

# Is a micron precisely a micron? Sandia's PSL can tell

**Primary Standards Laboratory gets new facility, expanded role**

By Chris Miller

Media Relations Dept. 12621

Sandia's Primary Standards Laboratory (PSL) has taken on a broader, nationwide role in its mission to provide standards and calibration services.

Although it once functioned primarily for laboratories within the DOE nuclear weapons complex, it now is opening up to industry, universities, and other government organizations with its new designation as a "user facility." User facilities expand on the technology transfer concept by allowing businesses quick and easy access to a wide variety of unique capabilities at Sandia (*Lab News*, Nov. 11).

Vital to achieving PSL's expanded mission is its newly completed \$30 million, 55,000-sq-ft state-of-the-art facility, dedicated Nov. 18 in ceremonies led by Executive VP Jim Tegnella. Others participating included Kathy Carlson, Manager of DOE's Kirtland Area Office; Alan

(Continued on page 4)

*PSL performs more than 2,000 certifications each year within the physical, electrical, and radiation disciplines.*



TESTING THE TESTER — Mark Benner (1141) mounts a gas leak standard for testing on the Primary Leak Calibration System array, designed at Sandia. It and other equipment is now available to users from outside DOE's nuclear weapons complex in the just-opened new Primary Standards Laboratory.

## Sandia National Laboratories **Sandia LabNews** Vol. 46, No. 24 December 2, 1994

### Town meeting gives employees an inside look at reengineering

**Jim Tegnella asks employees to think positively about reengineering**

By John German

Lab News Staff

For the first time, Labs management publicly discussed reengineering during an employee town meeting Nov. 16.

Executive Vice President Jim Tegnella hosted the meeting at Sandia/California, along with Mike Ebben, Director of Treasury, Corporate Policy, and Process Reengineering Center 10600.

The purpose of the meeting, says Mike, was to help employees better understand the Laboratory Process Reengineering (LPR) effort and to dispel certain myths about reengineering, including the common belief that reengineering is synonymous with layoffs. Similar meetings are planned for Sandia/New Mexico Dec. 12 and 13. (See schedule on page 6.)

"Reengineering is almost uniquely identi-

fied with pain," said Jim. "That is not what we're intending to do here. We'd like to convince you that, in fact, some of these things will make your life more rewarding and make you professionally able to accomplish more."

He asked employees to think positively about reengineering. "This is a real opportunity for Sandia/California, and an opportunity for all of us, to free up resources that will help us make our future," he said.

#### 'Redeployment' not a four-letter word

Freeing up resources, both monetary resources and human resources, is in fact the primary reason Sandia began planning to reengineer itself early this year, said Jim.

He said he hopes reengineering can help reduce overhead, or nonmission costs, by 20

(Continued on page 6)

### High-profile Labs ethics effort mandated by DOE, modeled after Martin Marietta's

By Howard Kercheval

Lab News Staff

Ethics Director Jack Dickey (12700) says some Sandians seem overly sensitive to the high-profile position Martin Marietta assigns to ethics in its operations, but at the same time rank the Labs just above a "legalistic" posture in corporate ethical development (see chart on page 5).

Jack, who was named Sandia's first ethics director in August (*Lab News*, Aug. 19), says, "One of my first initiatives was to send a letter to all Sandians explaining the methods and plans for ethical awareness training, and mechanisms for resolving concerns or problems in an ethical way."

Twenty percent of Sandians also got a brief questionnaire, whose answers were tabulated to provide a benchmark of where Sandians believe we are in the stages of ethical and moral development.

Jack says more than 300 people submitted written comments along with their questionnaire answers. One comment, which was representative of many of the 300, he was especially interested in addressing.

It says, in part, that Sandia has been a patriotic, ethical, honest, socially conscious organization. It has always held high corporate values and acted accordingly — respecting individuals,

(Continued on page 5)

*Sandia has been a patriotic, ethical, socially conscious organization and has always held high corporate values.*

Labs fixes headlights on future US automobile technologies

3

Supercomputing team shares prestigious Gordon Bell Prize

8



# This & That

Make it a fab Friday for feet - Right now, while you're thinking about it, consider making out a check for whatever amount you can afford payable to "Shoes for Kids," the longest-running holiday-season charity drive at Sandia. Your donations buy warm new pairs of shoes for needy Albuquerque youngsters. Last year, Sandians contributed enough to buy shoes for 280 kids at \$25/pair, but donations are lagging this year, and the drive may be able to outfit only about half that many children unless contributions pick up soon. Mail donations to arrive by Dec. 15 to Liz Scott-Patterson at Mail Stop 0461. Retirees and others outside the Labs wanting to contribute should add the rest of the address: Sandia National Laboratories, Box 5800, Albuquerque, NM 87185-0461.

\* \* \*

Over the top - Speaking of giving to good causes, congratulations to Sandia/New Mexico employees for exceeding the goal in this year's Employee Contribution Plan campaign (see story at right). Sandians pledged more than \$1.5 million this year, continuing our long tradition of generous support for community agencies.

\* \* \*

A record stay? - Bob Graham (1152) is scheduled to move his office from Bldg. 806/Rm. 178 to the new Integrated Materials Research Lab (Bldg. 897) sometime this month. Bob thinks he may have a Sandia record for continuously occupying the same office at Sandia, having been in his current one since March 1971, more than 23 years. Can anyone top that?

