. "In addition, Sandia can help address the problems of crime and fraud in industry and government. This could reduce industry's cost of doing business and improve the cost-effectiveness of government. The prospects are exciting, and I look forward to facilitating this technology transfer."

He has a BS in physics from Stanford University and a PhD in experimental physics from Cornell. He is a member of the American Physical Society and the Institute of Nuclear Material Management. He's a volunteer physics teacher at Sandia High School.

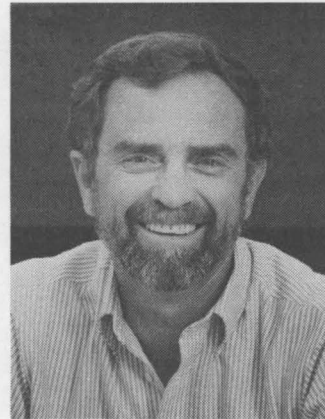
Dennis enjoys gardening and working on cars.

He and his wife Geri have two grown children. They live in the NE Heights.

\*\*\*

**BILL MARSHALL** to Director of Advanced Energy Technology 6200.

Bill joined the Labs in 1961 as a member of the Components Development Division, where he designed and developed electro-mechanical components for weapon systems. He transferred to the Aerospace Nuclear Safety Analysis Division later in 1961 and performed experiments and analyses on the thermal response of isotope power supplies during atmosphere re-entry. He joined the Aerodynamics Research Department in 1971 and did fluid mechanics research and development.



BILL MARSHALL

In 1973, Bill became one of the first members of Sandia's solar energy organization and helped develop the Labs' solar energy program. He was promoted to Supervisor of the Solar Thermal Test Facility Division in 1977. He transferred to the Enhanced Oil Recovery Division in 1981, and two years later was promoted to Manager of the Fossil and Renewable Energy Research and Development Department. He was named Acting Director of Advanced Energy Technology in 1990.

"Under Virgil Dugan's [now 4500] leadership, Org. 6200 has established a rich blend of challenging work carried out by creative people," says Bill. "Our work can, and must, have a real impact on our nation's energy future. My goal is to strengthen the quality-based, people-oriented environment for this work and to provide leadership for expanding its base."

Bill has a BS from Louisiana State University, an MS from the University of Missouri/Rolla, and a PhD from Oklahoma State University (acquired as a member of Sandia's first Doctoral Study Program class), all in mechanical engineering. Before joining the Labs, Bill was a mechanical engineering instructor at the University of Missouri/Rolla. He received a DOE/Conservation-Renewable Energy Management Excellence Award in 1981.

Bill enjoys tennis, golf, and traveling. He and his wife Barbara live in the SE Heights. They have four grown children.

\*\*\*

**RUTH DAVID** to Director of Development Testing 2700.

Ruth joined Sandia's Data Systems Development Division in 1975. She worked on developing remotely controllable digital data acquisition systems supporting full-scale tests at the Nevada Test Site. From 1975 to 1976, she was at Stanford University earning her MS in electrical engineering through Sandia's One-Year-On-Campus program. She rejoined the Data Systems Development Division



RUTH DAVID

in 1976. In 1979, she returned to Stanford to earn her PhD in electrical engineering through Sandia's Doctoral Study Program. After returning to Sandia in 1981, Ruth continued instrumentation development work and NTS fielding activities, focusing on digital signal processing.

(Continued on Next Page)



**(Continued from Preceding Page)**

She was appointed Supervisor of the NTS Instrumentation Development Division in 1986. In 1989, she became Manager of the NDT, Electromagnetics, and Optics Department, working to develop the Aging Aircraft research program (LAB NEWS, July 12). She was named Acting Director of Development Testing in March.

"I was delighted to be given the opportunity to become Director of 2700," says Ruth. "I believe the development testing services are essential to many of Sandia's programs. Our major challenges include financial management and continuous improvement in our ES&H compliance status. I look forward to working with the management and staff of 2700, as well as with our customers, both inside and outside of Sandia."

Ruth's BS degree in electrical engineering is from Wichita State University. She's a member of IEEE (past president of the Albuquerque Chapter) and was financial chairman for the 1990 IEEE International Conference on Acoustics, Speech, and Signal Processing. She is also a member of Tau Beta Pi and Eta Kappa Nu engineering honor societies.

Ruth is learning to play golf in her spare time. She and her husband Stanley Dains (9323) live in Cedar Crest.

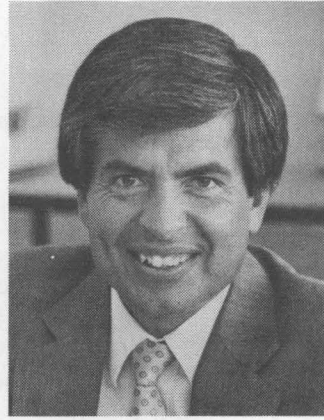
\*\*\*

DAN ARVIZU to Director of Technology Transfer 4200.

Dan joined Sandia in 1977 as a member of the Solar Thermal Test Facility. His responsibilities included developing a heliostat evaluation program for DOE's Central Receiver Pilot Project. In 1981, he joined the Photovoltaic Concentrator Research Division. Dan served as task leader for concentrator photovoltaics cell research and design.

In 1984, Dan was promoted to Supervisor of the Photovoltaic Concentrator Research Division, which became the Photovoltaic Cell Research Division in 1986. He oversaw development of the

Photovoltaic Device Fabrication Lab and managed the Photovoltaic Device Measurements and Optics Measurement labs.



DAN ARVIZU

increased in number and in scope," says Dan. "In this context, it is very appropriate for Sandia to acknowledge technology transfer's importance and our commitment to a new partnership with industry. The new Technology Transfer Directorate sends exactly the right signal to our potential industry partners. Personally, I am honored to assume this key role in encouraging and facilitating these industry partnerships."

He continues, "As I have watched our infrastructure develop for implementing the technology transfer program, I am encouraged to see this 'engine' we have built really take off. My approach will be to move ahead by letting some of the processes developed to date have a chance to work before implementing refinements. No radical changes are planned, but all good ideas will be tested."

Dan has a BS in mechanical engineering from New Mexico State University and an MS and PhD in the same field from Stanford. He is a member of ASME, IEEE, and the Technology Transfer Society. He is a member of the NMSU Mechanical Engineering Academy advisory group.

Dan enjoys family activities, music, soccer, and running. He and his wife Patricia have five children and live in the NE Heights. •JC/DT

Dan was promoted to Manager of the Technology Transfer and Industrial Relations Department in 1989.

"Technology transfer continues to receive a lot of attention nationally, and both the opportunities and accompanying challenges have

**Fun & Games**

**Soccer** — Experienced players are needed for a competitive team that will play in the Albuquerque Soccer League starting this fall. Tryouts will be held at Bullhead Park on Wednesday, Aug. 14, from 5:30 to 7 p.m. For information, call Ricardo Beraun (6345) on 292-5815 or Robert Baca (1513) on 898-2244.

\*\*\*

**Archery** — The Manzano Archery Club practice and field range is for use by club members only. The club is seeking new members and Sandians are eligible to join. To sign up and for information, call Dewey Reed on 4-4558 or 265-2687 or Scott Brady on 4-4558.

\*\*\*

**Track** — Nineteen Sandians were on the 150-member AT&T team that won the 1991 US Corporate Athletic Association Track and Field Championships last month in Santa Barbara, Calif. This was AT&T's fifth victory in seven years.

Selected on the basis of their performance in local track meets and road races were Roger Assink (1812), Barry Bolden (5361), Tom Cannon (2590), Jim Garsow (9223), Peter Green (1845), Cathy Hansen (323), David Honea (9311), Becky Hunter (5000), John Larson (3142), Pam Leslie (1813), P. J. McKee (3411), John Otts (6110), Jim Rietz (8451), Larry Ruggles (1273), John Sackos (9127), Jim Schirber (1090), Fran Stohl (6212), Mary Walker (1556), and Bonnie Vigil (1944).

Team members competed in road races, relays, and field events.

Information about participation in the Sandia Track and Field Club is available from Jim Garsow on 296-9451.

**New Number, New Services****Improved Sandia Line Offers Many Benefits**

"There is no one right way to communicate with 8,000 Sandians," says Bruce Hawkinson of Change Management Div. 4302. However, Bruce and Gary Shepherd (2933) hope that the expanded "Sandia Line" will enhance Labs communications and make it easier for employees and retirees to get information.

Sandia Line, a telephone service begun to provide information during the Tiger Team visit, provided quick access to schedules and answers to common questions. The success of tailoring information to interested individuals during the Tiger Team visit led to the idea of expanding Sandia Line to include other areas of interest to Sandians.

The new Sandia Line began operating, with a new phone number, on Aug. 5. Sandia Line can now be reached by dialing 845-6789 in Albuquerque and 8-845-6789 from Sandia, Livermore.

"This is just the beginning of an evolving system," says Gary. Sandia Line currently provides several major categories of information: General Topics, featuring Rumor Resource, Schedules, Sandia Cafeteria and Coronado Club Menus, and Sandia Line News; ES&H news and reports; Benefits, which offers general, health, medical, and dental information; and Radio Sandia. The categories are detailed in a diagram included in the Aug. 5 *Sandia Change News*.

