

SARGE robot performs soldiers' duties without the risks

Sandia produces capable, adaptable battlefield prototype

By Philip Higgs

Lab News Intern

For years, both the Army and the Marines have been seeking to develop robots designed for the battlefield, machines that could perform all the dangerous duties of a soldier without all the risk.

"Using robots in war?" you might say. "Yeah, right. A robot could never replace a soldier."

You haven't met SARGE.

SARGE, the Surveillance And Reconnaissance Ground Equipment developed at Sandia's Advanced Vehicle Development Dept. 5516, is the latest standard in a long line of prototype battlefield robots. SARGE is a direct descendent of Sandia's Dixie robot, which was developed in the 1980s.

Battlefield tricks

This is no Hollywood robot — a walking, talking, metal humanoid with lasers for eyes, preprogrammed to destroy. Not SARGE. The current mission of battlefield robotics, handed down from the Department of Defense, calls for a much simpler machine, one that would be primarily engaged in remote surveillance.

SARGE and its predecessors have all been four-wheeled, remote-controlled vehicles —
(Continued on page 4)



TEARING AROUND THE TRACK — SARGE was shipped to the Army/Marine Joint Programs Office in 1995, but engineer Bryan Pletta (5516) still uses its predecessor, Dixie, to run tests on the Robotic Vehicle Range track southeast of Area 1. Six years of experience with Dixie led designers to create a more adaptable, more capable robot with SARGE. (Photo by Randy Montoya)

VSIP offer helps trim number of 'impacts' to fewer than 50

Sandia's Workforce Realignment Plan — including the Voluntary Separation Incentive Program (VSIP), internal transfers, and retraining — may have alleviated Sandia's staffing pressures enough to "make the goal of zero involuntary separations achievable," says Human Resources Director Don Blanton (3500).

As of *Lab News* press time Wednesday (Jan. 31), 237 requests for the incentive had been approved, and 141 out of 182 job function peer groups originally identified as "impacted" had been resolved, leaving fewer than 50 impacted positions.

The following chart shows Sandia's overall progress toward reducing the numbers of employees in 327 impacted positions identified by Sandia as no longer meeting current or anticipated work requirements:

Total impacted positions as of Dec. 5	327
VSIPs approved (impacted)	-202
VSIPs approved (nonimpacted)	-35
Transfers to save impacted jobs and other internal resolutions	-41
Remaining impacted positions	49

As the chart shows, 202 of the approved VSIP requests were from employees identified as members of impacted peer groups, and 35 were from nonimpacted employees.

Most of the 500 VSIP requests submitted by Sandians have now been considered. (See the Oct. 27, Dec. 15, and Jan. 19 issues of the *Lab News* for details about the Workforce Realignment Plan and VSIP.)

Don says the Labs continues to try to resolve remaining impacts. A meeting is
(Continued on page 9)



Sandia Sandia National Laboratories

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Paul Robinson gives his first employee dialogue sessions

Technical achievements assume center stage

By Bill Murphy

Lab News Staff

Sandia's technical accomplishments during FY95 took front and center stage during Labs Director and President C. Paul Robinson's first employee dialogue sessions since assuming his position in September.

Paul, who spoke with employees in California and New Mexico in several separate 90-minute sessions Jan. 16-18, highlighted the Labs' technical achievements in a presentation that also included comments about the challenges and opportunities facing the Labs. After completing prepared remarks, Paul took questions, which focused mostly on the Labs' restructuring and workforce realignment efforts.

In introducing his talk, Paul said he wanted to focus on the Labs' technical accomplishments — "let's put first things first," he said — and to discuss what he called the "six Fs":

Funding, financial management, facilities, "ph"-ilosopies, fallacies, and the future.

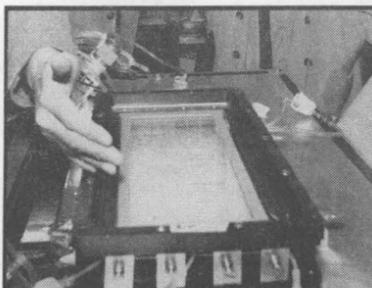
Noting that the *Lab News* is preparing its annual special edition featuring Labs accomplishments (to be published Feb. 16), Paul encouraged Sandians to "read them all."

"I think there's not a bigger upper you can have for the privilege of working at Sandia than to see what you're doing and your colleagues are doing."

For his remarks, Paul selected five accomplishments for special attention:

- Sandia's work with Precision Fabrics Group on a major advance in **automobile airbag design**, which Paul characterized as "a real breakthrough" that emerged out of Sandia's world-leading expertise in supersonic parachute design and fabrication. Paul said the airbags will begin appearing in European autos in the 1997 model year and in American cars in

(Continued on page 5)



6 Washington insiders provide glimpse of US science & technology debate

7 Remaining 41 Distinguished Members of Technical Staff highlighted

This & That

Gee, thanks, Mac! - I'll never trust computers. They "know" too much and often tell you too little when they go haywire. This error message popped up last week just before the computer crashed: " 'Unknown' from 'Unknown' is damaged and cannot be printed." Now, there's a lot of useful information! If you've experienced equally strange messages, I'd like to hear about 'em.

* * *

What to do if "60 Minutes" calls - or even the *Tombstone Tattler*, for that matter. With all the interesting things going on now at Sandia, the external media are calling often - including many of the biggies. If you get a call from a reporter, what should you do?

You have several options. If you're the subject-matter expert and you feel comfortable talking with the caller, go right ahead; then let the Labs' media relations folks know about the call so your colleagues and management aren't surprised when they see your name in print or hear it broadcast. If you're not comfortable talking with the media, or if the call is about widgets and you're a frimmers expert, refer the caller immediately to the media relations groups to handle: 844-8066 at Sandia/New Mexico, or 294-2447 at Sandia/California.

* * *

Hot News helper - Sandia's redesigned "Hot News" page on our Internal Web was featured several issues back. As the Labs' new Hot News czar, I credited several people in the story who helped make improvements, but I overlooked graphic designer Jeff White (contractor), who designed the new Hot News icon. So, a bit late, I say thanks to Jeff. He has designed many elements for our internal and external home pages, including the handsome primary visuals for the Internal Web home page.

* * *

More peeves - Here are several more Sandians' pet peeves. To save space, they are condensed and/or excerpted. Exact words and quotes are shown in quotemarks. I'll wrap up pet peeves in the next issue.

- The standard voicemail message that announces that "John Doe is not available at this time." "I knew that when old John didn't answer the phone. Is John not available because he's in the bathroom? In the Balkans? And, if the latter, does he call in regularly for messages?"

- "When I hear people complain about cigarette butts on the ground, I get peeved. How can we [smokers] put our cigarette butts in the containers provided for that purpose [the gorgeous yellow butt cans with long, narrow necks] when nonsmokers clog them up? They're not trash cans." This person went on to say that, to top it off, no one seems to be responsible for emptying the butt cans regularly.

- People who speed through Sandia parking lots in the mornings trying to get to work on time. "They'd rather risk vehicular manslaughter than be a few minutes late."

* * *

Disappointing discount - Being a tad over 50 years old (OK, maybe a tad and a half), I was a little happy and a little hurt at the same time recently. While checking into a motel, I asked about the rate. The clerk glanced at me quickly and said, "Fifty bucks for seniors." I was dying to know how old you really needed to be to qualify for the senior rate, but I was both too proud and too cheap to ask.

- Larry Perrine (845-8511, MS 0129, lgperris@sandia.gov)

New outplacement assistance services available to employees

Sandians who are leaving the Labs as a result of the workforce realignment process now have access to a variety of services to help them locate jobs outside of Sandia, and they can get one-on-one career counseling and personal financial counseling.

Sandia has contracted with Career Management International (CMI), a Houston-based firm, to provide these services to all interested regular and nonregular employees. CMI opened a "career transition center" at Sandia/New Mexico (MO 151) on Feb. 1. Sandia/California will open a similar center at a location to be determined on Feb. 8.

CMI will offer the following services to affected Sandians: performing local and out-of-area job searches, developing and maintaining job leads, maintaining a job market information library, publicizing workers' skills, facilitating registration with government bureaus and services, and helping with resume preparation, reproduction, and mailing. CMI will also use the Internet to explore companies that are hiring and will teach departing Sandians how to use the Internet in job searches.

Workshops will also be offered on resume writing, interviewing skills, career assessment, job searches, and personal financial management.

CMI will also provide training for any managers who have the task of notifying employees that they are scheduled to be laid off, if layoffs become necessary. (See related story beginning on page 1.)

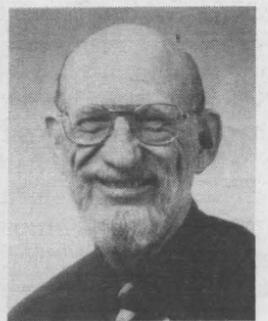
Becky Statler, Manager in Staffing Dept. 3535, says CMI was selected to provide the services because the firm has a documented 94 percent success rate in placing separated employees into new positions. Several years ago, the firm provided similar services for employees leaving the Public Service Co. of New Mexico.

For more information, Sandia/New Mexico employees should contact Jerry Gallegos (3535) in the Employee Development Center at 844-3030. Sandia/California employees should contact Carol Crown (8526) at 294-1564 or Holly Stryker (8522) at 294-2126.

Recent Retirees



Charlie Ray 35
10248



Mark Percival 28
5391

Sympathy

To John Halbleib (9341) on the death of his mother in Kentucky, Jan. 11.

To Judy Jojola (10248) and John Jojola (9521) on the death of her father and his brother, Tony Jojola, in Isleta Pueblo, Dec. 28.

To Chyrel Sotelo (10203) on the death of her mother, Jessie Feliciano, in Albuquerque, Jan. 18.

To Jackie Russo (10217) on the death of her mother, Ofelia Kesler, in Albuquerque, Jan. 20.

To Paul LeFebre (1486) on the death of his brother, Eddie LeFebre, in Albuquerque, Jan. 21.

To Floyd Mathews (9761) on the death of his mother, Millicent Mathews, in Albuquerque, Jan. 26.