\* \* \*

Proud bird - Many folks (me, too) think Sandia's thunderbird logo is one of the best, most distinctive logos around. But now that computers give us capabilities to produce newsletters and announcements including artwork, I see many varieties of the thunderbird. In the past few weeks, I've seen fat birds, undernourished birds, severely screened birds that look like they've taken a load of buckshot, and birds whose heads and necks are too short. So you don't "fowl" up the bird if you plan to use it on a publication, take a look at the guidelines for using the logo in chapter three (very short) of the Information Management Manual that was sent to all Sandia/New Mexico managers early this year. Sandia/California employees can get guidance from Technical Communications Dept. 8535.

\* \* \*

Where's that channel changer? - It's been so nice the past few weeks not being subjected to television political ads. Now, if we could only do something about those irritating car dealership ads, it might be possible to watch TV without wanting to throw your shoe through the screen. Is it just my opinion, or do others also think automobile dealers run the most irritating TV ads? I keep hoping those incessant car hucksters "Fantastically Friendly Freddie" and "Super Smiley Sue" (I'll bet you know the ones I'm talking about) will run off to Australia together, but there are probably even worse ones waiting to replace them.

\* \* \*

You ain't stickin' it here! - A comment overheard at a meeting of the Wisconsin legislature: "As long as I am in the Senate, there will not be a nuclear suppository in northern Wisconsin." (Reported in *The Ragan Report* communicators newsletter.)

- Larry Perrine

## ECP campaign results prove again Sandians are generous givers

### Pledges exceed \$1.4 million goal

Pledges from the 1994 Employee Contribution Plan (ECP) Campaign total \$1,529,000. Last year's pledges totaled \$1,516,000. (ECP totals include Martin Marietta Corporation's \$50,000 corporate gift.)



More than 600 Sandians increased their level of giving, with 81.7 percent total employee participation. There are more than 100 new Fair Share givers, and 400 more people this year making pledges.

This means that United Way of Central New Mexico will be able to help those in our community who need the services provided by the agencies it supports, like Adelante Development Center (provides vocational and daily-living skills training to severely handicapped and developmentally disabled adults in Bernalillo and Valencia counties), All Faiths Receiving Home (provides residential shelter and care to abused, neglected, and abandoned children), St. Martin's Hospitality Center (offers daytime emergency shelter for homeless and transient persons), Women's Community Association: Shelter for Victims of Domestic Violence (provides shelter, food, clothing, advocacy, and treatment to women and their children who have been abused or are in immediate danger of abuse), the American Cancer Society, and the Arthritis Foundation. These are a few of the 45 agencies supported by United Way in our community.

In a letter sent to employees Nov. 15, Sandia President Al Narath said, "The contribution made every year by Sandians to United Way of Central New Mexico is a substantial and important component of the agency's total budget. United Way helps to provide a predictable stream of vital financial support for some 45 agencies in the surrounding counties. These agencies furnish services that contribute directly to the health and well-being of our community."

Although United Way of Central New Mexico distributes the pledges raised at Sandia, Sandians manage their own campaign. Volunteer members of the 1994 ECP Committee include Jerry Esch (13401), general program chair; Dorothy Rarick (10325), solicitations chair; Phil Montoya (9100), publicity chair; Laura Loudermilk (10502), treasurer; Juanita Sanchez (12651), executive secretary; Ernest Aguilar (7424), Metal Trades Council representative; Kay Lang (12616), Tech Art coordinator; Janet Carpenter (12622), *Lab News* coordinator; and Kristen Fox, United Way representative.

Redd Eakin (12651) coordinated the United Way Day of Caring on Sept. 1. Jerry Langheim, Director of Public Relations and Communications Center 12600, serves on the United Way of Central New Mexico Board of Directors. Many others, the Center Representatives and VP Representatives, gave their time to tour agencies, prepare and hold center meetings, provide information, and distribute and collect pledges and donor option cards. It all adds up to a successful campaign and hope for many people in our community who otherwise would not have it.

"Thanks to you, people in unfortunate circumstances in our community will continue to have access to the special services that can provide real help." - Al Narath

- Janet Carpenter

## Sandia LabNews

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MARTIN MARIETTA

## Welcome

Albuquerque - Loa Buckwalter, Dana Crosby, Lupita Escamilla, Marcia Espander, Cheryl Herrera, Susan Leach, Margaret Lightle, Janet Linde, Victoria Martinez, Judith Sesma, Phyllis Trembl (all 12111); Marvin Garcia (7615); Gilbert Aldaz (7909); Gwen Lunsford (13313); Mary Hatheway (12622); Richard Sanchez (7615); Dennis Youchison (6531)

Other New Mexico - Linda Baca (12111), Mary Roehrig (13313)

Colorado - Christopher Atcitty (6613) Ricardo Gonzales (7256)

Idaho - Martha Sarfaty (6700)

Kansas - Brian Stone (7575)

Minnesota - Dianne Marozas (6621)

New York - Russell Brown (2121)

Oklahoma - Rebecca Williams (12111)

Texas - Diane Hurtado (6121), Van Romero (6626)

Virginia - Mark Mellott (5913), Alan Patterson (2335)

## Recent Patent

Gilbert Benavides (6412) and Jack Burt (2643): Rigid Clamp.