"We'll be adding new features as we go," Gary says. "Eventually we hope to have the ability to provide live information." For now the system is general, he explains. In Benefits, for instance, Sandia Line can give the latest schedules for benefits seminars, but it can't tell a given individual how his or her tax deductibles are set. "We don't have that technology right now," says Gary, "but that's where we are headed."

Another future service will enable Sandians to interact directly with the computer to reserve classes from any location, 24 hours a day. "That way," says Gary, "you don't have to find a particular person at his or her desk when you call to make a reservation."

**FAXCALL Targets Information**

Sandia Line also offers FAXCALL. This new feature helps people get specific information very quickly, right on their desks, says Bruce. "FAXCALL gives up-to-date information to people when and where they need it."

The advantage of fax, says Bruce, will be in places such as Benefits, where frequently updated information can be given to those employees who need it. Preferred Dental Provider lists, for example, continually undergo additions and deletions. Customers want the latest available information, he says. "The cost of mailing out notices to all employees every time a change is made prevents groups from issuing more than one update every three to six months.

"The plus of Sandia Line," Bruce continues, "is that if I need a particular document, I can call the line, press the number for Mutual of Omaha Information, press the number for the document, and have it faxed to me. I don't have to worry about mailing a request or talking to someone who might not be there."

**Added Efficiency**

One of the goals over the months, says Bruce, is to reduce the amount of paper that has to be put in mailboxes. Gary adds, "Right now, we don't know who cares about certain information. We might send out something to everybody, and

maybe 95 percent of those people throw it away. How many thousands of pieces of paper have we wasted? Now we can say this information is available via Sandia Line, and those 5 percent who care about it can call and get it.

"We like to think of this as another piece of Sandia's information distribution plan," says Gary. "It is another way to get information to people and also a way to collect information." For instance, retirees will now be able to call 24 hours a day to leave their name and address to receive some document of interest.

Bruce and Gary emphasize that anyone with a push-button phone can use Sandia Line. The FAXCALL feature is available from all sites when the fax number is properly dialed. Sandians at Livermore, Tonopah, or any out-of-state location must punch in the full commercial 10-digit number for their fax (the 8-digit FTS number will not work). Sandians or retirees at home in Albuquerque or anywhere outside Kirtland AFB must input a 7-digit number to receive a fax (10-digit number if out-of-state). Anywhere on base, 5-digit fax numbers are required. People who do not have a fax machine can leave their name and address and receive the same information in the mail.

**Under Construction**

FAXCALL is presently undergoing testing to check the system for flaws. Sandians are encouraged to try FAXCALL to get a feel for what is being offered as well as to point out problems and offer suggestions for improvement.

"It's a sophisticated system," says Gary, "and we expect it to be even more so in the future. We see it becoming a main information source for Labs people." •DT



# Supervisory Appointments

KATHIE HIEBERT-DODD to Supervisor of Systems Research Div. V 5015.

Kathie joined Sandia in 1979 as a member of the Numerical Math Division, where she did consulting on non-linear optimization problems and developed numerical software. In 1982, she transferred to the Satellite Sensor Systems Division, where her work included analyzing the Global Positioning System satellite system. She joined Systems Research Division V in 1983, working primarily on artificial intelligence-related activities



KATHIE HIEBERT-DODD

and developing expert systems. She was also a member of a team that developed an expert system to help seismologists, the basis for an Air Force project to develop an expert system to help analyze satellite data.

Kathie has a BS in mathematics from Bethel College (Newton, Kansas) and a PhD in mathematical sciences from Rice University. She's a member of the Association for Computing Machines and the American Association for Artificial Intelligence.

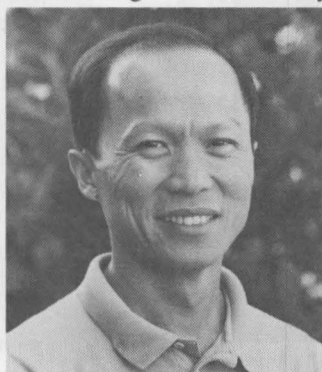
She enjoys running, cross-country skiing, hiking, and knitting. She is also a Girl Scout leader and a member of the Sandia Search and Rescue Team. In 1984, she was an AT&T cadre team member accompanying the Olympic Torch across the US, running from Golden, Colo., to Mountain Home, Idaho. Kathie and her husband Henry Dodd (6225) live in the NE Heights.

\*\*\*

HONG-NIAN JOW to Supervisor of Health Physics Div. II 7711.

Hong-Nian joined Sandia in 1988 as a member of the Safety and Reliability Division, where he performed reactor severe-accident research and was project leader for reactor accident-consequence code development and applications. In 1989, he transferred to the Health Physics Division and became Tech Area 4 Health Physics project leader in 1990, providing operational health physics and radiological engineering support to Area 4 organizations.

Hong-Nian has a BS in physics from the National Tsing Hua University in Taiwan, an MS in physics and health physics from the University of Pittsburgh, and a PhD in nuclear engineering from MIT. He is an American Board of Health Physics Certified Health Physicist. Before joining Sandia, Hong-Nian worked as a senior nuclear engineer and radiological engineer at the Yankee Atomic Electric Company in Massachusetts.



HONG-NIAN JOW

He is a member of the Health Physics Society, the American Nuclear Society, and Sigma Xi Society, president of the New Mexico Chinese Association, and treasurer of the Albuquerque Chinese Chorus. He was a recipient of the Andrew Mellon Fellowship from 1975 to 1977.

Hong-Nian enjoys long-distance running, plays classical guitar, and enjoys music by J. S. Bach. He and his wife Hue-Su Hwang (3223) have three children and live in the NE Heights.

\*\*\*

FRANK GALLEGOS to Manager of Property Systems Dept. 3420.

Frank joined Sandia in 1974 as a staff member in the Position Evaluation Division and transferred to the Staff Recruiting Division the next year. He became administrative assistant to the Pulsed Power Directorate in 1978, and was administrative assistant in the Energy Programs Directorate from 1979 to 1980. In 1980, he joined the Equal Employment Opportunity/Affirmative Action Department and was promoted to Supervisor of Personnel and General Employment Division in 1981. He's since supervised Management and Staff Development, Shipping and Receiving, and Transportation Services divisions.



FRANK GALLEGOS

He has a BBA in accounting from UNM and an MBA in management from the University of Utah. He served in the Navy from 1961 to 1968. He is a member of the board of directors for Rehabilitation Center Inc., and has been a member of the Old Town Optimist Club for 22 years. He was a member of the New Mexico Commission on Higher Education from 1986 to 1987 and was a member of the board of directors for United Way of Greater Albuquerque from 1981 to 1986.

Frank enjoys photography and golf. He has three children and lives in NW Albuquerque.

\*\*\*

GRANT CLAYCOMB to Supervisor of Communications Development and Support Div. 3151.

Grant joined Sandia in 1976 as a member of the Financial Management Systems Development Division, providing production support and developing financial information systems. In 1977, he joined the Data Resource Management Division as a database administrator. He transferred to Personnel Systems Division in 1980 and led the Personnel and Education System Development Project.

In 1982, Grant became Supervisor of the Production Control Section of the Data Processing Operations Division. He joined the Assets Management Design Division in 1985 and developed a pilot system for on-line time-card processing. In 1987, he went to the Strategic Planning and User Support Division, where he worked on strategic planning and analysis of MIS projects. He transferred to the Financial Systems Design Division in 1988 and led the Financial Systems Migration Project.



GRANT CLAYCOMB

Grant has a BS and an MS in management information systems from Colorado State University. Before joining the Labs, he worked for Colorado State and the Bendix Corporation. He served with the Air Force from 1966 to 1970.

Grant enjoys coaching Little League softball, backpacking, golf, and reading. He is a Boy Scout leader. He and his wife Jackie have two children and live in NE Albuquerque.

(Continued from Page One)

## Co-Op Program

good look at the company. It will be an important recruiting trend of the '90s as the pool of available engineers diminishes."

### Benefits to Both

Polli says that like other student employment programs, Co-op brings qualified, culturally diverse engineers and scientists to Sandia. But unlike other programs, she says, a Co-op student earns school credit while working at Sandia, so a four- to seven-month work assignment is an educational experience as well as a job.

Hiring a Co-op student also requires less commitment from a Sandia line organization than hiring an MTS does, she says, which means it's useful for getting a specific project completed. Marcus, for example, is writing data acquisition software that will help researchers in his division measure fluid loss in borehole drilling operations. (Fluids are piped in and out of boreholes during drilling to carry away rock fragments.)

David Glowka (6252), Marcus' project leader, says, "His work has been outstanding. We put him

to work on a project the same way we would a staff member. Although some guidance was required, he worked mostly unsupervised."

Although he is spending an extra year in school to participate in the program, Marcus says the benefits of the program are well worth it. "You learn a lot of theory in school," he says. "At Sandia, I gained valuable real-world experience in safety regulation, research, and testing. I would definitely consider returning to Sandia after graduate school, if given the opportunity."