Sandia LabNews

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Retiree deaths

Zell Terry (81).....	8257.....	Nov. 2
Oscar Braune (86).....	7433.....	Nov. 12
Jennings Conant (79).....	4451.....	Nov. 15
James Flemins (62).....	3154.....	Nov. 23
Helen Besser (91).....	3220.....	Dec. 7
Ralph Dalby (71).....	7412.....	Dec. 13
Herman Kirby (88).....	7513.....	Dec. 14
Dominic Russell (69).....	3414.....	Dec. 14
Henry Sellers (80).....	3644.....	Dec. 14
David Wilkinson (84).....	4541.....	Dec. 14
Roberta King (77).....	1000.....	Dec. 17
Roy Carlson (86).....	1822.....	Dec. 18
Robert Cuthrell (62).....	5932.....	Dec. 21
Milton Guest (85).....	4513.....	Dec. 25
Carl Beckham (83).....	8166.....	Dec. 26
John Kuruzovich (77).....	3313.....	Dec. 26
Edgar Cave (71).....	3542.....	Dec. 27
Tony Jojola (57).....	2473.....	Dec. 28
Louis Cropp (57).....	2643.....	Dec. 29
Frank Long (81).....	7144.....	Dec. 30



Batteries of the future: Sandia licenses technology to create key synthetic material

Lithium-ion rechargeable batteries expected to replace other technologies

By Nancy Garcia

California Reporter

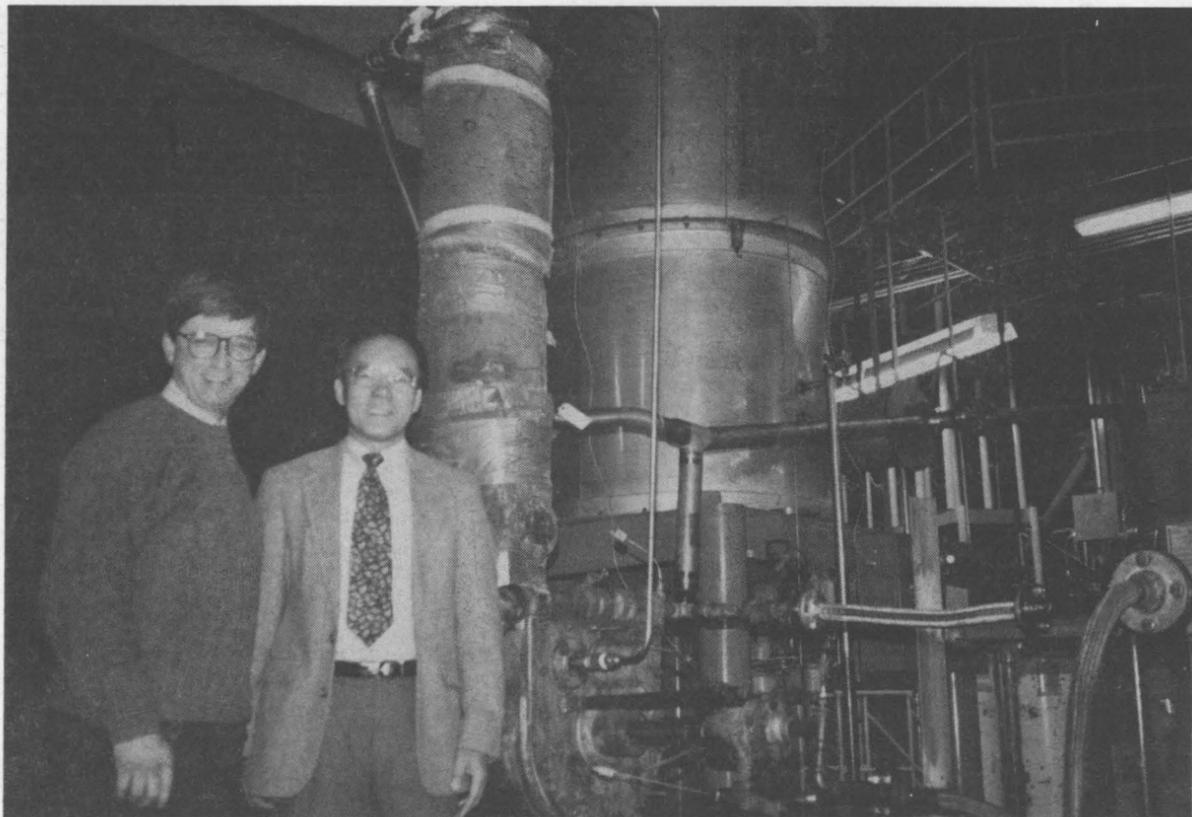
A group of DOE researchers has tailored a common textile material into a synthetic carbon that is being licensed to create longer-lasting, less expensive, safer, lighter batteries.

Sandia/California licensed this technology Dec. 20 to Bethlehem Advanced Materials Corp., Easton, Pa. Consumer electronics, aerospace, and defense applications could all potentially use the technology in lithium-ion rechargeable batteries.

"Lithium-ion rechargeable batteries," says Sandia scientist Bob Crocker of Polymer and Electrochemical Technologies Dept. 8230, "will ultimately replace almost all rechargeable battery technologies, because they have four times the energy density of lead-acid batteries (used in automobiles) and two to three times the energy density of nickel-cadmium batteries. The heavy metals in these conventional batteries are costly and pose environmental risks. Lithium-ion rechargeable batteries, in contrast, are environmentally benign, safer to manufacture and operate, and use less expensive raw materials."

Material developed at Sandia

Material for rechargeable lithium-ion batteries was developed at Sandia from an affordable chemical, polyacrylonitrile, used to create fibers for such products as socks and carpets. This polymer is charred through a patent-applied method to create a carbon matrix. Impregnated with lithium ions, the carbon serves as a negative electrode where electrons



PROCESSING OF the synthetic carbon matrix material has been taking place at Bethlehem Advanced Material Corp.'s plant in Knoxville, Tenn., where operations manager Dan Hensley, left, and Sandian Jim Wang, right, inspect the heating equipment.

are generated in a battery. Batteries convert chemical energy into electrical energy.

The process was developed through a three-year cooperative research and development agreement (CRADA) begun in 1992 with the US Advanced Battery Consortium, intended to support development of new bat-

tery technologies for use in electric vehicles.

The commercialization exploited Cold War research in which carbon structures with specifically engineered properties were produced in the laboratory. The CRADA, says Sandia project leader Jim Wang, Manager of Materials Chemistry Dept. 8713, created a synergy that allows the public to reap the benefits of defense research and Sandia to continue developing advanced technologies for national defense applications.

For any power-hungry applications

"In addition to electric vehicles, lithium-ion rechargeable batteries are useful in any power-hungry application," Crocker says, "such as laptop computers, cellular phones, camcorders and cordless power tools, because of their ability to work longer or lighter. Lithium-ion batteries will also be useful in aerospace applications such as communications, weather, and defense satellites by saving precious launch weight. For Sandia, the batteries are desired for powering equipment used for long-term monitoring of the weapons stockpile, and nonproliferation applications."

Rechargeable lithium batteries are the first new commercially available battery technology in decades. Japanese-produced lithium batteries are already present in some consumer products, such as computers, camcorders, and cellular phones.

Bethlehem Advanced Materials Corp. is a subsidiary of The Bethlehem Corp. of Easton, Pa. The subsidiary currently designs and manufactures high-temperature furnaces and processes specialty carbon, graphite, and ceramic materials for semiconductor and aerospace applications.

Besides California-based Crocker and Wang, the research team included David Ingersoll and Narayan Doddapaneni (both 1523) of Sandia/New Mexico and David Firsich of EG&G Mound Applied Technologies, a DOE facility in Miamisburg, Ohio.

Sandia California News



CHAMBER RECOGNIZES SANDIA — The Livermore Chamber of Commerce presented its 1995 Large Business of the Year award to Sandia/California for sharing its technology through industrial partnerships in the area, charitable giving through the Livermore Employees Assistance Program (LEAP), and its corporate contributions through the Lockheed Martin Foundation, including the Thunderbird Awards to high school seniors. Accepting the plaque at a Jan. 20 Chamber annual dinner are, from left: Executive VP John Crawford, President C. Paul Robinson, and California VP Tom Hunter. Presenters next in line are Chamber President David Mulqueeney, TV news anchor and emcee Dave McElhatton, and Tom O'Malley, vice president of Triad Systems Corp., which sponsored the award. In making the presentation, the Chamber president cited Sandia's "outstanding record in industrial partnerships and their giving to the community. . . . Sandia is truly committed to its community and to being a good neighbor in the Livermore Valley."



SARGE robot

(Continued from page 1)

not a humanoid part on them. SARGE uses a commercial recreational "four-wheeler," a Yamaha Breeze, as its base platform. A roll cage has been added, and four video cameras, two for surveillance and two for driving, are attached to a pan/tilt platform.

Everything — steering, throttle, cameras — can be operated (or *teleoperated*) from an operational control unit (OCU) miles away.

Picture this battlefield scene: The enemy lies over a hill, three miles away from your battalion. The sergeant points a finger at you and three others and tells you to check out the situation. M-16s in hand, you head off toward the hill. Halfway there, 10 enemy soldiers spring from nowhere, aiming their rifles at your heads. What happens now?

Or, picture this: You've been selected for the same mission. Instead of grabbing your M-16, you pull out the OCU for your battalion's SARGE unit and send the robot toward the hill, using its cameras to scope out the situation.

Any number of things might happen now, but one thing is for sure: the number of casualties will be less than one.

The SARGE project is not seeking to replace infantry soldiers. The Army and Marines want to use robotics to complement a soldier's abilities, not usurp them.

"Obviously, using a robot for surveillance is different from using a person," says SARGE project manager Bryan Pletta (5516). "It's not going to be as good at some things as a person would be, with eyes and ears and a brain. But it doesn't get tired, it doesn't get hungry, it doesn't get sleepy — and it's expendable."

A bit of history

SARGE is a prototype of what will eventually be standard battlefield equipment that will serve as a "force multiplier," something to increase soldier/Marine effectiveness and survivability — known in military jargon as a Teleoperated Unmanned Ground Vehicle (TUGV).

The final, complete TUGV system is expected to be produced in quantity and put into the armed forces inventory. Individual or multiple robots will be assigned to infantry units and battalions.

The TUGV (or "tug-vee," as they say) program was born of a curious union between the Army and the Marine Corps that began in the late 1980s.

Prior to 1988, both services were working separately on two different robot prototypes. DoD realized that the work of the two branches

was parallel, and formed the Unmanned Ground Vehicles/Systems Joint Project Office (UGV/S JPO) in 1988 to consolidate their efforts.

Several attempts were made to develop a prototype robot that could be used for reconnaissance missions.

The first was the creation of the Teleoperated Mobile All-purpose Platform (TMAP) that would be adaptable to a number of different missions. Two versions of the TMAP system were developed, but neither was very popular with users.

The next generation in the development cycle was the Surrogate Teleoperated Vehicle (STV).

The STV also failed to live up to the lofty expectations of the military user. Problems with stability and communications prevented the system from gaining acceptance.

So out went the STV, and in came Dixie.

Dixie was popular

According to Bryan, during all of this early testing, "people were coming out and touring our range. A lot of these users had seen Dixie, and they really liked it. They thought it was easy to operate, it didn't turn over easily, it was relatively reliable, and they told the JPO, 'We want something like Dixie. We don't want this STV; we want Dixie.'"

The subsequent request that came out of the Army "specifically asked for a robot like Sandia Labs' Dixie," says Bryan. But by this time Dixie was about six years old, and those involved felt that a number of improvements were necessary.

"We told the JPO that we weren't going to build them Dixie, but something better," Bryan recalls. And thus, the SARGE project was born.

"Dixie far out-performed what was expected of her," says Tom Mayer (5516), a SARGE engineer. "But SARGE gave us the chance to rebuild Dixie from the ground up."

SARGE is equipped with four video cameras in accord with the JPO's current mission of Reconnaissance, Surveillance, and Target Acquisition (RSTA), but also has built-in



BEFORE ITS completion in April 1995, SARGE was put through over 75 hours of testing. Here it pauses for a quick photo near the Robotic Vehicle Range.

expansion capabilities to interface with new mission modules as they are developed.

"You could put on a chemical detector, for instance, or a laser designator," says Bryan.

"The key was to provide a system where users could specify what they wanted, and SARGE would be able to handle it."

Gaining acceptance

Another key to the SARGE project is gaining acceptance from its users — the soldiers.

"We've taken robots out to demonstrations, and most people like them," says Bryan.

But there's one problem. "There's a lot of excitement in some areas of DoD for using robotics with different applications. Most of that is in the project offices or at the higher levels of the military. If you ask an infantry soldier if he likes this idea, more than likely he'll tell you no.

"Right now, using robotics is a pretty radical departure from the way they currently do things," he says.

With SARGE, however, the JPO is taking a new slant in research and development of the final TUGV by getting soldiers' hands on what would essentially be a soldier's tool.

A critical part of the project is the manufacture of eight to ten SARGE units to be given to infantry battalions, getting them involved in SARGE's development up front.

"The program will actually give them to infantry battalions and say, 'This is yours, keep it. Take it home, learn how to use it. Try and figure out what you could do with it if you had one,'" Bryan says.