# Sandia, automakers begin drive toward 80-mpg car

## Partnership aims for new-generation vehicle by 2003

By Mike Sheehan

Lab News Correspondent

Imagine cruising down the freeway in a stylish, roomy, high-performance supercar that is not only fun to drive and economical to own, but also gets 80 miles per gallon (mpg). Working in partnership with Big Three US automakers General Motors, Ford, and Chrysler, and seven federal government agencies, Sandia researchers hope to make that vision a reality by helping design and develop a new generation of advanced, low-emission vehicles by the year 2003.

"Last fall, the federal government announced the formation of a historic new partnership with the Detroit-based US Council for Automotive Research (USCAR)," says Bill Robinson, Manager of Automotive Programs for New Applications/Industrial Partnerships Dept. 8702. "This joint venture, which also includes

*"The PNGV program represents a huge cooperative effort between government and industry."*

universities and suppliers, is aimed at strengthening US competitiveness by developing technologies for a new generation of vehicles. Sandia will play an important role during the project by contributing to groundbreaking research on automotive materials, reduced emissions, batteries, and supercomputing."

The Partnership for a New Generation of Vehicles (PNGV) has set its sights on achieving three major goals. One, the participants hope to improve national competitiveness significantly in flexible manufacturing by upgrading technology, reducing environmental impact, enhancing quality, and speeding the introduction of new product ideas into the marketplace. Two, near-term design and materials innovations from ongoing research on conventional vehicles will be implemented to improve fuel efficiency, emissions standards, and safety performance. And three, the partners will develop cost-effective vehicles that have triple the fuel economy of today's comparable cars, such as the Chrysler Concorde, Ford Taurus, and Chevrolet Lumina, without sacrificing comfort, range, or speed.

"The PNGV program represents a huge cooperative effort between government and industry that will help auto manufacturers battle foreign competition, and lead to cleaner air," Bill says.

"Through our many Cooperative Research and Development Agreements (CRADAs) with USCAR members and other research laboratories, Sandia will contribute to each step in achieving the three project goals."

According to Bill, a number of Sandia organizations, including Centers 1500, 1800, 2200, 2800, 6200, 6600, 8300, and 8700, are conducting active research in 25 different automotive areas during the project. He notes that the Sandians received \$25 million in funding from DOE and USCAR during FY94. He anticipates budget growth of more than 20 percent for FY95.

"For example, the Combustion Research Facility is working on several projects with USCAR," Bill says. "In one cooperative effort, they are



studying the fluid dynamic features that prepare the fuel and air for combustion. In a second project, researchers are looking at the combustion and fluid dynamic processes that control the origin and fate of hydrocarbon emissions from internal combustion engines. Other key research areas include energy storage and battery technology for hybrid and electric cars, tire materials and analysis methods to help prevent hydroplaning, and supercomputing models for ways of casting, welding, and coating new lightweight materials."

### Teamed with General Motors

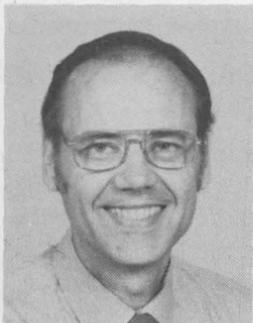
In addition, Sandia/New Mexico has teamed with General Motors to study the application of intelligent manufacturing procedures and real-time control systems to reduce production waste during induction hardening, the heat process used to create hard, wear-resistant surfaces. The current system of batch hardening used by automakers results in production losses and machine downtime, which costs millions of dollars per year. Using computational modeling, process analysis, and material characterization, Sandia/New Mexico has implemented a three-year project to improve the induction hardening process. Moreover, the Albuquerque lab is working cooperatively with GM to improve thermal spray coatings that provide cylinder walls in engine blocks with better wear resistance.

"The PNGV project has a broad, 10-year timetable, with development of a concept car by 2001 and prototype production anticipated to begin the following year," Bill says. "Led by the Department of Commerce, this partnership represents an ambitious, multibillion-dollar program designed to benefit both the domestic auto industry and the American public."

## Recent Retirees



Les Jones 34  
8416



Paul VanDyke 35  
8201



Eva Leong 20  
8525



Rodger Page 20  
8274



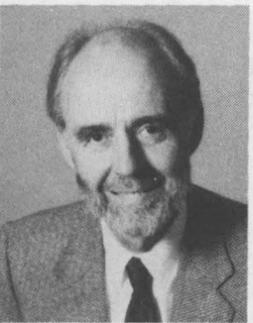
Wayne Chrisman 30  
8347



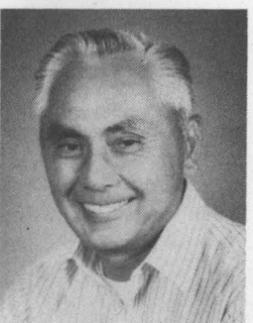
Ferd Thome 35  
8631



Joe Trembl 34  
8417



Bob May 34  
8612



Hesa Yano 35  
8525

## John Crawford heads Clean Car interlab subgroup

VP John Crawford (8000) was recently elected chairman of the Clean Car Coordinating Committee (C-4), an interlab cooperative that coordinates the work of the DOE labs in supporting PNGV. Sandia has the lead in five of the 45 identified technology areas: internal combustion engines, tires/suspension, aerodynamic design, agile manufacturing, and waste minimization. The C-4 committee will also work to enhance two-way information exchange with industry and other government agencies, and to support CRADA improvement and simplification.