Currently, Sandia works with Co-op placement offices at UNM, NMSU, Cal Poly San Luis Obispo, Texas A&M, University of Arizona, Northern Arizona University, and Cornell (Livermore). For more information, call Polli on 4-0979 or Ed Hathaway (8522) on 234-1398. •JG

## Retiree Deaths

William Allison (77).....July 3  
 Harry Lauderbaugh (57).....July 3  
 Howard Anderson (68).....July 8  
 Naomi Bennett (86).....July 9  
 Joseph Buchler (73).....July 10



## feed *li*back

*Q: Recently, when I went to Medical to get a new parking permit, I was surprised to learn that the only way Security knows if a handicapped person is parked legally in a Handicapped Parking spot is by looking for a sheet of paper on the dashboard of the car. It occurs to me that instead of that piece of paper, which could be easily transferred to another vehicle, Medical should issue a small, reflective sticker that could be placed on the left side of the windshield. Such stickers would not be lost easily or blown away by the wind and would enable security guards working at night to tell at a glance if an automobile is legally parked.*

*A: Your recommendation is very much appreciated. However, there are certain logistics involved in ensuring that the proper organizations are notified when an employee is given a temporary or permanent handicapped parking permit. Our current form indicates the employee's name, organization, phone number, date of issue, and expiration date. This three-ply form assists us in maintaining a record of handicapped parking needs. Your idea will be considered as Medical continues to develop processes to improve our customer services.*

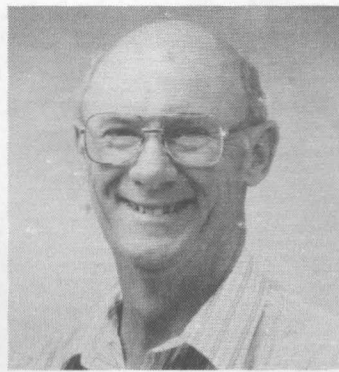
Larry Clevenger (3300)