The JPO is currently under contract with SUMMA Technologies Inc. to build the new units, with Sandia operating as technical adviser.

Obviously, without currently fielded systems, the Army and Marines have no doctrine, no guide, no established practice for using robots. Part of the evaluation process is having the soldiers themselves discover what can be done with such a robot, and developing tactics as they put them to use.

Soldier feedback will also be used to guide subsequent phases of TUGV development.

According to its creators, SARGE is easy to use. With motorcycle-like driving controls and joystick camera controls on a compact OCU the size of a suitcase, the robot is advertised as "user-friendly."

"The neat thing about SARGE is putting someone on it who's never used it before," says Tom. "It takes about two minutes to be comfortable with it. And that's the whole point: getting it as close as we can to the perfect extension."

SARGE offers quicker response time

The design criteria for Dixie were low power and low cost, both of which were achieved. Dixie was completed in 1988, when computers were a lot slower than they are now.

Dixie is teleoperated from its Operational Control Unit (OCU) via a 1200-baud radio link, and this, coupled with the slow speed of its processor, causes a 75-millisecond (ms) delay between user command and machine response.

Which is to say Dixie is a little slow when compared to modern counterparts.

"With Dixie, you have to 'drive ahead,'" says Tom. "You have to watch where you're going and plan for what's coming up because of the delay."

"With SARGE, the goal was to match

teleoperation to actual use," which meant decreasing that 75-ms lag time.

"We wanted to make it seem like the user was right on top of the machine," he says, "and I think we came pretty close."

Pretty close, indeed. On SARGE, the command/response delay is approximately 20 ms, thanks to its much faster modern processors and communications equipment.

The base platform was also upgraded. Dixie was built on a Honda 125, which relied solely on balloon tires for suspension and required the operator to shift gears while driving. SARGE's platform has a suspension system and a continuously variable transmission (CVT), which doesn't require shifting, making SARGE more stable at high speeds and easier to operate.

Robinson

(Continued from page 1)

1998. "It looks like a true revolution," Paul said. (Lead role by Dept. 9116)

- **Micromotors**, the first to be built using microelectronic methods and able to drive external gearing, which earned recognition in *Industry Week* as one of the top five new technologies of 1995. Noting that the technology has important applications in Sandia's nuclear weapons mission and medical implant technology, Paul said "this is probably the beginning of bionics . . . it's an area where we're just scratching the surface." (Lead role by Depts. 1325, 2643)

- **Charged Induced Voltage Alteration (CIVA)**, a Sandia-developed technique for finding infinitesimal flaws in microchips and, in Paul's words, "one of the areas where Sandia sits well above the rest of the world." He noted that industry is already putting the technology — which won an R&D 100 Award in 1995 — to good use, finding tiny but fatal imperfections in chips in hours in a process that used to take weeks. To give a sense of the scale of the achievement, Paul noted that the CIVA process dramatically expedites the standard flaw-detection procedure that has been likened to "driving over the entire US, trying to find an 1/8-inch crack in the road by looking through a hole cut in the floorboard." (Lead role by Depts. 2203, 1275)

- **The atom tracker**, which Paul called "maybe the most exciting development of all," uses a scanning tunneling electron microscope to track the movement of individual atoms across a surface. In moving the observational capability from still photography to video, developer Brian Swartzentruber (1114) pushes the state-of-the-art by a factor of about 1,000, Paul said. "The future application of this in chemistry, particularly catalytic chemistry, to watch individual atoms, and watch what happens to them in chemical interactions, is very exciting." (Lead role by Dept. 1114)

- **Computational speed record** of 280 gigaFLOPS (300 billion floating point operations per second), established by a Sandia/Intel team using two linked Intel Paragon computers. "It's always good to be number one, and we're number one in computing right now," Paul said. He noted that the Sandia/Intel team is gearing up to shatter the teraFLOPS (trillion operations per second) barrier during this calendar year. (Lead role by Dept. 9222)

Funding: The good and the bad

In introducing his remarks on the "six Fs," Paul drew a laugh from the audience when he flashed his first overhead slide on the screen. Across the top of the slide was the heading "Funding." The rest of the slide was blank.

"It's not quite that bleak," Paul said.

Getting serious, he said there is "good news and bad news" regarding funding.

"As you know, we fared fairly well compared to other laboratories during this time," he said. Still, he said, funding levels are declining, dropping from \$1.3 billion two years ago to less than \$1.2 billion for FY96. That reduction, he noted, forced Sandia to begin the workforce realignment process that has culminated in the identification of 327 "impacted" positions and the implementation of the Voluntary Separation Incentive Program (VSIP) to minimize involuntary layoffs.

Because of the number of VSIP requests, Paul said, "it is possible that we will have zero involuntary separations." (See related story beginning on page 1.) He added that the Labs "has kept the door open" to carry through with involuntary layoffs if circumstances dictate.

Paul noted that a recent Red Team review

found the Labs' financial management processes to be "complex and inefficient." It found they contribute to a polarization between line staff and financial staff. He said Sandia management is committed to carrying out the prescriptive remedies suggested by the Red Team, including:

- Moving financial accountability and authority to the line.

- Eliminating the quest for "zero risk" in financial processes.

- Delivering CFO (chief financial officer) services through co-location arrangements with line staff.

- Simplifying financial processes and structures.

- Eliminating actions that don't fulfill a tangible business purpose.

Paul noted the irony that, while budgets are being reduced, Sandia is in the later stages of perhaps the biggest building boom in its almost-50-year history.

"There's no better example that tides and fortunes don't always correlate than [the area of] Facilities," Paul said. In reviewing the Labs' facilities enhancements, Paul noted that eight major new buildings were occupied during the past year, including the Primary Standards Laboratory, the Integrated Materials Research Lab, the Integrated Manufacturing Technologies Laboratory (in California), and the Explosive Components Facility, which he characterized as the world's best facility for explosives work. He noted that a number of new facilities are scheduled for completion this year, including the state-of-the-art Robotics Manufacturing Science and Engineering Laboratory.

President endorses three-lab system

Paul said Sandians received some good news and some not-so-good news during the past year regarding the viability of the three



REVIEWING HIS REMARKS — Labs Director C. Paul Robinson and Executive Secretary Jane Elson go over notes for Paul's first-ever employee dialogue sessions. (Photo by Randy Montoya)

major weapons laboratories. In the good-news area, he noted that President Clinton, pursuing a Science-Based Stockpile Management philosophy, has endorsed the need for three healthy nuclear weapons labs. The President, he said, became convinced that the synergy among the three labs (Los Alamos, Lawrence Livermore, and Sandia) is essential to maintain the nation's strategic weapons in a zero-yield test environment.

In the not-so-good-news category, Paul noted that DOE — and the Secretary — are under fire from some quarters in Congress. The DOE labs, he said, are trying to help the department by defining in clear terms their missions and expected outcomes.

"The approach we [the DOE laboratories] are taking," he said, "is to justify the roles and missions of individual labs and to work together to become a more effective 'system of labs.'"

Paul said Sandia is leveraging its defense mission-related core competencies to add value for American taxpayers in nondefense areas "that couldn't be obtained any other way."

In what he called "more good news," Paul said DOE is committed to reducing bureaucracy (Continued on page 9)

Au Contraire: Paul Robinson debunks some myths

Since becoming Labs President, C. Paul Robinson said in his first dialogue session with employees, he has "paid more attention to the rumor mill than in the past." In his remarks, Paul debunked several prevailing fallacies he has heard over the past few months.

Fallacy 1 — You split up the research divisions; therefore, you guys don't value research.

"Au contraire," Paul said. "First of all, anyone who thought all our research was based in [Division] 1000 had a problem from the start." Paul said research will be more valued than ever at the Labs and that the aim of the recent reorganization is to increase the value of research activities in all of our programs and to keep research from becoming "isolated."

Fallacy 2 — Industrial partnerships are going away.

"We're down, we're certainly not out," Paul said. He said the "fight is far from over," noting that Sandia's CRADAs, its technical assistance programs, its licenses, its user facil-

ities, and its startups are compiling a very impressive track record of success.

Paul said Sandia is looking at building additional partnerships with universities and industry, using program funds.

Fallacy 3 — We are collapsing to be "just a weapons lab" again.

"Don't believe that," Paul said. "Our future is very much going to depend upon a wide array of customers whose problems we can solve . . . We couldn't support the weapons program if all we had were just its budget. It already leverages capabilities that are supported by the other programs we get."

Fallacy 4 — Elimination of the WFO sector means a lessened emphasis on work-for-other agencies.

"Exactly the opposite is what we have in mind," Paul said. He said Sandia wants to get more focused efforts in a number of areas, for example, intelligence work, criminal justice work, and transportation.

Sandia didn't eliminate WFO responsibilities, he said; instead, the responsibilities were distributed across the Labs.

Washington insiders give Sandians a glimpse of science and technology policy debate

Panel focuses on shifting political currents, future roles of labs

American taxpayers are unhappy with the size and cost of government . . . Federal research programs in the post-Cold War era lack a clearly defined role . . . And a disillusioned public believes technology is incapable of solving society's most serious problems — crime, poverty, racism, the high cost of health care, etc.

Such is the political climate in Washington these days, and the result, according to Tom Weimer, staff director of the House Science Committee's Basic Research Subcommittee, is a prevailing sentiment among members of a relatively inexperienced and predominantly Republican 104th Congress that federal discretionary spending for science and technology, particularly for applied research, must be curtailed.

Weimer was one of four Washington insiders who participated in a symposium at Sandia's Technology Transfer Center Jan. 24 to discuss the Washington political climate and how it relates to the futures of the national laboratories. A former Sandian, he said he was glad to leave Washington "for any reason," but especially to visit Sandia.

"The end of the Cold War has weakened the traditional driver for science and technology funding, and so far there's no consensus on a replacement driver," he said.

Although enhancing US economic competitiveness in world markets is a noble goal for the federal labs, he added, "international competitiveness has not provided the same appeal as national security did for so many years."

Surprising commonalities

Joining Weimer at the symposium were Doug Comer, staff director of the House Science Committee's Technology Subcommittee; Deborah Wince-Smith, senior fellow of the Washington-based Council on Competitiveness; and Paul Barnett, private consultant and former counsel for the Senate Energy and Natural Resources Committee. Each speaker represented a different political perspective in Washington.

But Weimer pointed out the speakers' "surprising commonality of views," which is representative of the larger debate in Washington, he said. "The proposals out there aren't much different in terms of science and technology spending and the need for reductions," he said. "The debate is not over spending direction but over pace."

Doug Comer reported that the House Technology Subcommittee is focused on how the government's regulatory and appropriations practices affect the deployment of new technologies, with an eye toward shifting emphasis away from funding for applied programs and toward basic research programs. "The committee is anxious to strengthen the utility of the work product emerging from the federal labs," he said.

The committee's analysis, he said, has included a look at existing technology transfer legislation and how the private sector is reacting to it. "The myth is that companies are concerned only with their quarterly earnings reports . . . and are failing to make long-term investments in R&D," he said. "I don't believe that's true. We need to get a true assessment."

He also highlighted proposals for legislation that would enhance the national laboratories' ability to use royalties gained from licensing agreements to fund future research in areas critical to the labs' missions. "The goal is to create an environment where every dollar invested returns the maximum value to the US," he said.

As senior fellow of a nonprofit group dedi-

cated to improving US economic vitality, Deborah Wince-Smith focused her talk on the extent to which the federal laboratories can and should contribute to the country's ability to compete in world markets.

She outlined three common ways US industry now views the federal labs: One, the laboratories compete with private industry; two, the labs are vendors from which companies can procure technology products when needed but ignore them otherwise; and three, the labs can be long-term strategic partners with US industry and can address complex, multidisciplinary issues that individual companies and universities cannot.