# Sandia California News

## ★ Congratulations

To Karadene (8283) and Ray Jarzyna, a daughter, Kiana, Aug. 11.

To Thelma and Thomas (8417) Harrison, a son, Kayland Thomas Wray, Oct. 14.

## Standards lab

(Continued from page 1)

Richardson, Business Liaison representative in the Santa Fe office of US Senator Pete Domenici; Pat Montoya, State Energy Issues Director in the Albuquerque office of US Senator Jeff Bingaman; and Research and Exploratory Technology VP Bert Westwood (1000).

The new building replaces a facility built in 1960 that could no longer meet current or future needs. Expansion of the PSL's role and future requirements had necessitated locating some calibration functions in other, less appropriate facilities.

"This new facility will allow for high-precision measurements in controlled environments that are required for 21st-century technologies," says Ralph Johnson, Manager of Measurement Standards Program Area 1740. These technologies, he says, include advanced manufacturing, microelectronics, energy, environment, and nuclear weapons research and development.

### PSL certifies, develops standards

"Measurement precision is a cornerstone of quality, product reliability, and competitiveness, which are all critical components in the design and manufacture of products and components," he says. "Metrology is a fundamental tool in building the nation's high-technology products."

The PSL, which previously concentrated exclusively on defense programs work, assures the integrity of measurements for customers by certifying standards, developing measurement techniques, and advancing the state of the art in metrology, the science dealing with measurement. The PSL performs more than 2,000 certifications of top-level standards each year in more than 80 measurement areas within the physical, electrical, and radiation disciplines.

Industry representatives praised the new

## Exacting dimensional, electrical, radiation standards in PSL's repertoire

One area of Primary Standards Laboratory physical calibration involves high-precision dimensional standards for advanced manufacturing. This activity is supported by using a universal coordinate measurement machine, which has the capacity to measure objects of complex shape with a precision of 0.025 micrometer, or the width of about one-third of one-thousandth of a strand of human hair. All precision length measurements are performed interferometrically using the wavelength of laser light for high accuracy.

This precision is required by one industry user, for example, in ensuring the high degree of flatness of metal plates produced in its rolling mill. Controlling the expansion of the rolling equipment that could result from heat transferred from the material being rolled is vital to producing the required thicknesses of plates.

The PSL also calibrates gas leak detectors that are used extensively throughout the weapons complex to check the integrity of critical seals and vacuum equipment. Gas

leaks are calibrated using specially developed, computer-controlled, high-vacuum, magnetic sector mass spectroscopy. The laboratory also has gas-flow standards that are used to calibrate flow meters up to 50 cubic feet per minute.

In the area of electrical standards, the laboratory maintains a state-of-the-art DC Josephson Voltage Standard, a wide variety of AC voltage and current standards, and has microwave capabilities that support radar and communication equipment. Other instruments calibrate temperature standards up to 2,300 degrees C.

An area of radiation calibration involves measuring the short neutron pulses that are a vital component of nuclear weapons technology. Sandia has the only facility in the US to calibrate pulse neutron detectors. Other areas of radiation calibration include alpha radiation sources used to calibrate radiation safety monitors, and laser power meters for calibrating high-power lasers used in state-of-the-art welding applications.

Primary Standards Laboratory during a recent tour of the facility, saying they would use its capabilities.

"Absolutely, we can use Sandia's capabilities," said Gilbert Carrillo of Honeywell in Albuquerque. "This facility provides all kinds of opportunities for us."

Said Zach Allison, Quality Assurance Manager for Philips Semiconductors in Albuquerque: "Access to the lab's equipment makes calibrating our standards cheaper as well as reducing the calibration cycle time."

And Tim LeClair, Development Engineer at

Motorola in Albuquerque, added: "We're very pleased to see this level of sophisticated equipment so close to our plant. We definitely plan on maintaining a dialogue with Sandia regarding metrology needs."