# MILEPOSTS

## LAB NEWS

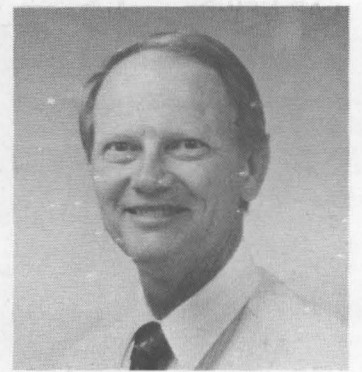
August 1991



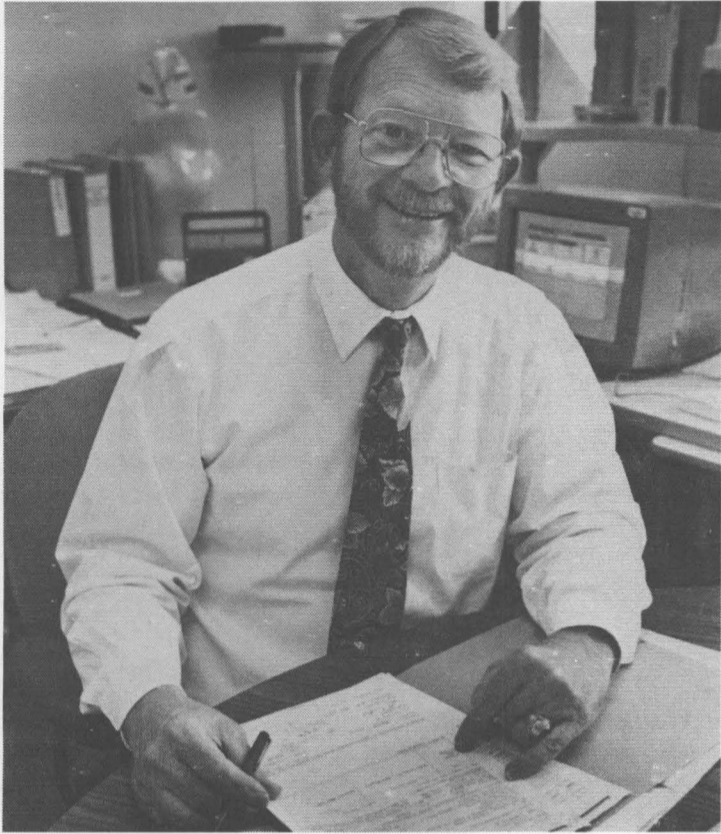
George Perkins  
9321 30



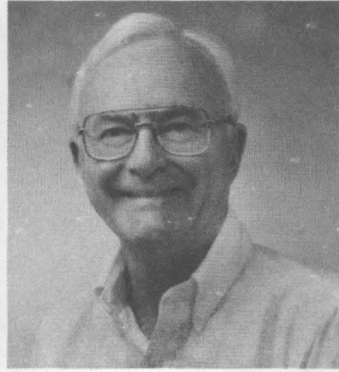
Adelina Chapman  
3301 15



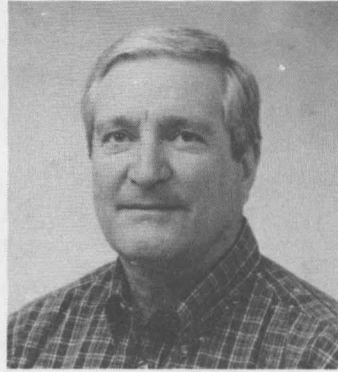
Samuel Martin  
2541 30



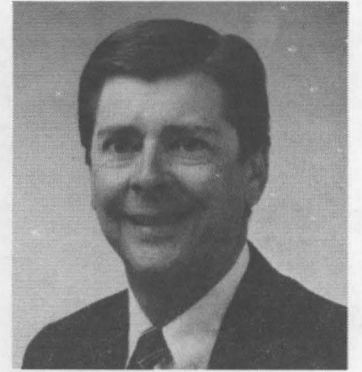
Thomas Cutchen  
2560 25



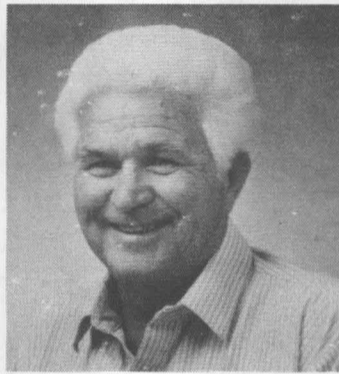
Lewis McEwen  
9332 35



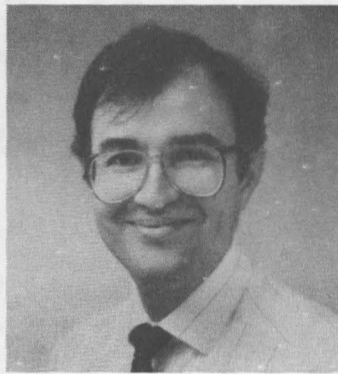
Edward Graeber  
9514 35



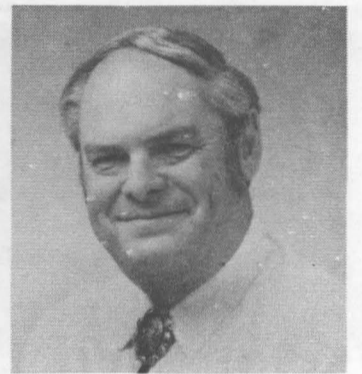
Hugh Scott  
5011 15



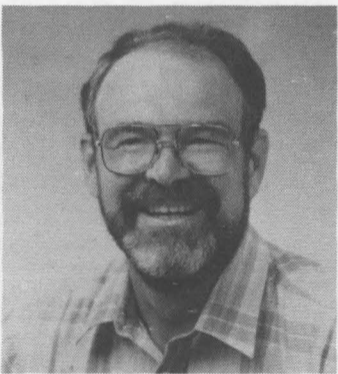
Bob Wood  
5122 35



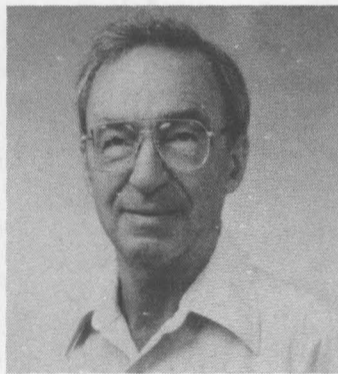
Thomas Baca  
2741 15



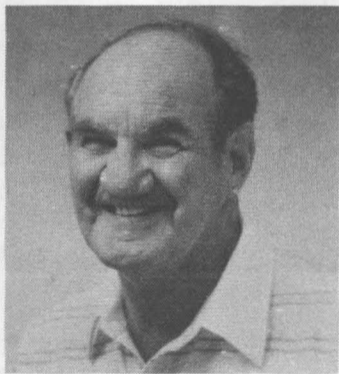
George Wright  
9144 30



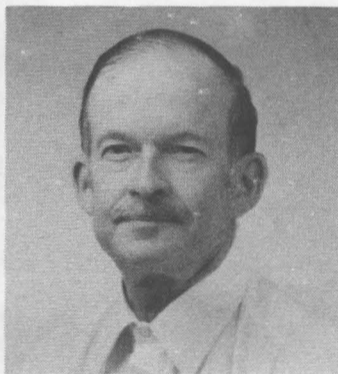
Don Keener  
2852 25



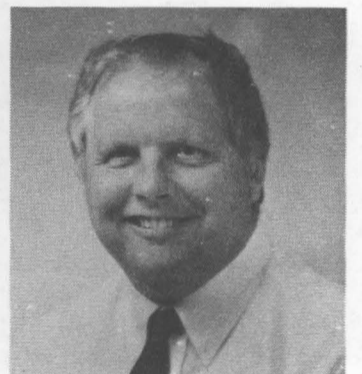
Calvin Rogers  
9232 35



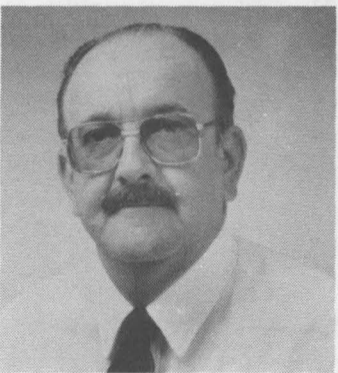
Leland Pierce  
5122 35



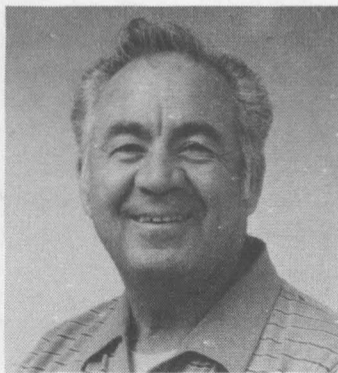
Ken Glibert  
9312 25



Ken Reil  
6423 15



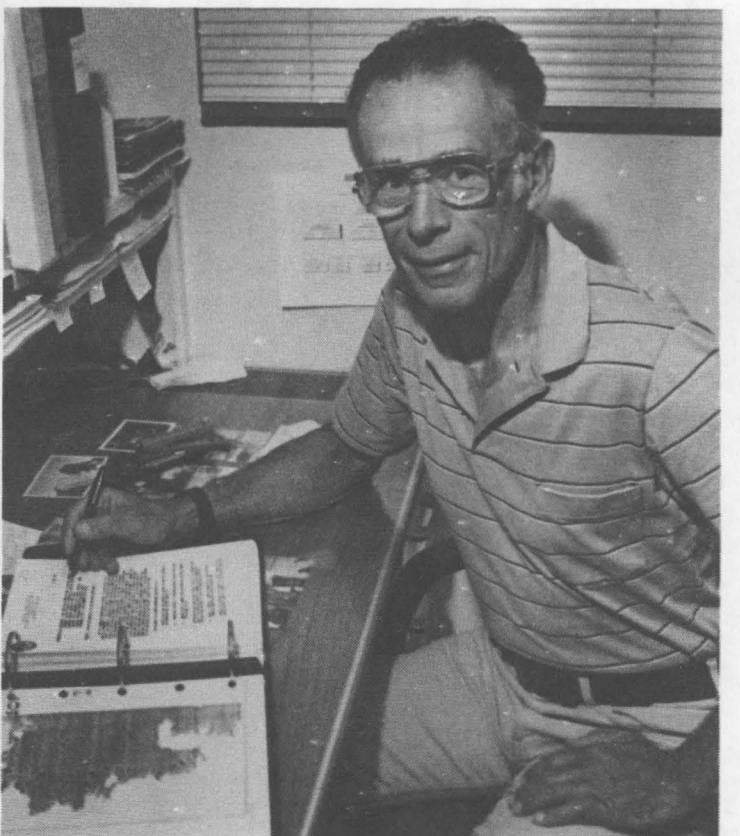
Sam Thompson  
6418 25



Luberto Ortiz  
7818 20



Sharon Fletcher  
1942 15



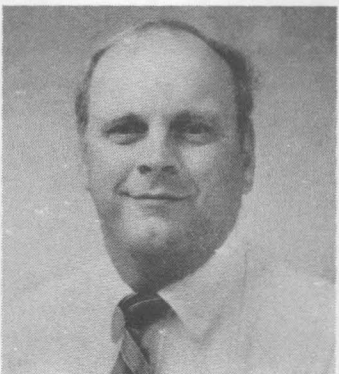
Paul Souder  
5128 35



Marv Torneby  
3530 30



Bernie Vallejos  
5122 30



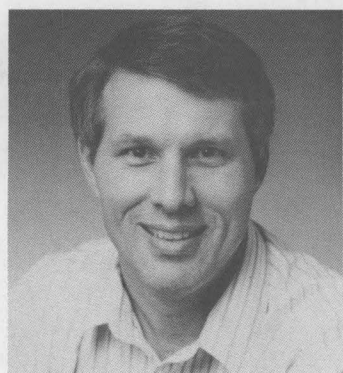
Ronald Soutar  
2565 30





Richard Chavez  
2413

35



Larry Rahn  
8354

15



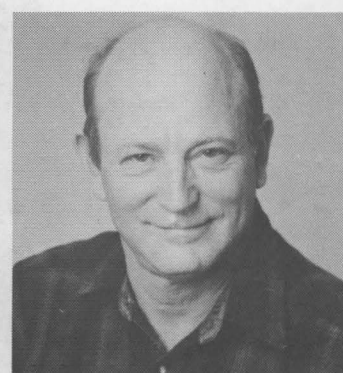
John Souza  
5154

40



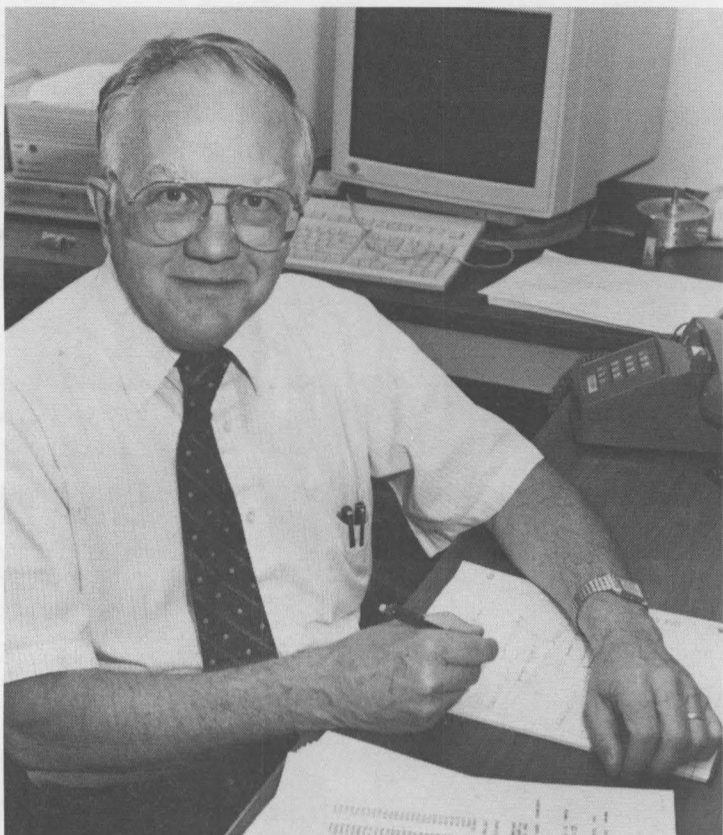
Len Dighton  
5313

30



Jim Gibson  
8453

25



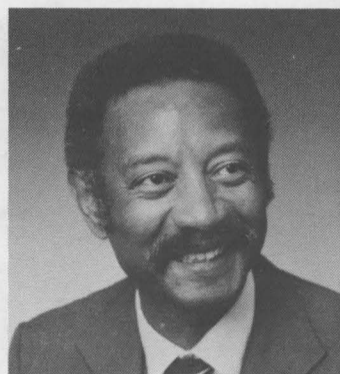
Roger Abbott  
9145

35



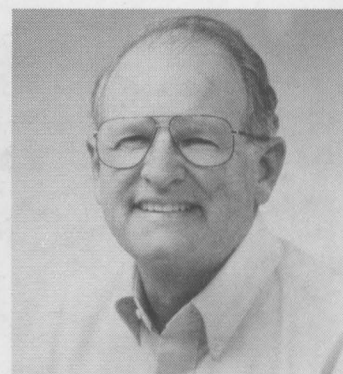
Marge Mederios  
8531

25



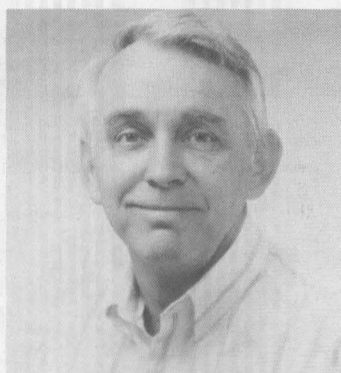
Bill Ormond  
8543

25



Chuck Gibbon  
2530

25



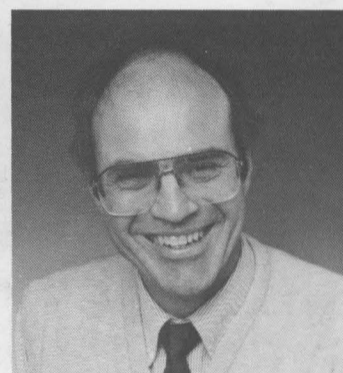
David Johnson  
1238

25



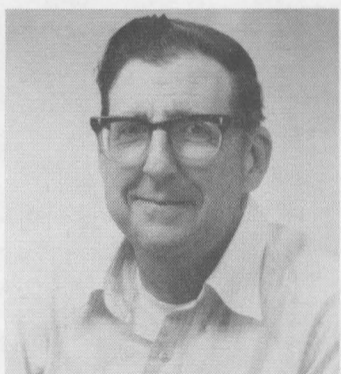
Mary Rivenbark  
8534

15



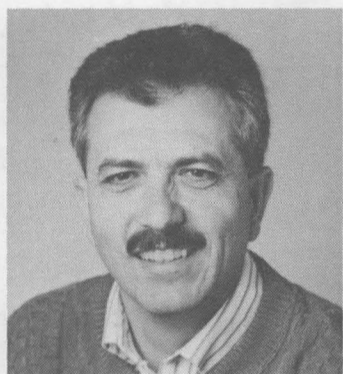
Chuck Hartwig  
8244

20



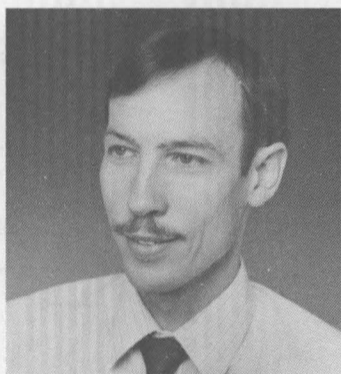
Carl S. Smith  
2853

30



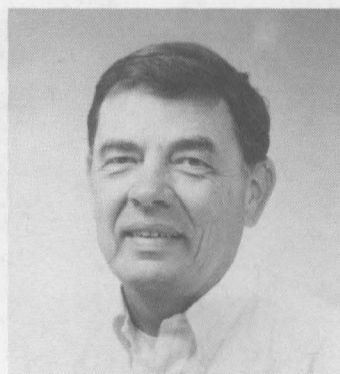
Rich Campiotti  
8484

25



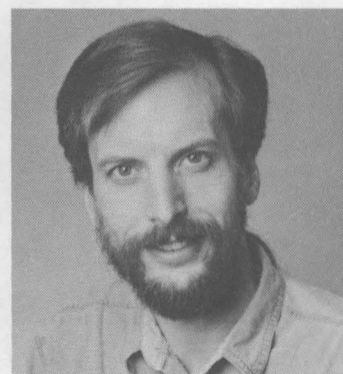
John Didlake  
5363

15



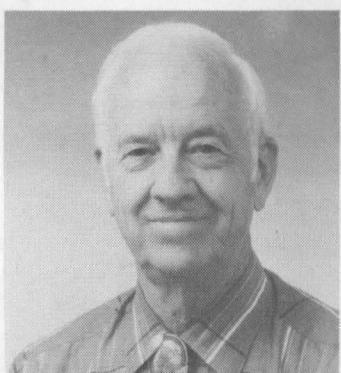
Bob Frazer  
9227

30



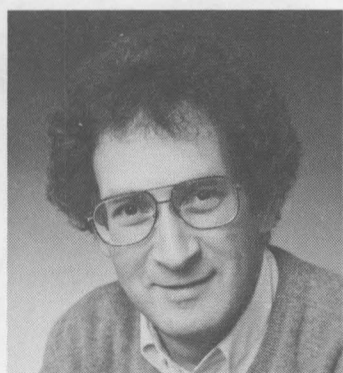
Al Ver Berkmoes  
8343

15



Robert Summers  
342

40



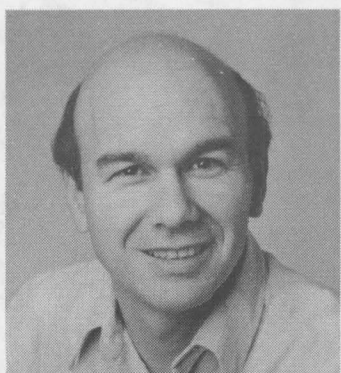
Larry Weingarten  
8242

20



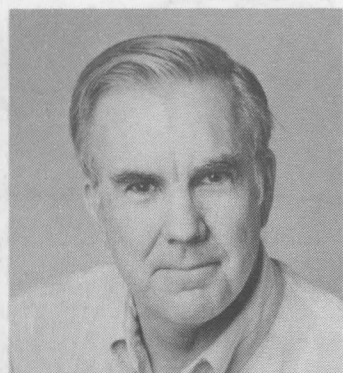
Don Gould  
9548

30



Art Hayes  
8271

20



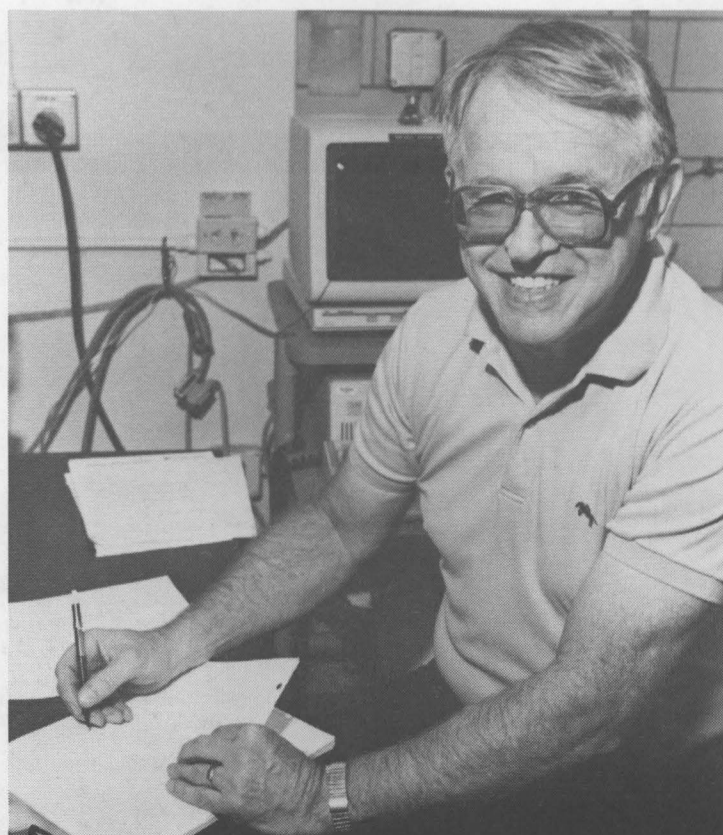