It is this third viewpoint, she said, that is ideal for both the labs and for industry. "Sandia has a track record of doing everything from basic research to dismantlement," she said. "Universities and companies can't provide that."

She expressed some key caveats, however. In order to contribute to economic competitiveness, the labs must protect their core competencies by having a compelling mission. And they must "deliver to industry in a cost-effective, high-quality way." Like Comer, she encouraged the labs to develop licensing strategies that allow intellectual property assets to be redeployed to protect and build on the labs' core competencies.

"I have never believed economic competitiveness should be the primary mission of the labs because that wouldn't nurture the expertise you need," she said. "The question is 'how can your primary mission be leveraged to support other benefits to the US?'"

Wanted: Friends in high places

Paul Barnett, a former committee staffer in the previous Democrat-controlled House, agreed with Weimer and Comer on the need to trim discretionary spending in coming years, but cautioned against reductions in the federal labs budgets in favor of university-based research, saying, "We need to spend smartly."

He also agreed with Weimer that the relative inexperience in the House (31 out of 50 members of the Science Committee have three or fewer years of Congressional experience), as well as the imminent retirements of longtime science supporters such as Rep. Robert Walker (R-Pa.) and Sen. Bennett Johnston (D-La.), may signal some ominous changes in Congress' composite outlook toward science.

"Most new members have no education or experience in science and technology policy," Weimer said, "and many view science and technology programs just like they do other entitlement programs . . . Generally, science is not viewed as an investment."

And, said Barnett, because the federal labs are prohibited from lobbying, there are few in Washington who can speak up for the national laboratory complex.

The solution, said Weimer, is for "everyone involved in science and technology" to help educate the public and Congress about the lab-



RETURN VISIT — Bob Glass (left) of Geohydrology Dept. 6115 describes how Sandia researchers measure properties of fluids as they flow through geological media to Tom Weimer, a former Sandian (1981-1985) who is now staff director for the House Science Committee's Basic Research Subcommittee. Weimer toured Sandia/New Mexico's Flow Visualization Laboratory Jan. 24, then joined three other Washington insiders for a panel discussion on national political currents and how they relate to the country's science and technology policy.

oratories and their potential contributions to national problems.

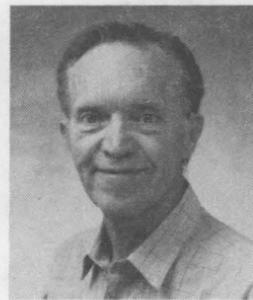
Wince-Smith agreed: "It's an educational issue, not a political one."

Congress will continue to debate restructuring the nation's R&D infrastructure in coming years, said Weimer, and proposals to eliminate DOE undoubtedly will again attract support in the House. But he predicted that DOE will continue to exist, at least for the near future.

Barnett said other legislation, including proposals for a lab closure commission and Rep. Steve Schiff's (R-N.M.) proposal to develop formal mission definitions for the DOE labs, also are likely to garner support in the House. But, he added, the debate has shifted to how the labs are going to be managed, not whether they are going to be preserved.

—John German

Employee deaths



Bob Ferguson

R. M. (Bob) Ferguson, Jr. of WIPP Disposal Room Systems Dept. 6748 died suddenly Jan. 23. He was 64 years old.

Bob was a technical associate and had been at Sandia since 1955. He is survived by his wife Jo Ann,

daughters Deborah Kornas and Brenda Ferguson, and son Ronald Ferguson.

Maurilio Rael of Custodial Services Dept. 7615 died Jan. 26 after a long illness. He was 61 years old.

Maurilio was a custodian and had been at Sandia since 1983.

He is survived by sons Gilbert and Anthony.

New Distinguished Members of Technical Staff

81 Sandians achieve highest technical level

The photos and citations on this and the following pages represent the second half of a group of 81 Sandians recently appointed to the level of Distinguished Member of Technical Staff. Photos and citations for the other new DMTS appointees appeared in the Jan. 19 *Lab News*.

The DMTS program recognizes technical employees based on several criteria including technical excellence, professional accomplishments, and support of Sandia's corporate values. All nonsupervisory Senior Members of Technical Staff with five or more years of Sandia experience are eligible.

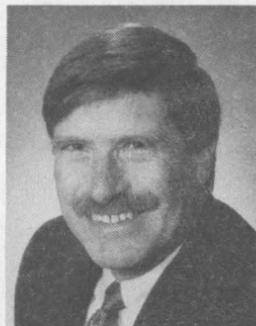
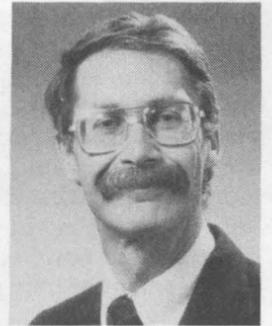
Ronald Pedersen 12324

For sustained contributions to Sandia's nuclear weapon programs and technical mentoring of new employees. His work has led to a better understanding and improvement of nuclear weapons safety and the accelerated development of department personnel.



Steven Gossage 4616

For sustained technical excellence, innovation, significant contributions, project leadership, and teamwork in support of Sandia's high performance communications networks based on optical fiber, Asynchronous Transfer Mode switching, and Synchronous Optical NETWORK physical transport.



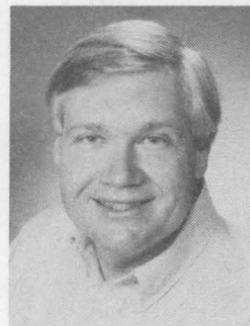
Ralph Clark 2266

For outstanding contributions to the nuclear weapons program, demonstrated leadership, and an uncompromising commitment to quality.



Robert Paulsen, Jr. 5417

For exceptional contributions to Sandia's nuclear weapon stockpile stewardship program and exceptional contributions in phase 1 & 2 effectiveness analysis.



James Ringland 8112

For exceptional contributions in the application of systems and risk analysis to areas of strategic defense, nuclear weapon safety, transportation, and the environment.

David Womble 9222

In recognition of international leadership and award-winning achievements in massively parallel computing, and for outstanding contributions to Sandia's programs and overall mission.



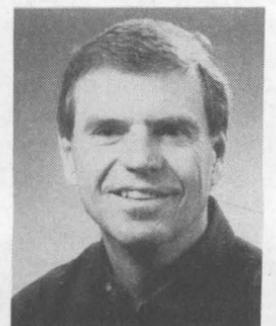
Bernice Mills 8713

For outstanding contributions to Sandia's defense and energy programs by bringing original chemical insight, scientific method, and a unique perception to both scientific and engineering problem-solving.



James Strickland 9116

For technical contributions and team leadership in the research and development of new computational fluid dynamics codes and numerical algorithms that have established Sandia as the leader in the field.



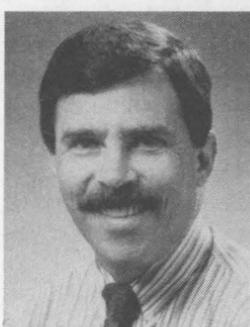
Edward Cole, Jr. 1275

For the invention, development, and active technology transfer of advanced failure analysis techniques that quickly and economically locate defects in microelectronics.



Juan Meza 8117

For his work in advancing the field of mathematical optimization and for applying mathematical optimization and high performance computing to scientific and engineering problems.



Steven Barnhart 1561

For exceptional technical and programmatic performance in the design, development, and application of explosive systems technology and management of chemical sciences programs at DOE.

James Anastasio 14413

In recognition of sustained high level contributions to the nuclear weapons mission. These contributions have made significant impact in the areas of project management, weapon component design and production, and in component testing.



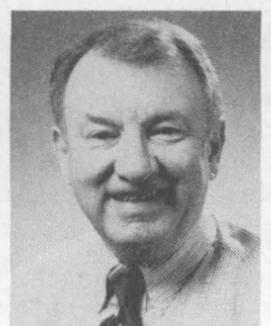
Kevin Bieg 12120

For technical and programmatic contributions to the Sandia light-ion fusion and the national inertial confinement fusion programs and for consistent high performance in support of Sandia's core competencies and missions.



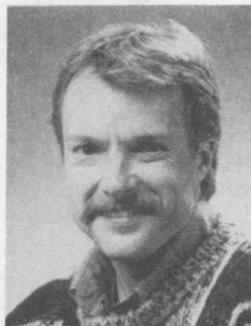
Ronald Ewing 6643

For the sustained development of innovative scientific concepts that have produced results of importance to science, Sandia, DOE, and the nation, especially in the design and application of nuclear radiation measurement techniques.



Ramon Pacheco 2165

For significant contributions in quality assurance process development and implementation to both component production and project development.



Douglas Riley 9352

For contributions to the development and application of transient techniques in computational electromagnetics.



Edward Talbot 2221

For sustained exceptional performance in the development of innovative nuclear surety advancements for the nation's current and future nuclear weapons stockpile.

**William Sullivan
6111**

For providing outstanding quality and leadership on a wide range of projects throughout his career at Sandia. Examples include development of the geothermal heat pump program, pioneering work on the Vertical Axis Wind Turbine, design contributions for high-powered naval sonars, and enhancement of transportation safeguards.



**Patricia Newman
5331**

For essential contributions to broadbased collaborations between scientists in the former Soviet Union and in the US through development of scientific and technical glossaries and the active promotion of technical communications and relationships that penetrate the language barriers between English and Russian.



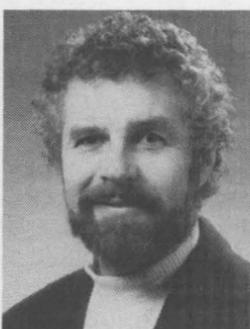
**Pauline Dobranich
5341**

For outstanding contributions to arms control and nonproliferation: technical leadership at the Cooperative Monitoring Center; contributions to arms control policy; analysis of verification systems; participation in the US delegation to the Special Verification Commission for the INF Treaty; and serving as top US expert on the stage measuring system.



**John Hinton
8114**

For sustained creative contributions to the analysis of nuclear and nonnuclear weapon and proliferation issues.



**Richard Nygren
6428**

In recognition of outstanding contributions to the development of plasma facing components for fusion devices, including non-destructive testing techniques, active heat removal design, and plasma diagnostics.



**Lalit Chhabildas
9231**

For sustained contributions to shock physics research and for international leadership and record-setting achievements in hypervelocity launch technology and applications.

**Tom Paez
9741**

In recognition of technical leadership in probabilistic structural dynamics and modeling/simulation of nonlinear mechanical systems critical to Sandia's weapon programs and development test capabilities.



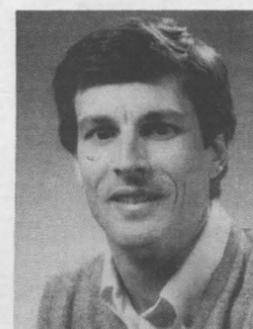
**Lyndon Pierson
4616**

For sustained leadership and contributions resulting in improved reliability of intersite communications, advances in high speed secure communications, and advances in the security of computer networks.



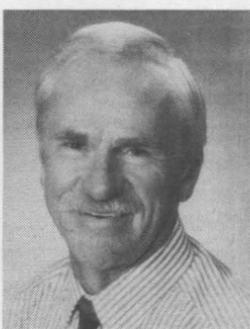
**Bruce Draper
1323**

For sustained excellence in the development of state-of-the-art microelectronics processes and integrated circuit technologies in support of Sandia's defense programs and US defense and government projects.



**Bertice Tise
2335**

For sustained creativity, innovation, and leadership in the field of real-time digital signal processing.



**Roy Pearson
2262**

In recognition of sustained system engineering excellence in all phases of nuclear weapons programs.