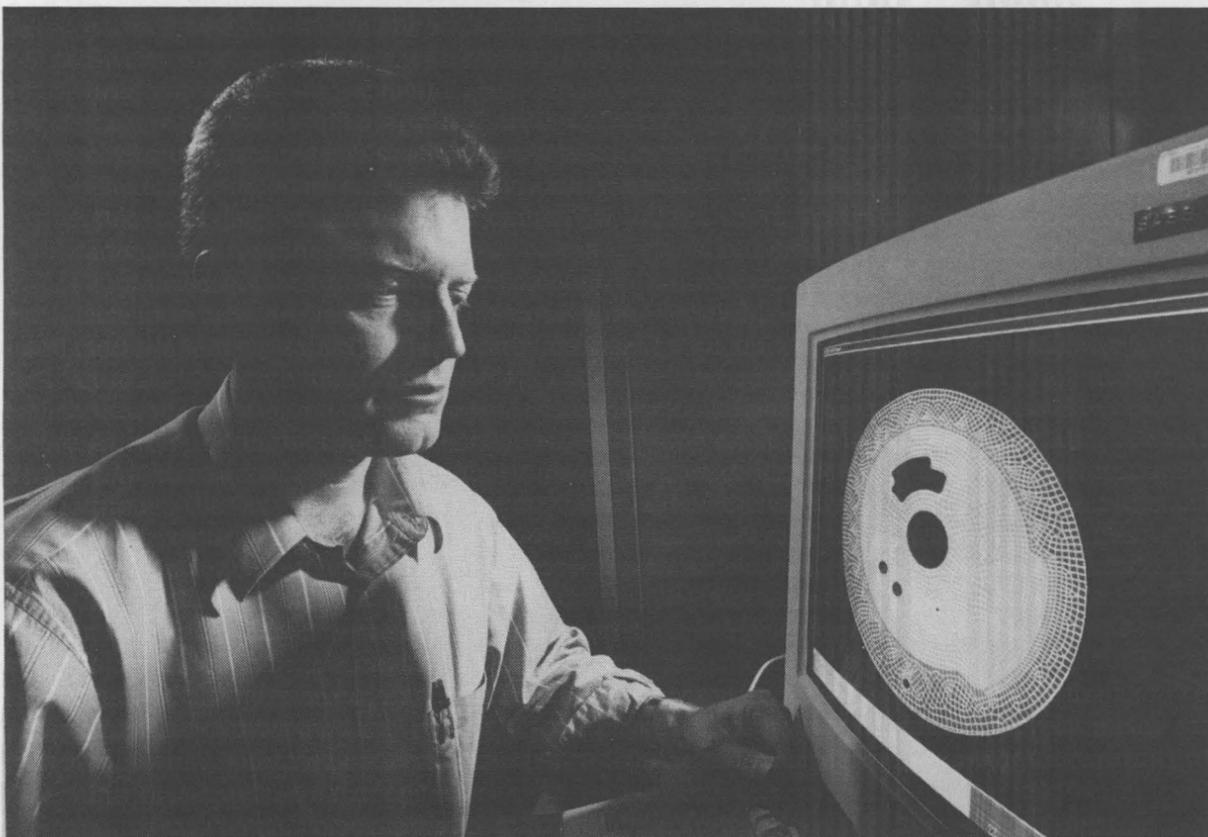
### Calibration accreditation planned

In addition to providing standards and calibration services for the nuclear weapons complex and Sandia programs, the 50 PSL metrologists collaborate with other organizations, such as the National Aeronautics and Space Administration and the National Institute of Standards and Technology (NIST) in Gaithersburg, Md. The Primary Standards Lab recently formed a partnership with NIST to help implement a new national calibration laboratory accreditation program.

The new PSL building has many features that provide an environment that protects the sensitivity of its instruments. Temperatures are maintained as precisely as plus or minus 0.01 degree C in some areas, and each lab area is supplied with an independent, computer-controlled air-handling system. Each system is optimized and balanced depending on the requirements and thermal loading of the laboratory.

Vibration is virtually eliminated by placing the 23,000 sq ft of laboratory space on two 2-ft-thick reinforced concrete slabs. The continuous-pour slabs are post-tensioned, a construction method that increases pressure as the concrete nears hardening to increase its density and make it more monolithic. The slabs rest on an engineering fill in which the dirt has been removed 10 ft down then replaced and compacted to 95 percent or greater density. The slabs also are isolated from the ground and other parts of the building by an air column around the periphery of each slab.

Electromagnetic radiation shielding has been designed into each lab module. In addition, steel shielding protects sensitive measurement systems in several individual lab areas, and all entries — including doors, air conditioning ducts, and electrical and plumbing openings — are filtered or shielded. A large battery-powered uninterruptible power supply supports critical equipment in the event of a power outage.



**COMPUTATIONAL PAVING** — Ted Blacker of Computational Mechanics and Visualization Dept. 1425 was recently awarded a patent on the mesh-generation "Paving" algorithm he is using here to mesh a programmer wheel for the Sandia agile manufacturing program A-Primed. The invention of the algorithm has greatly advanced the science of mesh generation and was the genesis for the formation of the Mesh Generation Consortium with private industry. (An appropriate, customized geometric "mesh" has to be generated before computational analysis can be applied to the design of any complex object.) Ted also shared in an Award for Excellence in Tech Transfer and a 1993 R&D 100 award for the three-dimensional version of the algorithm. Ted's algorithm and the associated development of meshing tools has resulted in substantial productivity gains in US industry. Ford Motor Co., for example, recently reported that the meshing techniques reduced the time to mesh a part from 36 hours to 30 minutes. (Photo by Randy Montoya)

# Ethics effort

(Continued from page 1)

valuing diversity, taking affirmative action, and setting high standards for others.

It and others challenged the statement that Sandia is going to augment or expand its policy to include "appropriate" elements of Martin Marietta's program. They also referred to the alleged fraudulent billing [news stories in October about sports supplies and entertainment Martin Marietta provided its employees] of the Department of Defense by Martin Marietta.

## Morale spending authorized

Jack points out that Martin Marietta spends money on employee morale and welfare at Oak Ridge, as it does at Sandia — and both are authorized and encouraged by DOE. Further, he adds, Martin Marietta enjoys one of the best reputations for ethics programs in corporate industry.

"With respect to augmenting and expanding Sandia's code of ethics to include appropriate elements of Martin Marietta's code," he says, "Martin Marietta is our management contractor, and as such has the responsibility to ensure that the elements of a code of ethics program responds to government requirements.

"A word we use a lot these days is synergism — making more of the whole than the sum of its parts," he adds. "That's what we want to do with ethics at Sandia: Take the good program already in place at the Labs and augment it with parts of Martin Marietta's industry-wide-recognized ethics program."