Al Baker  
5371

25



George Kolesar  
9213

30



Harry Pike  
2414

35



## UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS

**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.
13. "Work Wanted" ads limited to student-aged children of employees.

**MISCELLANEOUS**

- BABY CRIB, Jenny Lind, w/204 inner-coil mattress, \$90. Rounds, 345-1976.
- HOME VIDEO EDITING EQUIPMENT: Sima Edit/2 enhancer/mixer, \$65; ADC enhancer/stabilizer, \$75; Videonics digital equalizer, \$175. Hale, 298-1545.
- SOFA BED, double, brown/white striped, \$100 OBO. Witek, 296-5198.
- GENERAL ELECTRIC REFRIGERATOR, yellow, 14 cu. ft., \$125. Sisneros, 260-1378.
- CAMPING MEMBERSHIP: New Mexico Resorts charter membership, Sandia Crest & Enchanted Trails plus coast-to-coast, \$1,495. Hansen, 898-3251.
- NORWOOD LOOM, 52-in., w/sectional warp beam, warping board, spool rack, assorted shuttles, tension box, etc., \$1,200. Owens, 865-6880.
- AVION TRAVEL TRAILER, 31-ft., all appliances work, wood interior, \$4,750 OBO. Hesch, 281-8848.
- KITTENS: 1/2 Persian, 3 females, 2 males, \$47.50/ea.; Persian blue-point, male, 2 mos. old, \$150; Persian male, \$250. Perea, 275-3683.
- EXECUTIVE DESK, L-shaped, 2-level, 5-drawer, w/chair, \$195. Miller, 268-5992.
- QUEEN-SIZE WATERBED, full-wave mattress, heater, liner, padded rails, 12-drawer pedestal, \$75; small student secretary, 3 drawers, 2 at \$35/ea. Miller, 275-1609.
- ENGINE, 3-hp Briggs & Stratton vertical shaft, \$25; heavy-duty trailer hitch for Scout II, \$50. Kupper, 298-7720.
- BLUE HEELER, female, spayed, 14 mos. old, all shots current, free to good home. Parker, 877-8525.
- CLOTHES, women's sizes 7, 9, & 10; jewelry, accessories, shoes, belts, purses. Chavez, 836-2719.
- WATER SKI, 68-in., H.O. extreme, double-high wrap bindings, \$325. Garcia, 256-3607.
- SEWING MACHINE, Singer electric, w/bench; slide projector, 35mm, w/screen & slide trays. Graff, 268-5291.
- STEREO, Quadrophonic receiver, 35 watts per channel RMS, w/4 three-way speakers, turntable, best offer. Mac Cosbe, 293-3492.
- SADDLES: Western Circle Y, 15-in., dark oak-leaf pattern, \$650; 17-in. Colman Croft English trail/event saddle, \$350; bridle, \$20; 2-horse trailer. Olman, 884-4663.
- LAWN MOWER, Sears Craftsman, 22-in., power-propelled, rear grass catcher, \$150. Webb, 266-6715.
- MOVING BOXES: book, mirror, wardrobe, large, med., 1 mattress, \$60 OBO. Ricker, 821-5597.
- MACINTOSH SYSTEM: Mac Plus, 2-Meg. hard drive, HP DeskJet printer, 800K external drive, software, \$956. Newnman, 266-5545 evenings & weekends.