**Neville Reid Moody
8712**

For technical leadership, international recognition, and integrity in the investigation of hydrogen-induced fracture mechanisms and in the utilization of that expertise to ensure the continued safety and reliability of the stockpile.



**Ralph James
8250**

In recognition of exemplary technical achievement in developing new portable nuclear radiation detection technologies based on wide bandgap semiconductors, and for his pivotal role in developing new opportunities and missions using these sensors.



**Gerald Smith
1564**

For studies of neutron tube aging, which led to a fundamentally new aging model that permits the design of neutron tubes with greatly increased life and significantly reduces the cost of neutron generator replacement.



**Samuel Myers
1112**

For pioneering advances in the use of ion beams to characterize fundamental processes in solids and to enhance the properties of metals and semiconductors.



**Daniel Garcia
7433**

For outstanding leadership and contributions in support of Sandia's safeguards and security mission to provide physical protection of special nuclear material, classified matter, and property.



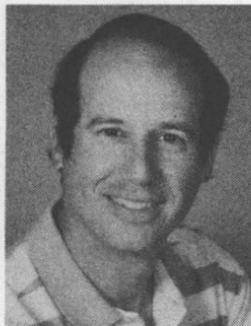
**Peter Chen
6749**

For outstanding advancements in the mathematical theory of wave propagation, elasticity, visco-elasticity, piezoelectricity, ferroelectricity, continuum mechanics, and mixtures.



John Goldsmith
8366

In recognition of pioneering contributions to the development of multiphoton detection methods for atoms and radicals in combustion and of exemplary leadership and technical excellence resulting in the establishment and growth to international prominence of the Raman lidar remote sensing capability at Sandia/California.

**James Neal**
6113

In recognition of outstanding contributions to Sandia programs in support of the US Strategic Petroleum Reserve Program and the Yucca Mountain Nuclear Waste Repository in the areas of geological site characterization and geotechnical problem investigations.

**VSIP update***(Continued from page 1)*

scheduled for Monday with the Labs' VP-level Realignment Board to review any unresolved impacts. If the Board decides it is necessary to take the next step in Sandia's Workforce Realignment Plan, some individuals will be designated as "surplus."

In case some surpluses are necessary, names of all candidate employees were being reviewed this week for fairness, and to ensure that proper procedures have been followed, during meetings of the Labs' Review Board. All surplus employees will be notified by their managers and by an official letter that also serves as the legally required layoff notice. The first notices would go out before Feb. 15, if this step is necessary. Surplus employees would have 60 days to find alternative work at Sandia or leave the Labs.

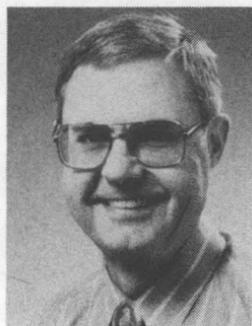
Outplacement services also are being provided to help surplus employees, and those who opted to take the VSIP, find new jobs outside the Laboratories. (See story on page 2.)

The *Lab News* will continue to cover realignment-related developments as they occur.

**David Clauss**
5514

For the development of advanced engineering and systems models and the application of these models to problems with nuclear safety implications, such as the transportation of nuclear explosives,

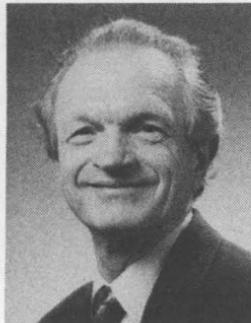
components and materials, and nuclear reactor containment.

**William Oberkamp**
9115

For outstanding contributions in the fields of high-speed aerodynamics and compressible gas dynamics, particularly for advancement of computational fluid dynamics simulation verification and validation techniques and theory.

Walter Worobey
1411

For his contributions in the areas of thin film microelectronic technology and emissive flat panel displays. He developed technology for high performance thin film circuits based on environmentally conscious manufacturing processes. He directed the development efforts at Sandia on flat panel display projects to improve the manufacture of large-area plasma displays.

**Robert Duncan**
5725

For developing new measurement techniques which exploit the macroscopic quantum properties of superfluids and superconductors, and for elucidating the effects of nonequilibrium conditions near criticality in superfluid helium-4. For providing national leadership in the development of new cryogenic measurement and refrigeration technology for use in terrestrial and space applications.

**★ Congratulations**

To Donna and Patrick (2346) Muyshondt, a son, Christopher Fernando, Dec. 21.

To Laura and David (4612) Leong, a son, Andrew John, Dec. 27.

Retirement open houses

Sandia is holding open houses in honor of retirees **Karl Schuler** (9118) in the Area 1 Cafeteria (Bldg. 861) on Tuesday, Feb. 6, 2-4 p.m.; and **Jack Hueter** (3526) in the Coronado Club on Thursday, Feb. 22, 4-6 p.m. Refreshments will be served. All are invited.

Robinson*(Continued from page 5)*

and micromanagement, adding that the department is reducing the number of audits and assessments of Sandia.

A need for balanced divisions

Speaking of philosophies, Paul said his goal is to achieve balanced divisions, which he sees as having six ingredients: some program leadership roles, some business development responsibilities, some line responsibilities for performing technical work, some pioneering world-class research activities, some industrial and academic interactions, and a commitment to help develop corporate solutions to corporate problems.

The challenge for Sandia for the future, Paul said, is to maintain continued vitality in an era of reduced government spending so that it can continue to help secure America's future through science and technology.

To meet the challenge, Paul said, Sandia must continue to deliver superior technical performance. It must become a better "hunter-gatherer" of technology; it must analyze, plan, and invest strategically; and it must constantly improve operating effectiveness while reducing costs.

Sandia, he concluded, is well positioned for continued success: It has missions that matter. It continues to explore new technical frontiers. It delivers technical successes for its customers. And it is doing these things while

operating at new levels of efficiency.

"Any of the national labs," Paul said, "envy

Sandia completely. They'd love to have our problems."

Paul Robinson comes to California

By Nancy Garcia

California Reporter

Sandia President C. Paul Robinson started his first address to California employees with a tip of the hat to the technical accomplishments they contribute to the Labs' "vital signs": assessment of the contribution clouds make to global warming through the atmospheric radiation measurement/unmanned aerial vehicle program; development of optical diagnostics for steel manufacture; and pushing the leading edge in microchip development through the extreme ultraviolet lithography program.

As a separate division, the 8000 organization in California should encompass the same six roles Paul has identified for all Sandia divisions (see main story).

Along these lines, Paul said he was proud to point out a newly approved proposal in which Distributed Information Systems Center 8900 Director Dona Crawford would lead a pilot networking endeavor as part of the National Information Infrastructure Testbed. In the proposal to DOE, existing high-speed computer networks between Sandia, Los Alamos, and Lawrence Livermore national laboratories would become a user facility.

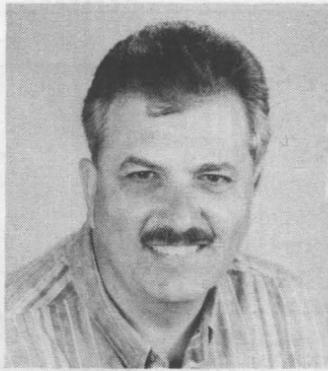
Paul said he was sure Sandians would contribute to this three-laboratory effort by identifying and solving any problems that arise while piloting this network capability. Working with outside users will also allow Sandia's staff to be "hunter-gatherers of technology." Paul added, "The great thing about cyberspace is there's no 'here' here to interfere with the 'not-invented here syndrome.'"

In response to questions from the audience, Paul said publicity and recognition in the form of recent awards from technology magazines are important developments that can't be bought. "It's important for us to be leaders and seen as leaders" by a variety of customers and stakeholders, Paul said. "Our successes speak for themselves."

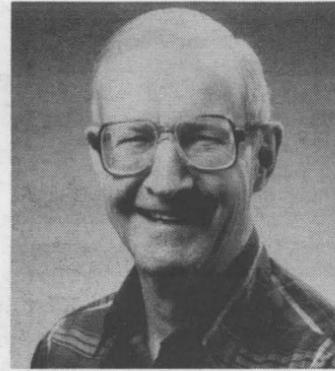
One employee wondered if technical and programmatic responsibility for Defense Programs components would come back to California. In general, Paul responded, the weapons program is shifting because there is no new weapon development, but there is a need to maintain the aging stockpile. The need to replace aging systems should bring some design and production responsibility to Sandia, he predicted. The California site, he said, may be given added responsibility for design and process development of gas transfer systems bottles.

Mileposts

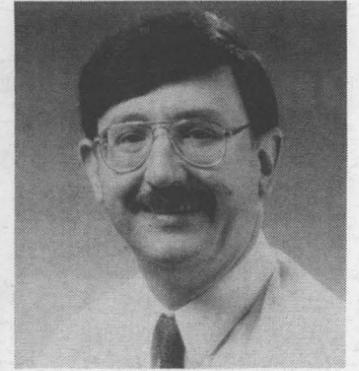
February 1996



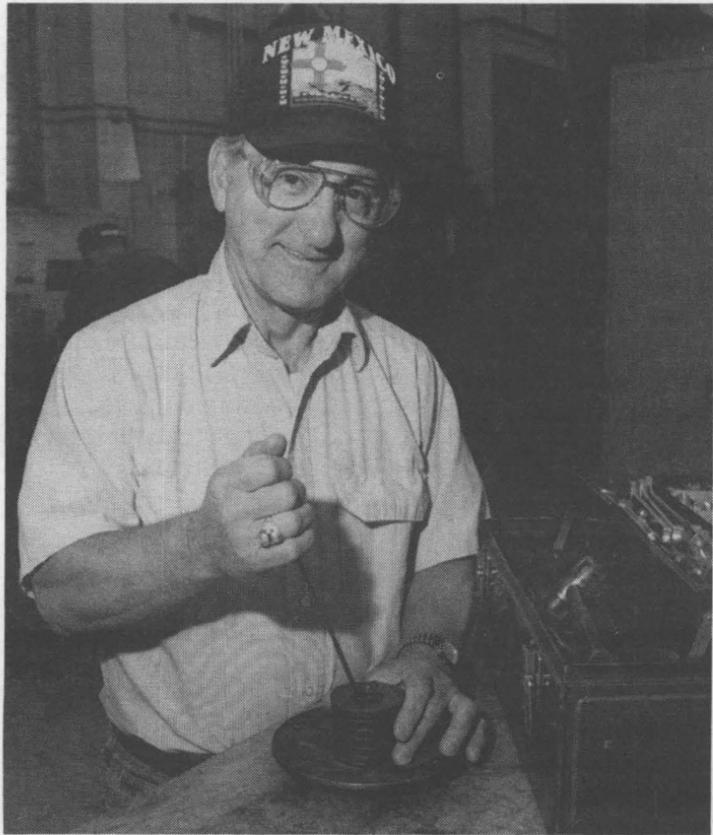
Rich Campiotti 30
8220



Hank Fell 15
2161



Andrew Rogulich 20
2147



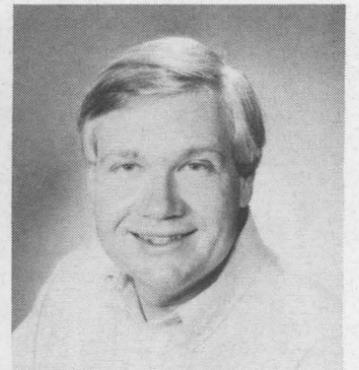
Al Gendreau 30
1483



Cindy English 15
8000



Marge Mederios 30
8811



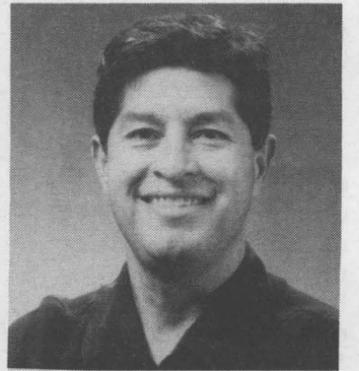
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8112