Maybe we can learn from each other, says Jack, and together, "earn a reputation for a world-class ethics program, just as good as, or better than, our world-class reputation for our weapons program."

For example, he says that when allegations

surfaced a few months ago that an air quality assessment at a Sandia/New Mexico facility had been changed to mask negative results, Executive VP Jim Tegnolia wrote DOE Kirtland Area Office Manager Kathy Carlson a letter outlining steps to be taken to circumvent such interference in the future. It said, in part: "Utilizing the position of ethics director and . . . communications specialists, [we will] convey to all Sandia employees the Sandia National Laboratories policy that retribution or retaliation toward any employee who brings concerns about environmental practices, safety, health, or other matters to the attention of officials will not be tolerated."

"As a past Sandia customer," says Jack [Defense Nuclear Agency field commander at KAFB while he was on active duty with the Air Force], "I know Sandia is a highly ethical, honorable organization. We've been honest about the way we do things, but the fences are now open, so we're subject to much greater scrutiny than we were during the long years of

Stages in Moral Development	Management Attitude and Approach	Ethical Aspects of Corporate Culture	Corporate Ethics Artifacts
Ethical organization	Ethics integrated into mission and the strategic plan	Corporate culture is planned and managed to be ethical	Organizational documents reflect core ethical values
Emerging ethical organization	An active concern for ethical outcome	Ethical values become part of culture	Code of Ethics become action documents
Responsive organization	Doing right is a means to program/project success	Growing concern for everyone impacted by our decisions	Code of Ethics reflect a concern for others
Legalistic organization	Play within the legal rules	If it's legal, it's okay	"Don't do anything to harm the organization"
Amoral organization	Get away with all you can	Get what you can and get out	No set of values other than greed

Where we are now

A Conceptual Model of Corporate Moral Development — R. Eric Reidenbach and Donald Robin  
Journal of Business Ethics, 10:273-284, 1991

WHERE WE ARE — The pointer at left indicates the level of moral development Sandians believe the Labs has reached — slightly above a "legalistic" organization — in its quest to be an "ethical" organization. Responses from more than 900 Sandians comprised the survey results.

the Cold War, and we need visible 'mileposts' to remind us of the need to remain an ethical organization.

"The Sandia Ethics Office is based on Martin Marietta promising DOE it would create a senior ethics position," he adds, "with the requirement to increase ethical awareness in the Labs and ensure that a solid, uncompromising set of values is applied to every decision we make."

## TVC looking for more business investment opportunities

Because of the enthusiastic response to its first equity capital symposium held in October, Technology Ventures Corporation (TVC) is seeking business investment opportunities to be presented at the next Equity Capital Symposium to be held in May 1995.

The opportunities should be technology-based and reflect a relationship with one of the federal laboratories in New Mexico or with one of New Mexico's universities. For consideration, each opportunity must be described in a business plan and sent to Leland Traylor, Regional Economic Development Office 4221, for submittal to TVC by Jan. 9.

Seven projects were presented to the audience of entrepreneurs, business professionals, and equity capital investors who attended the first equity capital symposium two months ago. More than 200 entrepreneurs, community leaders, private equity capital investors, merchant bankers, and venture capital executives are expected to attend the May symposium.

Technology Ventures Corporation is a nonprofit corporation founded by Martin Marietta Corporation to facilitate the commercialization of technology developed in New Mexico. For more information, contact Leland on 271-7811.



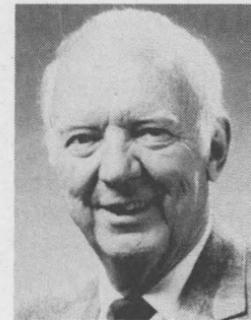
## Recent Retirees



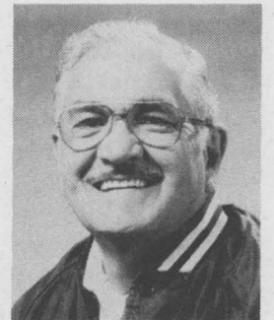
Bernie Stiefeld 39  
5122



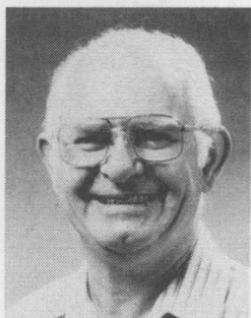
Chuck Hall 32  
2251



Bill Atkins 41  
5513



Joe Lucero 31  
9813



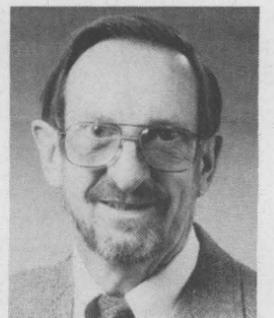
Neal Nelson 35  
2472



Don Doak 36  
2010



Gary Montague 32  
7733



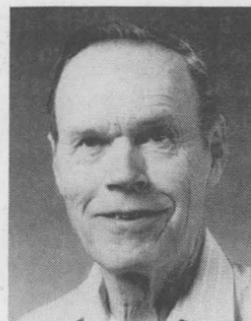
Stan Meyer 30  
2703



Ken Johnson 35  
2719



Richard Guilford 40  
5123



Ken Payne 36  
5147



Kenneth Shrock 37  
9817

# Reengineering

(Continued from page 1)

percent in the long term. In the short term, he said, he wants to show that reengineering is worth the investment. He said he's made Paul Stanford, VP-10000 and Chief Financial Officer, personally responsible for a reduction in overhead by 1996.