- GRAY KITTEN, needs new home, free. Waymire, 299-9612.
- GERMAN SHEPHERD, 6 yrs. old, female, outside dog, moving; cocker spaniel, 2 yrs. old; both need good home. Romero, 821-6715, leave message.
- LONGCOAT CHIHUAHUA PUPPY, male, AKC-registered, champion background, cream colored, first shots, written guarantee, will be small, \$200. Sargent, 865-3227.
- CROWN REEL-TO-REEL PLAYER, Series 800, Model 824, studio quality, \$550 OBO. Aragon, 292-8883.
- GIRL'S ROLLER SKATES, size 3, made by Pacer, white leather upper w/blue wheels. Wagner, 823-9323.
- STEREO CABINET, 17" x 17" x 45", glass top, door, & shelves, on wheels, \$25; 4-track GE cassette recorder, rechargeable, \$125. Norton, 266-3741.
- LAWN GENIE, 3/4" electric valves, new, Model 711 BLG, \$15/both. Demos, 294-6492.
- PRE-WAR 1941 MARTIN GUITAR, mahogany, \$1,900. Barker, 294-0254.
- RUGER BLACKHAWK, 357-mag., 6-1/2-in. barrel, original box & manual, \$210. Vigil, 296-3590.
- '90 EVINRUDE MOTOR, 25-hp, long shaft, under warranty, 35 hours logged, \$2,000. Savage, 296-0528.
- ANTIQUO OAK ICEBOX, White Mountain Grand, \$500 OBO. Petersen, 275-7467.
- COUCH & OTTOMAN, heavy dark-pine frame, burnt-orange plaid cushions, \$250 OBO. Miller, 281-3936.
- SAILBOARD, 12-ft., w/5M Mistral sail, cartop rack, \$390; Simmons hide-a-bed, queen-size, \$200; Gemini dot-matrix printer, \$60; microwave, \$45. Green, 275-7375.
- SUZUKI VIOLIN, 3/4-size, w/bow & case, \$165; Reynolds student trumpet, \$185. Aragon, 888-3473.
- ELECTRIC GUITAR, Jackson Strat, custom American-made, locking tremolo, maple fingerboard, single humbucker, \$1,000 OBO. Strome, 298-8915.
- RG-59 COAXIAL TV CABLE, many pieces, 10'-60' long, some w/F-59 connectors, 10c/ft. Barnard, 256-7772.
- KITCHEN CABINETS, used, Mossman, 3 base, 2 wall units, Formica counters w/sink, faucet, disposal; GE Americana range. Northrop, 884-4718.
- MAYTAG WASHER, \$350; Maytag electric dryer, \$300; Whirlpool refrigerator with ice maker, \$550. 5 yrs old, almond. Kestenbaum, 296-5056.
- ANTIQUO OAK PEDESTAL TABLE, 46-in. round, w/4 matching bentwood chairs, circa 1900, \$375 OBO. Boyd, 298-4712.
- HORSE TRAILER, 2-horse, tandem axle, \$500. Souder, 281-3121.
- CAB-OVER CAMPER, 8-ft., Holiday, wide or narrow bed, stove, icebox, knotty pine interior, sleeps 4, \$450. Rosul, 281-4114.
- LOOM, 4-harness, 45-in. wide, \$600; sewing machine, heavy-duty Singer, \$400. Day, 839-4088 after 5:30 p.m.
- PECAN DINING ROOM SET; 70-in. round glass patio table; black-lacquered metal table, 28-in. round. Whelan, 265-7660.
- GARAGE SALE: 2-family, boat motor, lawn mower, appliances, furniture, toys, Aug. 10, 7 a.m., 14020 Skyline NE. Moreno, 294-4268.
- CEMETERY PLOT, Sunset Memorial, single, established section, located in Sec. 278, Block 14, \$800 OBO. Hole, 255-1444.
- CELLULAR PHONE, new, Nokia Mobra, installed or bag phone (portable), w/contract, \$450 OBO. Mora, 246-9611.
- MOVING SALE: refrigerator, lawn mower, leaf blower, fertilizer spreader, compressed air sprayer, weed eater, ladders, misc. yard tools. Billups, 291-8123.
- AMIGA MOTORIZED WHEELCHAIR, \$300; bed trapeze attachment, \$175. Souza, 296-0179.
- QUEEN-SIZE WATERBED, w/all accessories, \$100 OBO. Brooks, 892-4398.
- GE REFRIGERATOR, 17 cu. ft., harvest gold, \$125 OBO. Miller, 883-0218.
- MINIATURE RABBITS, Netherland Dwarf, many colors; free kittens. Sharp, 243-1498.

- GARAGE SALE, multi-family: Aug. 17-18, household, furniture, construction materials, collectibles, antiques, 1701-1708 Robert Dale NE (Indian School west from Tramway). Harrington, 294-6368.
- DRAFTING TABLE, w/flat file drawer/side accessory drawer, parallel bar included, complete set-up, purchased at Holman's, \$250. Arellanes, 292-0041.
- KITCHEN SINK & faucet, with or without oak cabinet & countertop; other kitchen cabinets available. Chavez, 836-2719.
- DISHWASHER, portable, \$150; couch, corner unit w/queen sleeper, \$100; bassinet, \$25; 25-in. color console TV, \$50. Tenorio, 821-8967.
- PENTAX K-1000 35mm CAMERA, 50mm, 28mm wide angle, 80-200mm zoom, 135mm telephoto, flash, \$225. Croessman, 262-0444.
- YAMAHA ELECTRONIC PIANO, cost \$2,000, asking \$1,000. Smith, 384-5182.
- FIELD FENCING, 4' x 330', \$25; metal windows, 3' x 4', \$25; antique china cabinet, \$95; snow tires, P195/75D14, \$95; doghouses; books. Davis, 294-4614.
- LIMED-OAK DINING SUITE, 5-ft. table w/12-in. extension, captain's chair, 5 side chairs, buffet, hutch. Carter, 275-8376.
- RECEIVER HITCH, fits Ford & Chev. full-size trucks, \$125; Playmor camping trailer, 21-ft., tandem axle, awning, refrigerator, full bath, \$6,500. Padilla, 836-6956.
- SEMI-AUTOMATIC RIFLE, Browning Bar, 7mm-mag., never fired, \$475; Winchester Model 70, 300 Winchester mag., w/Redfield scope, \$425. Habbit, 293-7216.
- SINGER SEWING MACHINE, w/table & matching chair, extras, "Touch & Sew," \$80. Henfling, 869-4119.
- SUITCASE, Ladies Hartman, 8" x 29" x 21". Martello, 881-7835.
- LOVE SEAT, brown leather, \$100; Kenmore built-in dishwasher, \$35. Rudolph, 298-0941.
- BASSINET, w/liner, \$50; wooden port-a-crib, w/bedding, \$75; sewing machine cabinet, \$65. Levan, 293-0079.
- MAN'S GOLF CLUBS, 4-woods, Wilson X-30, \$50. Stang, 256-7793.
- CHINA CABINET, dark wood, Oriental style, 3 sections, 6-ft. 3-in. wide, \$750. Pitts, 268-2207.
- CARPET, cypress green, short shag, 12' x 13', w/pad, \$40; moving & storage boxes, includes wardrobes & dish-packs, \$15. Harvey, 242-1619.
- COMPUTER SYSTEM: Apple II/GS computer, external drives (two 3-1/2-in. & one 5-1/4-in.); ImageWriter printer; RGB monitor; software; more; \$1,200. Hays, 293-3386.

**TRANSPORTATION**

- '82 TOYOTA COROLLA, 2-dr. sedan, 4-cyl., AT, AC. Perea, 255-9697.
- 10-SPD. BICYCLE, Murray, \$30 OBO. Sikora, 881-4741.
- '86 RM 125 DIRT BIKE, maintained, \$1,500 OBO or trade for other adult toys. Robinson, 293-7231.
- '76 MIDAS MINIMOTORHOME, 20-ft., new tires, upholstery, awning, \$7,995. Vandl, 293-1249.
- SAILBOAT, 12-ft. Topper, can be carried on cartop, \$450. Ashcraft, 884-4934.
- '89 TOYOTA CAMRY, loaded, 58K miles, \$800 down, take over payments. Potter, 292-3989.
- '74 BMW BAVARIA, sedan, new paint, interior (includes spare '73), \$2,950; '87 Celebrity, loaded, \$5,300. Schaub, 821-7242.
- '80 HONDA PRELUDE, 69K miles, one owner, gold, AT, AC, AM/FM cassette, power moonroof, \$1,900. Homicz, 294-1676.
- '81 HONDA CB-650 MOTORCYCLE, 15K miles, \$900 OBO. Vandewart, 298-4741.
- '84 HONDA ATC 200, maintained, \$600; '81 Chev. Malibu Classic, AT, PS, PB, PW, \$950 OBO. Miller, 281-3936.
- '75 TRI-HULL BOAT, 15-ft., 70-hp Johnson motor, Minnkota trolling motor, set up for fishing, \$3,500. Luikens, 271-0019.
- '68 VOLVO 144S, \$600 OBO. Bauer, 299-0640.