David Myers 20
1303



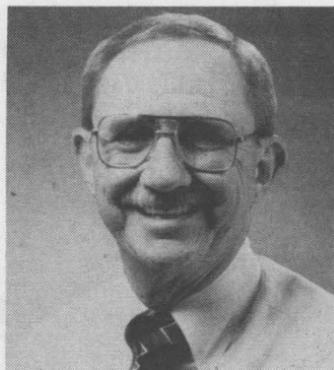
Marilyn Hawley 15
8112



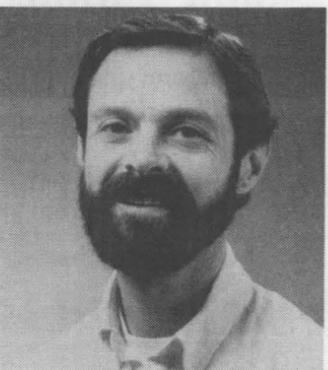
Wilfred Jaramillo 20
1323



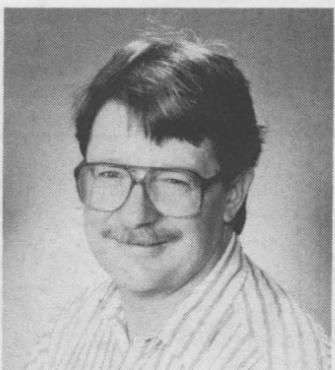
Denise Koker 15
8809



Otto Erdman 20
7806



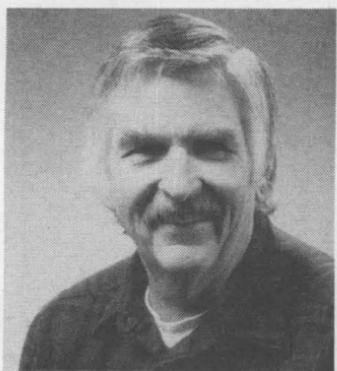
Phil Dreike 15
2314



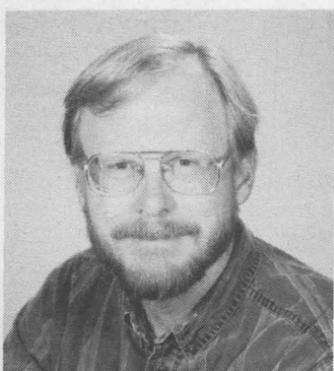
Gary Simpson 20
8417



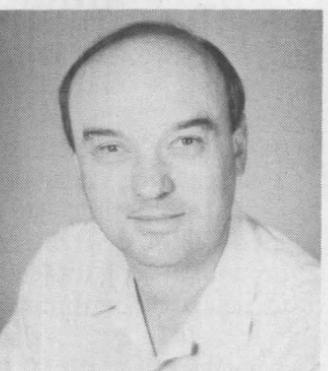
Evelyn Martinez 15
7902



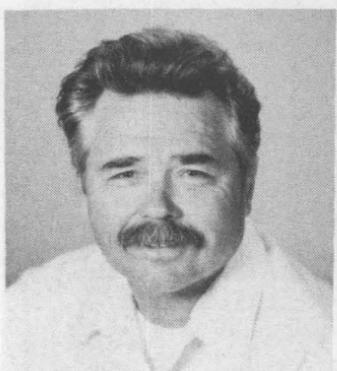
Lee Jensen 20
6115



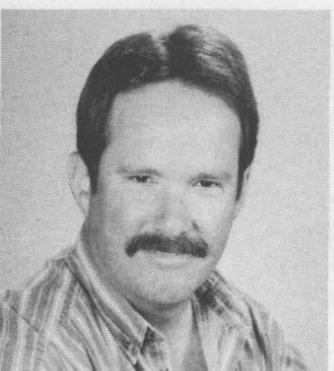
Greg Thomas 15
8111



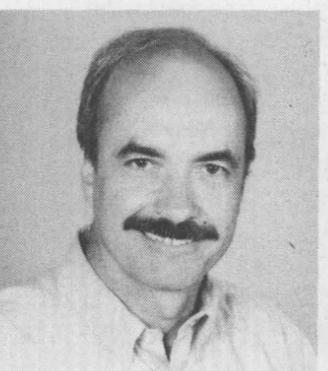
John Becker 20
8416



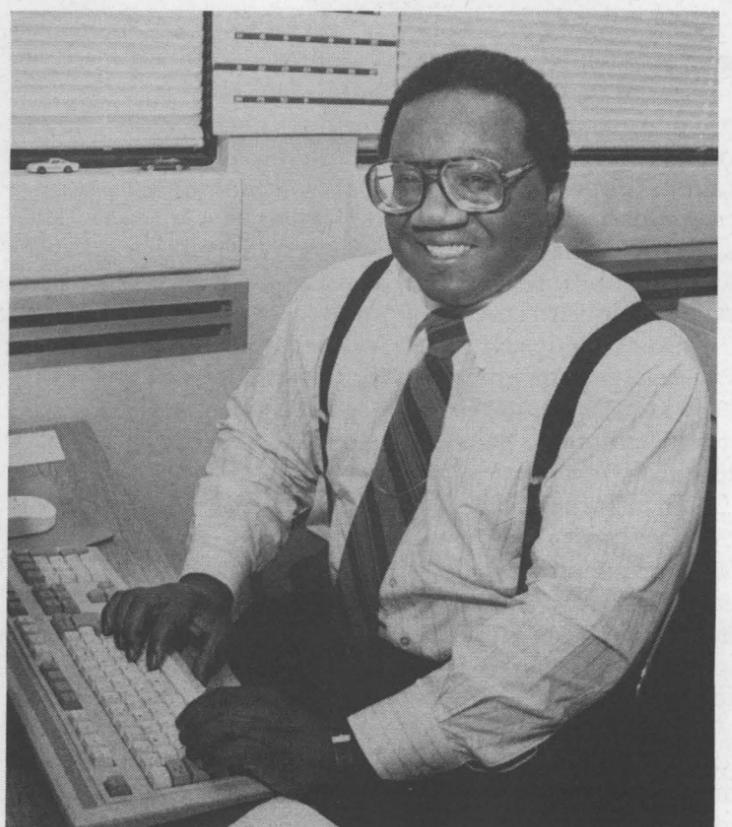
Steve Leach 15
8513



Jim Hachman 20
8220



Tom Felter 15
8715



St. Dominic Bonaparte 20
9351

Sandia Classified Ads Sandia Classified Ads Sandia Classified Ads Sandia Classified Ads

MISCELLANEOUS

TRUMPET, Conn, rare, very nice, silver & bronze, triggers on valves, 7C, mouthpiece, Conn hard-shell case w/mutes, \$300. Carroll, 298-2827.

WOODFRAME SOFA & LOVESEAT, w/second set cushions, \$280; console stereo, record player/radio, \$150; refrigerator, \$150; woman's clothing. Joseph, 822-0536.

ANTIQUA REPRODUCER PIANO, Fisher/Ampico baby grand, w/lots of original rolls and bench. Bagley, 821-8247.

ANTIQUA CHEST, 3-drawer, 30 in. high, \$100; gray government-style desk, \$50 OBO. Bonzon, 828-1066.

COLOR TV, 25-in. RCA XL-100 console, good condition, \$50 OBO; VCR, Samsung VT-503P VHS player, excellent condition, \$30 OBO. Jensen, 821-2373.

BABY ITEMS: Simmons crib, beautiful, like new, matching changing table, porta-crib, stroller, high chair. Winokur, 821-6866.

HOOKE ON PHONICS, complete set, \$75; two little girl's 18-in. bikes, \$15 ea. Barr, 822-0671.

HOT TUB, Kohler, 2-person, fiberglass & redwood, 110V, 64" x 64" x 30"H, needs work, \$500 OBO. Cooper, 881-2806.

SOFA, burgundy velvet, camelback, 90-in., \$199; 14-in. SVGA monitor, no documentation, \$50. Burstein, 275-3370.

QUEEN BEDROOM SET, 3-piece, 4-poster, excellent, \$2,000; Sealy mattress/box, \$600; Milliken area rug, \$500; pillow sofa, \$400. Semonick, 883-4212.

PET CARRIER, airline approved, medium dog-size, used once, \$20; working Apple IIe computer, extras, \$50. Berg, 296-2695.

CANON AE-1 CAMERA, 50mm lens & 70-150/4.5 zoom lens, w/light meter & flash attachment, \$200, full-length mink coat, size 8, \$1,000. Simon, 299-8468.

ANTIQUA SINGER SEWING MACHINE, floor model, can be manual- or electric-operated, \$100 OBO. Cooper, 898-6099, evenings.

PROPANE HEATER, 80,000-Btu/hr, operates from RV-type 20-lb. tank, never used, paid \$145, asking \$95. Snelling, 294-5751.

STEPPER/CLIMBER EXERCISER, upright, adjustable resistance, brand new, w/all paperwork, \$125 OBO. Goodson, 286-1267.

COAT, full-length, down-filled, teal blue, woman's-size 7/8, never worn, \$40. Ottinger, 275-2348.

DAYBED, oak w/brass trim, single-size, new mattress (firm), not being used, 1 yr. old, moving must sell, \$300. Clavey, 292-7667.

KING-SIZE HEADBOARD (single shelf), Ethan Allen, \$125 OBO; banjo and Yamaha keyboard, \$125 ea. Newman, 266-6928.

HIDE-A-BED COUCH, 3-cushion, brown/white plaid, \$150. Wadell, 821-0276.

TIRES & WHEELS, 4 ea., 15x6, 6-hole chrome spoke wheels off Nissan, B. F. Goodrich, all-terrain tires, \$160. Lesperance, 281-0547.

DINETTE SET, Southwestern-style, 4 chairs, 1-1/2 yrs. old, perfect for apartment, \$150. Coconelli 293-1304.

FULL-SIZE BED, \$20. Compton, 899-0679.

BASS SPEAKER, 18-in. Peavy, Gallien-Krueger amplifier, 200 watt/channel, Boss graphic equalizer, Ernie Ball volume pedal, \$450/all. Pierce, 299-2801.

WOMAN'S HIKING BOOTS, size 6, Italian-made, cost \$125 new, used twice, \$35 OBO. Jordan, 856-6964.

COMPUTER DESK, white techline-style, perfect condition, paid \$140 at American Furniture, \$80 OBO. Kesti, 821-9208.

COLOR TV, Toshiba, 19-in., NTSC/PAL/SECAM, \$50; dual turntable CS606, \$25; 150W computer power supply, \$25. Schiller, 856-0744.

UPRIGHT FREEZER, white, 23-cu.ft., \$300; microscope, excellent condition, \$450; brown office desk, \$80. Lucero, 262-2023.

QUEEN WATERBED, Somma, w/frame & headboard, \$500; Kenmore vacuum cleaner, \$75; range hood, \$35; large microwave, \$60. Slack, 299-2314.

CRIB/YOUTH BED, solid oak, Childcraft, w/drawers & detachable dresser, excellent condition, paid \$600, asking \$350. Schkade, 299-7439.

SEDONA 460iX AMPLIFIER, 4x60 watt, \$150; Clarion Crossover, \$50. Pate, 821-9310 (evenings), ask for Robbie.

VITAMASTER TREADMILL, \$100; Prostaff stepper, \$75; queen-size headboards; artificial Christmas tree, \$30; flagstone, about 40 ft., \$300. Sanchez, 898-9598.