"We expect to save approximately \$150 million and free up approximately 350 employees in the next four years," he said. "It is our intent to take those resources and reapply them to mission-related work."

He asked employees "not to think of 'redeployment' as a four-letter word, but rather as an opportunity — an opportunity to get people out of inefficient jobs, nonproductive jobs, nonchallenging jobs, and to apply those resources toward mission-oriented work that has meaning for us in the future. That, in a single sentence, is the best definition of what our

*"It is our intent to take [saved] resources and reapply them to mission-related work."*

objective is with reengineering," he said.

He said employees in Research and Exploratory Technology Div. 1000 are engaged in a reengineering activity expected to

save the corporation a significant amount of money. "They are willing to go through some cost savings and create some efficiencies in their nonmission accounts," he said, "but they want to be allowed to reapply the resources to create some opportunities for themselves."

Jim said he has struck a deal with Bert Westwood, VP-1000, that if employees in Div. 1000 do in fact save money and resources, they will be allowed to use them to create what they consider to be a better professional working environment. "That's really the bottom line of reengineering," said Jim. (A future *Lab News* issue will feature that reengineering project.)

He assured employees that reengineering, including redeployments, would be conducted

## Reengineering town meetings in New Mexico

Sandia/New Mexico employees are invited to attend one of three reengineering town meetings in Albuquerque. During each meeting, employees will have a chance to pose questions to presenters.

Date, time	Location	Who should attend
Mon., Dec. 12, 10 a.m.-noon	BDM Building	Off-site employees
Tues., Dec. 13, 8:30-10 a.m.	TTC (Bldg. 825)	Last names A-L
Tues., Dec. 13, 10:30 a.m.-noon	TTC (Bldg. 825)	Last names M-Z

Look for coverage of these meetings in the Jan. 6 *Lab News*.

fairly and consistently.

Jim added that for Sandia to successfully reengineer itself, it must first select those processes that require management at the corporate level. "We have to find out which processes need to be corporate and which processes can be decentralized, define those corporate processes, and make them operate well."

### Kin to quality

And, he said, the reengineering effort should be consolidated with other corporate process improvement activities, including quality, conduct of operations, business architecture, and the Management Integration Implementation Plan (MIIP). "We don't want

(Continued on next page)

## Reengineering Q&A addresses employees' concerns

After discussing reengineering, presenters addressed questions submitted by employees. Here are a few of the highlights of the Q&A session.

**Compliance and reengineering:** An employee asked if reengineering could succeed in today's "compliance environment." Jim Tegnalia responded that compliance doesn't necessarily equate with inefficiency, and that Sandia would have to perform many of the compliance activities even without DOE's oversight because industry has to comply with many of the same standards. He added that the people at DOE's Albuquerque office are just as frustrated with the compliance environment as Sandians are, and that local DOE officials, who support Sandia's reengineering effort, have said they are willing to listen to good ideas about how to make the compliance environment better.

**Overhead cost reduction:** An employee pointed out that past efforts to reduce overhead costs only resulted in different chargeback arrangements (service centers, etc.), without any effect on the overall cost of overhead activities. Jim responded that the only real way to measure overhead cost is the ratio of mission-oriented work to the total budget of the laboratory. "Nothing else matters, and I don't care where you account for it — whether it's in the service centers, whether it's overhead — that's just accounting."

He said he believes that the ratio is now less than 50 percent mission-oriented work to overhead, and that although it will be difficult to change, that ratio will need to improve.

**Chargeback system:** An employee asked if anyone in senior management was taking responsibility for overseeing the chargeback system, particularly as it relates to plant engineering. Jim said chargeback was one of the issues Lynn Jones (VP-7000) was working on. He added that although there are problems in the way chargeback is being implemented at Sandia, he believes in the principle of chargeback.

**Reengineering elsewhere:** An employee asked where else within the military-industrial complex had reengineering been tried, and whether those efforts were successful. Jim responded that other reengineering efforts have not been as coordinated or as broad-based as Sandia's reengineering effort.

He said Martin Marietta's Orlando office started a reengineering effort on a smaller scale about three years ago, and has now established approximately 95 teams and is saving about \$400 million a year. Orlando's efforts to date, however, have been focused on manufacturing processes rather than administrative processes. He added that Oak Ridge National Laboratory is also undergoing a reengineering effort and is realizing savings of about \$160 million a year after three years.

**Technical employees doing non-technical work:** An employee asked what plans were in place to get technical employees back in the business of doing technical work. Jim estimated that although more than half of Sandians are technical employees, most of them spend too much of their time doing nontechnical work. He said one of the difficult challenges of reengineering will be to find out how much nontechnical work technical employees perform and "drive that figure closer to zero."

**Skills mismatch and retraining:** An employee asked what would happen to "freed up" employees whose skills did not match those needed for Sandia work. Charlie Emery (VP-3000) responded that Sandia has more than 2,000 contractors doing mission-oriented work because Sandia doesn't have the people to do the work. He said as part of reengineering, Sandia would do its best to retrain employees to do other work, and that retraining is possible with most employees, especially if they want to be retrained. But, he added, some employees may not have the aptitude to be retrained in some areas. "Again, when we're talking about redeployment, we're not talking about layoff. We're talking about matching skills to job requirements."