- '91 TOYOTA COROLLA DX, 5-spd., w/value package, AC, extras, 4,664 miles, \$10,400. McClure, 281-4830.
- '80 INTERNATIONAL SCOUT TRAVELER, 4x4, factory turbo-diesel, PS, PB, AC, 4-spd., tilt wheel, stereo, one owner, extras, \$4,100. Walston, 296-0372.
- '79 CADILLAC SEVILLE, loaded, 45K miles; '74 El Camino truck, \$1,850 OBO. Padilla, 345-7660.
- '66 BRITISH LANDROVER, 4x4, utility wagon, no rust, \$1,950 OBO. Pryor, 294-6980.
- '87 OLDS. CUTLASS SUPREME BROUGHAM, 4-dr., V-8, loaded, 48K miles, new tires & battery, \$6,750. Dubois, 256-9165.
- '60 FORD FAIRLANE; '59 Ford Fairlane (will trade for '50-'59 Ford pickup); '26-'27 Model "T" body, frame, parts. Stuart, 865-1456.
- '76 FORD F-150 PICKUP, PS, PB. Eisenberger, 877-7041.
- '88 ACURA INTEGRA LS, 4-dr., 5-spd., one owner, loaded, \$9,500. Weed, 823-2396.
- '76 MOTORHOME, all options, 24-ft., Brougham, Dodge chassis, records available, \$8,950. Sparks, 884-7376.
- '78 FORD CONVERSION VAN, 14K miles on rebuilt engine/transmission, new brakes, \$2,750; '77 Cadillac Seville, all power, \$2,900. Green, 275-7375.
- '50 M38 WILLYS JEEP, new tires & top, \$1,800 OBO. Babcock, 892-7199.
- '75 MERCEDES 300D, auto sunroof, 95K miles, \$3,000. Homer, 836-5043.
- '89 FORD PROBE, AT, AC, PL, will sell for NADA book value. Fitzpatrick, 275-3422.
- '84 FORD TRUCK, heavy-duty 1/2-ton, extended cab, equipped for deluxe towing, high-output engine, hitches front & rear. Meyer, 296-9066.
- '85 HONDA HATCHBACK, 42K miles, AC, AM/FM cassette, 2 new tires, recent battery, \$3,500. Laval, 898-9112.
- '89 FORD AEROSTAR XLT, PS, AT, 4 captain's chairs, dual AC, loaded, 35K miles, \$11,900 OBO; girl's 16-in. bike & scooter, \$30/ea. Miller, 275-1609.
- '63 DODGE DART, 225 slant-6 engine, pushbutton AT, \$400. Anderson, 294-0591.
- '85 FORD TEMPO, blue, AT, AC, 30K on new engine, recent brake job, 79K actual miles, \$1,700. Kyger, 299-6398.
- HONDA CT-90 TRAIL BIKE, 1K miles, loading ramp, bumper carrier, \$375; two 8R17.5 tires, \$10/ea. Perkins, 899-8766.
- '67 VW BUS, transaxle, including reduction boxes & brakes, \$150 OBO. Thorne, 884-4870.
- '81 MERCURY LYNX, 62K miles, AC, cruise, \$1,300. Mora, 246-9611.
- WOMAN'S 10-SPD BIKE, KHS Winner, 27-in., new, never used, \$150. Sanchez, 291-9625.
- '89 CHEV. 1500 PICKUP, extended cab, 351 V-8, AT, AC, cassette, matching fiberglass shell w/carpet conversion kit. Aurand, 281-4027.
- HONDA CT110 MOTORCYCLE, 900 miles; Gastron tri-hull boat, 115-hp Mercury outboard motor, trailer. Smith, 384-5182.
- '84 BUICK SKYHAWK, one owner, 80K miles, \$2,150 OBO. Henfling, 869-4119.
- '89 HARLEY-DAVIDSON MOTORCYCLE, Low-Rider Sport (FXRS-SP). Gomez, 292-2367.
- '78 FAIRMONT WAGON, AT, PS, PB, stereo, \$800. Rudolph, 298-0941.
- '84 FORD BRONCO II, 4-WD, 5-spd., metallic blue, 87K miles, one owner, all maintenance records, \$4,000. Miller, 281-9470.
- 10-SPD. BIKE, \$35. Axxess, 296-4691.
- BOAT, 15'9", 60-hp, for fishing & skiing, canopy, \$1,900. Cooper, 881-1329.
- '88 HONDA PRELUDE, white, sunroof, 5-spd., 37K miles, 2.9L SI, \$10,500. Ramirez, 275-3834.
- '88 LINCOLN TOWNCAR, Signature Series, blue, loaded, \$13,000. Levan, 293-0079.

**REAL ESTATE**

- 10 ACRES, 7 miles south of Moriarty, \$10,000 cash or \$12,000 terms. Smith, 384-5182.

- 3-BDR. CUSTOM MOBILE HOME, 16' x 80', Windsor, 2x6 construction, shingle roof, fireplace, 24' x 30' garage, 2 full baths, 1.629 acres, \$66,900. McClure, 281-4830.
- 1.3 ACRES, El Pinar Estates, 14 miles east of Albuquerque, off frontage road, wooded, electricity, phone lines on property, \$14,500. Perryman, 281-3020.
- 2-ACRE DEVELOPED LOT, near Tome, fertile, irrigated bottom land, zoning covenants, horses allowed, will finance. Beisinger, 296-6261.
- FOUR HILLS LOT, appraised at \$62,000, make offer. Padilla, 345-7660.
- 2.5 ACRES, Manzano Mtns., w/14' x 60' mobile home, 2-bdr., utilities, fenced, Quail Hollow subdivision, \$34,000, \$5,000 down & terms, consider trade. Marquez, 831-3088.
- DUPLEX. Pimentel, 823-2934.
- 3-BDR. BRICK HOME, Dellwood Addition, 2,000 sq. ft., 1-3/4 baths, 2-car garage, backyard access, fireplace, solar water, \$111,000. Sundberg, 299-2134.
- 3-BDR. HOME, large lot, sideyard access, garage workshop, storage shed, 1,768 sq. ft., O'Keefe, Eisenhower, La Cueva schools, \$107,000. Gruer, 296-8163.
- 3-BDR. BRICK HOME, 2 baths, large kitchen, garage, brick patio/barbeque, storm windows, front/back lawn, NE, new paint, 1,400 sq. ft., \$80,000. Axxess, 296-4691.
- 3-BDR. HOME, adobe-type, 1-3/4 baths, single garage, kiva fireplace in great room, near Constitution & Eubank, \$75,900. Vancil, 299-7211.
- 1-ACRE LOT, near Vallecitos Reservoir at Forest Lakes, water system, electricity, tall pines, \$8,000. Patterson, 299-1062.

**WANTED**

- PRINTER, ImageWriter/ImageWriter II, for elementary classroom; foam-core & other supplies for architecture project. Montague, 255-2670.
- APPLE IMAGEWRITER I OR II dot-matrix printer. Nelson, 883-9566.
- PARTS for '66-'71 Chevelle Super Sport, need hood, rear end, bumpers. Prevender, 296-8586.
- AUTOBIOGRAPHY OF BERNT BALCHEN, "Come North With Me," to borrow. Lewis, 255-3316.
- DRAFTSMAN w/patent drawing experience to do small project. Smiel, 865-9081.
- WILTON CAKE PANS, little girl wants Barbie or Rainbow Brite for next birthday, will pay new price. Brown, 292-2339.
- ROOMMATE, share NE Heights home, private bedroom & bath, 1/2 garage, carpeted, washer/dryer. Rackow, 292-1583.
- FLUTE, in good condition, suitable for 12-yr.-old beginner. Souder, 281-3121.
- FORD PINTO or equivalent, good condition, manual transmission preferred. Denison, 281-2518.
- MACINTOSH COMPUTER for college students, SE or above model. Mora, 246-9611.
- FOR TRADE: late-model Johnson outboard motor for 10- or 7.5-hp 1985 or newer Johnson or Evinrude boat motor. Freyermuth, 299-2053.
- TOWBAR. Patterson, 299-1062.

**WORK WANTED**

- UNM SENIOR will housesit, references furnished. Vandewart, 298-4741.

**LOST AND FOUND**

- LOST: 1 pr. Killer Loop Ray Ban sunglasses, lost in or near TTC on Wed., July 24, between 9:30 and 11:30 a.m. Rechar, 4-0922 or 766-9629.
- FOUND: after softball game at Air Guard on July 29, child's white sun hat w/bear logo, size small. Miller, 281-9470.
- LOST: gold bracelet, 1/4-in wide chain loops. Crawford, 4-6220.