COMPUTER DESK & HUTCH, \$70; matching bookshelf, \$50; Code-A-Phone answering machine, \$50; 4-drawer, deep, filing cabinet, \$50. Falacy, 898-9333.

REFRIGERATOR, 19.6 Kenmore, side-by-side, w/icemaker, good condition, \$125; Bissell carpet shampooer, \$75. Eckart, 299-3888.

ELECTRIC STOVE, medium-size, white, brand new, paid \$450, asking \$300. Maldonado, 873-3206.

SCHWINN AIRDYNE, excellent condition, \$350 OBO. Tucker, 281-8342.

VCR+ UNIT & HOLDER, w/instruction book, very good condition, \$17.50. Molecke, 296-5850.

WATERBED king-size w/bookcase headboard, 6-drawer pedestal, heater, padded side-rails, dark pine, \$50. Hardy, 897-9032.

GOURMET ELECTRIC RANGE, Kenmore, 40-in. wide, black & stainless, 4 burners, griddle, clock, timer, \$500. Bando, 856-7330.

HOT TUB, Cal Spa, redwood skirt & steps, timer, light, cover, 6'10" x 6'3", \$1,950. Garcia, 857-9171.

DRUM SET, 5-piece beginners, Hi-hat cymbal set, 14-in. crash, 22-in. ride cymbals w/stands, \$400 OBO. Kottenstette, 822-5036.

LIGHTED MENU SIGNS, 18"H x 30"L, w/4-in. letters, \$15 ea.; PVC tubes, 12' x 6", \$15 ea.; phone answering machine, \$15; TV antenna, \$12. Horton, 883-7504.

WATERBED, waveless, w/heater, thermostat, frame, takes queen-size bedding, \$50. Harrington, 296-8208.

GUMBALL MACHINE, giant, \$600 OBO; snowcone ice crusher, \$75; boat w/trailer & motor, \$700. Shock, 877-3728.

PRINTER, Epson FX-286, parallel input, reliable, prints draft or NLQ, money-back guarantee, \$95; cable, \$8. Leslie, 266-1797.

TABLESAW, 8-in., on wheels, extra blades & attachments; metal wheelbarrow; 2 scenic pictures, 20" x 24", framed, \$10 ea. Kasnic, 299-5583.

RECEIVER, L1A1 308 British w/Enterprise, pre-ban, new barrel, 3-9x scope, mags, \$1,000. Norton, 266-3417.

TREADMILL, 1-hp, 10-mph, incline, activity/pulse monitor, \$225; Precor 612 Rower, like new, paid \$240, asking \$150. O'Neill, 873-5923.

ELECTRIC RANGE, SunRay, come get it in Edgewood, \$100. Osburn, 286-1758.

CHEST FREEZER, 30 x 30 x 36, \$75; 40's Frigidaire refrigerator, great for den, gameroom or workshop, \$150; both excellent condition. Roseth, 856-6964.

NOSE BRA AND WHEEL (never used), fits '88 IROC and other F-body cars. Hubbard, 293-2819.

TRIPPODS: VIVITAR V3000, QK Release Head + 3 Plates, \$50; 3-Section P&B#1109, \$44; twin-gear Majestic, studio/video, w/wheels, \$300. Luther, 822-1187.

FILE CABINET, 2-drawer, letter-size, w/Pendaflex folder frames, 15" x 18" x 30", \$15. Luna, 881-6808.

LEADING EDGE D2 COMPUTER, (80286 XT compatible), 30MB HD, Hercules video card, \$250 OBO; assorted Amiga software, \$50. Sjaardema, 299-8042.

INK JET PRINTER, Epson Stylus 800, w/extra cartridges, \$125 OBO; 486DX66 motherboard, unused, \$100. Plummer, 823-1619.

BABY ITEMS: stroller, \$35; swing, \$35; toddler bed, \$65; bike seat, gates, booster seats, more, great condition. Mendez, 242-1277.

RECLINER, rust, \$35; plaid recliner, w/heating pad & vibrator, \$35; woman's Reebok boots, size 7, new, \$25. Sublett, 884-4426.

TRUCK BED TONNEAU COVER, snap-on, 8 ft., new, clamp-on rails, paid \$300, asking \$200 (sold truck). Wright, 856-6923.

WATERBED, super-single, w/bookcase, headboard & bottom drawers, \$75. Haid, 292-0159.

ANTIQUA VICTORIAN COUCH, green, \$100; manual typewriter, \$25. McKenna, 899-4218.

DEADLINE: Friday noon before week of publication unless changed by holiday. MAIL to Dept. 12622, MS 0413, or FAX to 844-0645. You may also send ads by e-mail to Nancy Campanozzi (nrcampa@sandia.gov). Questions? Call Nancy on 844-7522.

Due to space constraints, ads will be printed on a first-come, first-served basis.

Ad Rules

1. Limit 18 words, including last name and home phone (We will edit longer ads).
2. Include organization and full name with the ad submission.
3. No phone-ins.
4. Use 8 1/2-by 11-inch paper.
5. Type or print ad; use accepted abbreviations.
6. One ad per issue.
7. We will not run the same ad more than twice.
8. No "for rent" ads except for employees on temporary assignment.
9. No commercial ads.
10. For active and retired Sandians and DOE employees.
11. Housing listed for sale is available without regard to race, creed, color, or national origin.
12. "Work Wanted" ads limited to student-aged children of employees.

ENTERTAINMENT UNITS, VCR/stereo/TV, 3-piece cabinet matched set, oak finish, glass doors, on rollers, excellent condition, \$350. Seyfer, 292-0179.

MAHOGANY CABINET, 3-door, excellent condition, 33" x 33" x 21", can be used for stereo or storage, \$225. Burstein, 821-6688.

EXERCISE BIKE, Schwinn AirDyne, w/electronic module, \$400. Brewer, 293-8791.

ENTERTAINMENT CENTER, \$60; desk chair, w/arms, \$35; Regina Plus steam carpet cleaner, \$55. Levan, 293-0079.

COLOR TV, 19-in. Toshiba, remote control, cable-ready, closed captioning, new, still in box, sells for \$200, asking \$150. Armstrong, 888-1887.

TERRIER-MIX DOG, medium/large, free, friendly, lonely, 9 months old, neutered, likes kids/dogs, some training. Jogi, 275-3542.

OLYMPIC BENCH, multi-purpose, \$50; Olympic weights, 308 lbs., \$100; aquarium, 60 gal., \$100; Technics stereo receiver, \$50. Nelson, 275-2557.

COMPACT DESK COMPUTER, \$45; chaise lounge, \$50; small pedestal desk, \$30; green oriental runner, 12 x 2, \$450. Jennings, 878-0828.

APPLE IIgs, RGB, monitor, 2MB RAM, 40MB HD, 3.5 and 5.25 floppies, ImageWriter II printer, \$350. Hass, 299-3506.

CRIB MATTRESS, \$25; backpack child carriers (two), \$25 each; Scott's fertilizer spreader, \$15. Ellis, 856-2412.

RUGER, mini 30, 3x9, w/scope, 3 clips, case & sling, mint condition, \$750 OBO. Abeyta, 291-8116.

LOVESEAT & MATCHING CHAIR, beige w/pastel design, excellent condition, \$250. Schwartz, 821-7809.

TREADMILL, Sears Lifestyler, 1-1/4-hp, 8-mph, \$300. Burchett, 281-0708.

DINING TABLE, w/8 chairs, \$200; overstuffed leather Barcalounger, \$75; full-size mattress, box spring, frame, \$100. Hock, 856-7745.

STATIONARY BIKE, Tunturi, \$100. Murphy, 260-0413.

COUCH, \$50; coffee table, \$25; 3-legged maple lamp, \$20; all for \$75; old Underwood typewriter, \$20. Burken, 255-8534.

WATERBED, king-size, waveless, 12 drawers, pedestal, headboard w/shelves, mirror, individual lights, good condition, \$200. Alexander, 291-8028.

'74 CORVETTE, engine, transmission, front & rear suspension, steering & brakes all rebuilt, \$12,500. Raether, 298-7156.

'86 CHEV. SUBURBAN, Silverado, 2WD, 350 8-cyl., loaded, must sell, \$6,500. Ayotte, 856-5796.

'87 HONDA CRX Si, 5-spd., black, sunroof, bra, tinted, 2nd owner, accident-free, runs/look great, 110K miles, \$3,950 OBO. O'Donnell, 293-9234.

'92 JEEP CHEROKEE LAREDO, 4WD, 4D, AT, PS, 6-cyl., many extras, 50K miles, excellent condition, \$16,500. Surbey, 823-2843.

'87 MAZDA 323 LX, 4-dr., great family car, 5-spd., \$1,500 OBO. Wix, 898-9086.

'77 FORD RANCHERO PICKUP, restored, all original, runs great, immaculate condition, PS, PB, AC, tonneau cover, \$3,800. Avila, 275-9572.

'82 TOYOTA COROLLA, stationwagon, good tires, good battery, AC, dependable, \$1,200. Breeze, 275-9002.

'86 TOYOTA VAN LE, good condition, well maintained, dependable, retail \$3,800, loan value \$2,250, price negotiable. Field, 890-6523.

'94 GMC SIERRA SLE, 4X4, extended cab, shortbed, 350 V8, 12K miles, every option, 5-spd., white/blue, like brand new, \$20,500 OBO. Dwyer, 271-1328.

'85 MAZDA 626, AT, has 2-yr.-old rebuilt engine, needs work, blue book \$2,000, make offer. Thomas, 268-1532.

'90 FORD BRONCO, 4x4, full-size Eddie Bauer edition, black w/tan trim, V8 351, oversized tires, w/center line rims, \$12,000 OBO. Grossman, 880-0139, ask for Brad.

'93 HONDA ACCORD EX, 4-dr, 5-spd, white, ABS, 20K miles, factory warranty, alloy wheels, moonroof, \$15,500. Henderson, 237-9845.

'58 NASH RAMBLER, rebuilt flat 6 engine, interior restored, new white walls, very dependable. Newman, 266-6928.

'84 NISSAN 300ZX, AT, T-tops, 116K miles, original owner, runs great, needs paint, all else in good condition, \$3,900. Bledsoe, 255-3815.

'89 CHEV. TRUCK 4x4, loaded, 5.7L, Silverado, loaded, immaculate condition, Brahma shell, 85K miles, \$10,900 OBO. Dwyer, 271-0741.

'92 ISUZU TROOPER LS, AT, ABS, alarm, low miles, great condition, \$20,000. Derzon, 299-0523.

'94 FORD THUNDERBIRD, V6, AT, leather, loaded, 15K miles, 9-month factory warranty, \$13,500. Swahlan 292-3598.

'92 CHEV. CAPRICE CLASSIC, small V8, fuel-injected, AC, PB, PS, very clean, 70K miles, \$6,400. Martin, 343-9719.

'88 CHEV. CELEBRITY, blue, 1 owner, 4-cyl., 4-dr., AT, AC, 75K miles, excellent condition, \$3,100. Ortega, 897-4441, after 4 p.m.

'80 CHEV. IMPALA, 2-dr., excellent condition, 83K miles, V8, AC, stereo, rustproofing, 1 owner. Adams, 889-3738.

'84 FORD TEMPO GL, only 74K miles, 4-dr., 2.3L, 5-spd., AC, AM/FM cassette, cruise, \$2,195 OBO. Potter, 299-6053.

'89 FORD LARIAT PICKUP, V8, SWB, 45K miles, many extras, "cream-puff" condition, under NADA. Meikle, 299-4640.

'82 FORD ESCORT, 4-dr., wagon, 4-spd., moonroof, AM/FM cassette, well-maintained, 114K miles, original owner, \$1,375. Wendt, 293-5355.