**Coronado Club Activities**

## 'Big Three' Play at Dollar Daze

THE "BIG THREE," a.k.a. Trio Grande, play inside the Club next week, Friday, Aug. 16, from 7 to 11 p.m. Dinner items include T-bone steak or golden fried shrimp (two plates for \$16.95), prime rib (\$9.95), snow crab (\$9.50), and chicken breast with green chile (\$7.95). Or choose to play outside every Friday night this summer at Friday Dollar Daze. As always, the pool and patio are open from 5 to 10 p.m. The cost for Dollar Daze: free for members with pool passes, \$1 for Club members without passes, and \$2 for non-member guests.

**BEST BRUNCH IN TOWN** — Three Sunday Champagne brunches take place this month — Aug. 11, 18, and 25 — from 10 a.m. to 1 p.m. Cost is \$6.95 for adults and \$1 for children. On the

18th, a special tea dance features music by the Bob Weiler band from 1 to 4 p.m.

**SKIERS AND WANNA-BES**, the annual Ski Club pool party and membership drive is Saturday, Aug. 17, from 6:30 to 9:30 p.m. Bring the family for swimming, snacks, ping pong, volleyball, tennis, shuffleboard, and horseshoes. RSVP by Aug. 3 by calling Lee Walton on 293-0958. Anyone who is eligible to join the Ski Club may attend.

**DON'T FORGET BINGO** every Thursday night. Buffet line and card sales begin at 5:30 p.m., and early-bird games start at 6:45. On Thursday, Aug. 29, one lucky bingo player will win a microwave oven.

## Events Calendar

*Events Calendar items are gathered from various sources. Readers should confirm times and dates of interest whenever possible.*

**Aug. 9** — Zoo Music Series: Watermelon Mountain Jug Band; 6:30-9:30 p.m., Rio Grande Zoo, 843-7413.

**Aug. 9-11** — "The Bad Seed," drama by Maxwell Anderson about a young girl who seems innocent at first meeting, but is less innocent than she seems; 8 p.m. Fri.-Sat., 6 p.m. Sun.; Vortex Theatre, 247-8600.

**Aug. 9-16** — Exhibit, "Raymond Jonson Paintings from the Chicago Period"; 9 a.m.-4 p.m. Tues.-Fri., 5-9 p.m. Tues.; Jonson Gallery (UNM), 277-4967.

**Aug. 9-18** — Exhibit, "Treasures of the Tar Pits," ice-age fossils from the Rancho La Brea Tar Pits in Los Angeles, produced by the Natural History Museum of Los Angeles County, features complete skeletons of dire wolves, a coyote, a giant ground sloth, and a cast from the skeleton of a 9,000-year-old La Brea woman; 9 a.m.-5 p.m. daily, New Mexico Museum of Natural History, 841-8836.

**Aug. 9-Sept. 20** — Exhibit, "Impressions of Nature," features the work of F. G. Hochberg, co-founder of the Nature Printing Society and curator of Invertebrate Zoology at the Santa Barbara Museum of Natural History, images printed directly from natural subjects including plants, fish, and shellfish; 9 a.m.-5 p.m. daily, New Mexico Museum of Natural History, 841-8837.

**Aug. 9-Oct. 4** — Exhibit: "Henry Nadler 1930-1990, A Retrospective"; 9 a.m.-4 p.m. Tues.-Fri., 5-9 p.m. Tues.; 1-4 p.m. Sun.; UNM Art Museum, 277-4001.

**Aug. 10** — Summerfest: Italian Night, food, entertainment, exhibits, arts & crafts; 5-10 p.m., Civic Plaza, free, 768-3490.

**Aug. 10** — San Lorenzo Feast Day, Corn dances at Acoma and Picuris Indian Pueblos; call for time, 843-7270.

**Aug. 10** — "The Best of Broadway," music and dance performance to benefit the American Lung Association of New Mexico, featuring John Burchell and Denise Tucker, winners of the 1990 professional competition at the Unique Star Ball in Salt Lake City; 7:30 p.m.; UNM Rodey Theatre, 255-8768 or 265-0732.

**Aug. 11** — Sunday Jazz: Pat Rhoads/Martha Lorin Trio and Alma; 12:45-5 p.m., Rio Grande Zoo, 255-9798 or 843-7413.

**Aug. 12** — Santa Clara Feast Day, Buffalo, Comanche, or Corn dances at Santa Clara Indian Pueblo; call for time, 843-7270.

**Aug. 15** — San Antonio Feast Day, Corn dances at Laguna and Zia Indian Pueblos; call for times, 843-7270.

**Aug. 15-17** — Bernalillo County 4-H Fair and Rodeo: 4-H members exhibit projects, livestock, hand-crafts, baking, sewing, rocketry, & welding; 8 a.m.-8 p.m. Thurs., 8 a.m.-7 p.m. Fri., 8 a.m.-6 p.m. Sat.; Youth Hall, NM State Fairgrounds (rodeo at 7 p.m. all three nights at Tingley Coliseum), 243-1386.

**Aug. 16** — "Invitations: Pachelbel to Belmont," The Desert Chorale; 8 p.m., Sunshine Music Hall, 1-800-244-4011.

**Aug. 16-Sept. 8** — "The Holdup," comedy by Marsha Norman about two brothers in New Mexico in 1914; 8 p.m. Fri. & Sat., 6 p.m. Sun.; Vortex Theatre, 247-8600.

**Aug. 17** — Summerfest: German Night, food, entertainment, exhibits, arts & crafts; 5-10 p.m., Civic Plaza, free, 768-3490.

**Aug. 19-25** — Sunwest Bank/Charley Pride Senior Golf Classic, Senior PGA golf tournament plus Pro-Am events and evening social functions; Four Hills Country Club, 7 a.m.-6 p.m., 247-GOLF or 247-4653.

**Aug. 22** — Fifth Annual Senior Citizens Day: special activities performed by and for senior citizens, arts & crafts, Indian dances, entertainment; 9 a.m.-4 p.m., Indian Pueblo Cultural Center, free, 843-7270.

**Aug. 23** — Zoo Music Series: Cajun sounds of Bayou Seco; 6:30-9:30 p.m., Rio Grande Zoo, 843-7413.

**Aug. 23-24** — University Hospital Health Fair: information and screenings for the public in a wide variety of health areas; call for time, Winrock Center, free (small fee for some screenings), 843-2656.

**Aug. 23-25** — Antique Show and Sale, presented by Continental Show Ltd.; 10 a.m.-9 p.m. Fri., 11 a.m.-8 p.m. Sat., 11 a.m.-5 p.m. Sun.; Albuquerque Convention Center, 268-5122.

**Aug. 23-31** — Los Voladores Aztec Dancers, entertainment includes flyers soaring down and around an 80-ft. pole; call for times, Indian Pueblo Cultural Center, 843-7270.

## Welcome

**Albuquerque** — Ricardo De La Rosa (7811), Lynne Russell (3716), Michael Torrez (3531).

**Elsewhere: California** — Arthur Hale (1424); **Washington** — Karon Ely (3524).



## Favorite Old Photo

THE 1949 PRICE "COLLEGE" CARDINALS pigskin team included my father Bob Austin (2000, second from left) and his brothers Pal Austin (far left), George Austin (center), and Walter Austin. Price was not really a college, but a Catholic high school (grades 8 through 12) in Amarillo, Tex. George was the assistant football coach at Price. My father, who recently passed his 35th anniversary at Sandia, was the sixth Austin brother to graduate from Price.

— Mary Kay Austin (7822)

## 'Executing Advance Directives'

# Medical Ethicist Will Discuss Living Wills

"Missouri's handling of the Nancy Cruzan case has prompted renewed interest in executing advance directives such as Living Wills and Durable Power of Attorney for Health Care," says Joan Gibson of the UNM School of Law. The case of Nancy Cruzan, a comatose patient who died in December after a feeding tube was removed with the permission of a Missouri state court, highlights the importance of expressing preferences and choices well in advance of medical crises, she says.

Gibson, Senior Program Director at the Law School's Center for Health Law and Ethics, says the most common question about the subject is, "How can I ensure that my family and my physician follow my wishes?"

Practical answers will be discussed by Gibson on Aug. 19 in the Tech Transfer Center. Two separate sessions covering issues involved in surrogate decision-making and New Mexico state laws concerning powers of attorney will be held at 10 a.m. and 2 p.m. Sessions will last about an hour and a half. Retirees are welcome. Seating is available on a first-come basis.

Health Care Decision Packets containing the New Mexico Living Will and Declaration Under the Right to Die Act, the NM Durable Power of Attorney for Health Care Decisions, and a Values History Form will be provided by UNM School of Law's Institute of Public Law and can be obtained at the sessions along with instructions on how to fill them out.

Gibson, a national expert on issues surrounding life support treatment and on ethical/legal issues of aging, will explain the legal functions of the various forms. A Living Will allows a person to state that he/she does not want maintenance medical treatment if certified as being terminally ill or in an irreversible coma. The New Mexico Durable Power of Attorney for Health Care Decisions authorizes health care decisions for an incapacitated person, and the Values History Form discusses a person's values, wishes, and preferences so that someone acting on his/her behalf can match such decisions to stated desires.

Gibson says that by completing these documents and talking about the issues ahead of time, the burden of responsibility on family members may be lessened because they feel confident of a person's wishes. •DT