'77 OLDS DELTA ROYAL-88, 2-dr., 8-cyl., white, 120K miles, excellent condition all around, original, mechanically diligent owner, \$1,200. Draelos, 296-3078.

'95 KIA SEPHIA, about 13K miles, excellent condition, AM/FM cassette, AC, 5-spd., 35 mpg, \$11,000. Jeantette, 898-5680.

'80 DATSUN 200SX, 17-K miles, good tires, new drive shaft, new alternator, \$600 OBO. Torres, 857-9178, call after 6 pm.

'91 NISSAN KING CAB, immaculate, AT, AC, matching shell, perfect miles, \$9,895. Branstetter, 220-0655 (day) or 292-5978 (evening).

'95 JEEP GRAND CHEROKEE, Laredo, 4-dr., 4x4; 4L, 6cyl., 4W-ABS, AT, PW, PL, PS, running boards, new tires, 22.5K miles \$23,500. Heise, 275-0099.

'88 FORD MUSTANG LX, white, 2-dr. hatchback, PS, PB, PW, tint, cruise, AM/FM cassette, \$2,950 OBO. Pena, 271-5222.

'89 JEEP WRANGLER, 4.2L, 6-cyl., 5-spd., AC, 58K miles, soft top, nice rims & tires, \$9,500. Wedel, 271-9513.

'93 HONDA ACCORD EX, all power, ABS, AM/FM cassette, original owner, \$1,500 under book, \$13,900 OBO. Daniel, 821-2935.

'91 SUBARU LEGACY WAGON, silver, 4WD, 5-spd., ABS, power options, original owner, block heater, Yakima rack, \$9,900. Dodd, 296-1158.

'92 DODGE RAM 250, diesel turbo Cummins 4x4 extended cab, camper shell, loaded, excellent condition, 47K miles, \$23,500 firm. Olguin, 876-5411.

'88 TOYOTA 4-RUNNER, SR5, V6, tinted windows, alarm, removable top, sliding side windows, \$9,900 OBO. Otero, 229-5980 or 836-4215.

'89 HONDA LXI, 5-spd., AC, PW, PB, PL, cruise, AM/FM cassette, excellent condition, \$7,500. Dibben, 343-0303.

RECREATIONAL

'93 ATV, Polaris 350, 4x2, AT, electric start, liquid cool, oil injection, \$3,000. Ward, 255-5780.

BICYCLES, 2 Univegas, Gran Turismo, 23-in. Arrowpace, 19-in. custom set-ups, extras galore, baby seat. Bailey, 281-4383.

'76 CESSNA CARDINAL, 177B, 2329TT, 194SMOH, 546SPOH, May annual, \$18,750. Paul, 296-6500.

REAL ESTATE

3-BDR. HOME, Sandia Terrace, 1,890 sq. ft., charming pueblo territorial, interior adobe walls, great views, light/open, \$154,900. Davies, 291-8380, ask for Michele.

2-BDR. TOWNHOUSE, near Indian School and Moon, 1,312 sq.ft., 1-3/4 baths, private backyard, 1-car garage. Jones, 271-2267.

3-BDR. HOME, NE Heights, 1-1/2 baths, LR, den, light, bright, open-floor plan, close to base, 1,300 sq. ft., \$95,000. Meluso, 296-0145.

4-YR. OLD CUSTOM HOME, open house, Sunday, Feb. 4, 1-4 p.m., 2,400 sq. ft., 2 acres in Peralta, \$239,000, 2 additional acres available. Fleming, 865-3545 or 866-0350.

2-BDR. FOUR HILLS HOME, sale by owner, 2 miles from Kirtland, '93 Spirit, front livingroom, w/bay window, w/shed. Sisneros, 292-1854.

ANGEL FIRE LOT, near golf course, unlimited family golfing & skiing, w/purchase, \$12,000, zero down. Furas, 856-9799.

WANTED

SNOWSHOES, 2 pair, for 2 adults (one male, one female). Rogers, 256-0066.

REFRIGERATOR, small, compact, to be used in the office. Karler, 271-4235.

FOTON CAMERA, 35mm, wanted for a collection, USA manufactured about 1960. Hall, 299-0009.

BETA VCR (good condition, fair price); double stroller for child care provider to use. Beard, 821-7947.

30-PIN-SIMMS for IBM PCs. Chen, 822-0189.

PARENTS INTERESTED in an East Mountain private high school. McLaughlin, 286-1355.

GAS WATER HEATER, 20 gal., for church where homeless person night-watches. Monnet, 865-7941.

SINGER SEWING MACHINE, Featherweight, w/case. Carpenter, 258-0614.

CANON MODEL 155A SPEEDLIGHT for parts, other non-working Canon flash units may be used. Rodacy, 293-1668.

TWO-DRAWER FILE CABINET, 6 dining room chairs. Gamboa, 764-8212.

MANUAL, HP75 math ROM. Wells, 262-8514.

DRESSER, or chest-of-drawers, cheap. Torres, 828-1679.

LOST & FOUND

FOUND: One gold hoop earring. Ratner, 844-8936, ask for Julie.

FOUND: Man's dark maroon glasses, found 1-25-96, in water tower parking lot. Wilson, 844-7331, Bldg. 887 (NE quadrant), cubicle 1301.

'I have a dream': Sandia sponsors first Martin Luther King celebration

An estimated 250 Sandians and guests gathered at the Technology Transfer Center Jan. 15 for an observance of Martin Luther King Jr.'s birthday, sponsored by Sandia's Black Leadership and Outreach Committee and the Black Heritage Club.

It was the first such celebration at Sandia and the tenth federal Martin Luther King Jr. holiday.

The theme of the event, "On the King Holiday, Help Somebody! Every American Can Make a Difference," was underlined by such speakers as Anthony Thornton, Director of Diversity, Leadership, and Education Outreach Center 3600; Sandia Executive Vice President John Crawford; and keynote speaker Diane Sanders, Director of the NAACP's New Directions youth intervention program in Albuquerque.

"Martin Luther King spoke not only for Black America, but for all Americans, because he believed in the promise of America and the potential for all individuals to contribute to this society," said Anthony.

"Dr. King was one of the most effective leaders of our time," said John. "His activism was rooted in true patriotism and an intense love for this nation."

The Sandia executive pointed out the Labs' continuing contribution to the Albuquerque community through such programs as Volunteers in Action, the Employee Contribution Plan, and Educational Outreach.

"By participating in activities and programs that help to better the circumstances of our neighbors and communities, you honor the memory and the work of Dr. King," he said.

Sandia President C. Paul Robinson was in California conducting a weapons review during the event, but spoke to the audience via video tape. He asked all Sandians to aid him in making Sandia "a color-blind society."

Part of King's 1963 "I Have a Dream" speech was shown on the auditorium's overhead video screen, in which King proclaims: "I have a dream that one day this nation will rise up and live out the true meaning of its creed: 'We hold these truths to be self-evident, that all men are created equal.'"

"Today we need to ask ourselves, 'Are we our brother's keepers?'" Diane Sanders told the crowd. "The answer is yes, we are."

Sanders quit her job in Social Security last June (and took a pay cut) to work with disadvantaged children and teenagers from around Albuquerque. She encourages kids to focus their attention on schoolwork and productive activities instead of gangs and drugs.

"Oftentimes we tell our kids how bad they are," she said. "But there's an old Southern saying: 'The fruit don't fall far from the tree.' If they are bad then what are we?"

She spoke of King as "a real man" who saw the value of every person, a quality missing in what she called today's "throw-away" society. "Every child is born with a gift," she said. "We cannot afford to throw away those gifts."

Shirley Wallace (10605) followed Sanders' speech with a call to action. "You've heard the music and you've heard the message, but we are here to act," she said. "We all have something to offer."

Shirley listed a number of programs Sandians can get involved with, including:

- Manos, Hands-on Minds-on Technologies, and Dream Catchers Education Outreach programs, which work with Hispanic, African-American, and Native American students;

- Albuquerque ChildWatch, which works with Albuquerque Public Schools, Black Student Unions, and Catholic Social Services, among others;

- NAACP's New Directions program; and
- Sandia's Volunteers In Action (VIA) program.

Those interested in the VIA program can call Redd Eakin (12615) at 844-4124. For more information or to volunteer for the Education Outreach programs, contact Ruth Bitsui (3613) at 271-7826. — Philip Higgs

"This is the faith that I go back to the South with. With this faith we will be able to hew out of the mountain of despair a stone of hope. With this faith we will be able to transform the jangling discords of our nation into a beautiful symphony of brotherhood."

— Martin Luther King, Jr., 1963

Coronado Club

Feb. 2 — Western night dinner/dance. \$6.95 all-you-can-eat buffet, 6-9 p.m. Music by Isleta Poorboys, 7-11 p.m.

Feb. 4 — Sunday brunch buffet, 10 a.m.-2 p.m. \$6.95 adult members; \$1 for children 3 to 12; free for children 3 and under. Music for buffet by So Rare, 1-4 p.m.

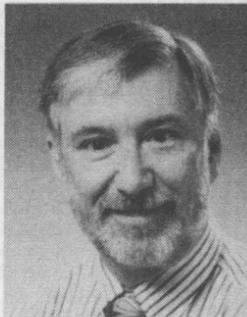
Feb. 8, 15, 22 — Thursday bingo night. Card sales and buffet start at 5 p.m., early birds' bingo at 6:45 p.m.

Feb. 16 — Valentine dance. \$6.95 all-you-can-eat buffet, 6-9 p.m. Music by Midnight Magic, 7-11 p.m.

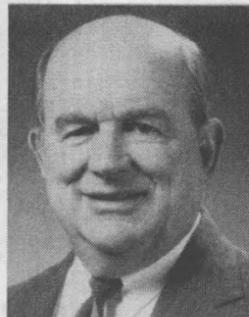
Feb. 18 — Sunday brunch buffet, 10 a.m.-2 p.m. \$6.95 adult members; \$1 for children 3 to 12; free for children 3 and under. Music for buffet by Bob Weiler, 1-4 p.m.

Feb. 23 — Western night dinner/dance. \$6.95 all-you-can-eat buffet, 6-9 p.m. Music by Nite Rider, 7-11 p.m.

Recent Retirees



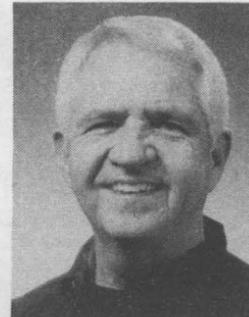
Eugene Neau 33
9543



David Bray 35
10104



Marylee Adams 33
12900



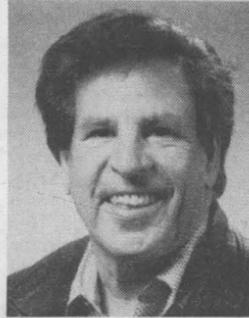
Tom Tormey 39
6117



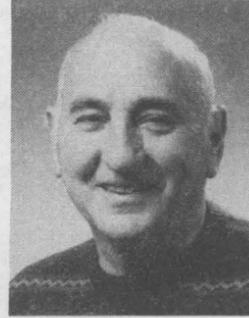
Duane Benton 34
9783



David Schafer 33
6747



Leo Chavez 39
7613



Lawrence Kent 38
9735



ONE MORE TO THE PILE — Andy Quintana (7437) adds another to the growing collection of abandoned bicycles being stored at Reclamation. More than 50 privately owned, abandoned (and mostly dilapidated) bikes were rounded up from around Sandia after no one claimed them. They had previously been tagged by Andy and others with a notice that said they would be removed if no one claimed ownership. The bikes will be sent to a branch of the Police Athletic League, where they will be reconditioned and given to charity. (Photo by Randy Montoya)