**Cost of human resources:** An employee asked why Sandia's HR services were so expensive compared to industry. Charlie responded that although the cost of HR per employee at Sandia is almost twice that of industry standards, it is difficult to compare Sandia's HR requirements with those of industry.

He said Sandia is unique for many reasons, including the relatively high payroll at Sandia and the high caliber of its technical staff. He said to "keep the best of the best," you have to keep them happy by providing good benefits and other HR services. That means you have to hire highly trained HR professionals. While reengineering will, and should, reduce some of the cost of HR, it will not bring it to a level similar to industry standards.

**Secretaries:** An employee pointed out that Sandia hires highly skilled secretaries but does not fully utilize their skills, and asked whether Sandia's secretarial processes would be reengineered. Jim responded that Sandia does indeed have a highly educated and capable secretarial staff, and that he's aware the secretaries are perhaps the most frustrated group at Sandia. As an example, he said when team awards are handed out at Sandia, the secretaries are rarely mentioned as team members. "That's a culture we really have to change," he said.

He said he would be willing to take on the secretarial issue as part of reengineering, and suggested to Charlie Emery that a team be established to work on issues such as health care, awards, and salary concerns for secretaries.

**Information architecture:** An employee asked whether the California site would be involved in the corporate integration information architecture plan in the future. Mike Eaton (13100) responded that the California site will be involved, and asked California employees to make sure that happens. "It is an integrated corporate process, and physical location has nothing to do with it," he said.

**The Laboratory Process Reengineering/Chief Information Officer Council**

Chairman	Jim Tegnalia, Executive Vice President
Vice Chairman	Charles Tapp, Director, Quality Improvement Center 12900
<b>Division represented</b>	<b>Council member</b>
1000	Al Romig, Director, Materials and Process Sciences Center 1800
2000	Gary Beeler, Director, Realization for Weapons Components Center 2500
3000	Larry Clevenger, Director, Occupational Medicine Center 3300
4000	Joel Weiss, Director, Strategic and Operational Planning Center 4500
5000	Carol Yarnall, Director, Operations Center, DP Division 5500
6000	Tom Hunter, Director, Energy and Environment Sector Center 6900
7000	Neil Hartwigsen, Director, Facilities Development Center 7900
8000	Ron Detry, Director, Center for Engineering Services 8200
8000	Pat Smith, Director, Human Resources and Business Operations Center 8500
9000	James Kelsey, Director, Transportation Systems Center 9600
10000	Gary Riser, Deputy Chief Financial Officer 10000D
11000	Harold Folley, Director, Human Resources and Security Center 11100
12000	Dick Schwoebel, Director, Surety Assessment Center 12300
13000	Mike Robles, Director, Applications Development Center 13300

(3000) on human resources.

In addition, Lynn Jones (7000), who did not attend, will be responsible for reengineering site services, and Chief Financial Officer Paul Stanford (10000) will be responsible for financial systems. John Crawford (8000) is process owner for program/project management. (See future *Lab News* issues for more about individual process reengineering activities.)

After the presentations, employees had a chance to pose questions to presenters. (See "Reengineering Q&A addresses employees' concerns" on page 6.)

**Fewer distractions, hand-offs**

Jim emphasized that reengineering will benefit employees in many ways: fewer distractions, fewer hand-offs and approvals, more time for meaningful work, more decision-making at lower levels, and, of course, more satisfied customers.

But it won't be easy. "Al Narath and I sitting in Bldg. 802 won't be able to accomplish a thing if you don't think it's a good idea, unless you get behind it," he said.

Employees can help by staying informed and by "keeping things running smoothly while co-workers are matrixed to other organizations," he said.

He said those involved in the reengineering effort welcome constructive feedback. Employees can voice their comments and concerns through the IDEAS program, the LPR business office, division representatives on the LPR/CIO Council, during future town meetings, or through the Ethics Office (12700) if individuals believe they are being treated unfairly, he said.

"I hope you will get enthusiastic about reengineering and help us create the opportunities that reengineering will allow," he said.

*Employees can help by staying informed and by keeping things running smoothly while co-workers are matrixed to other organizations.*

(Continued from preceding page) to confuse people with one initiative after another," he said.

Mike Ebben, who spoke after Jim, said, "People wonder how reengineering relates to TQM [Total Quality Management], process improvement, all of those things in which we have some excellent programs already going on at Sandia. This is just taking another step. It's taking a clean sheet approach to the areas where some of the traditional approaches don't achieve what we're after."

He said in contrast to other process improvement methods, which tend to offer incremental improvements, reengineering allows for radical improvement. "A lot of companies are doing this and they've been successful," he said. "And we're hoping to learn and be successful along with them."

**Mapping Labs' work**

Mike said changing customer requirements, economy, political climate, competition, and technology are driving the need for radical business innovation at Sandia. They are also driving a need to "map out" how work flows at Sandia: from understanding customer requirements, to defining strategy, to operational planning and development, to product design, to product realization, to customer delivery of products and services. He said the Labs needs to rethink how its support organizations, as well as its many suppliers, contribute to Sandia's final product. The goal is to improve that contribution and provide the most valuable service possible to the line organizations.

He said the keys to understanding Sandia's work cycle will be implementing some of the latest program and project management tools, measuring critical work processes, and focusing on the customer. "We need to develop a single approach to how we

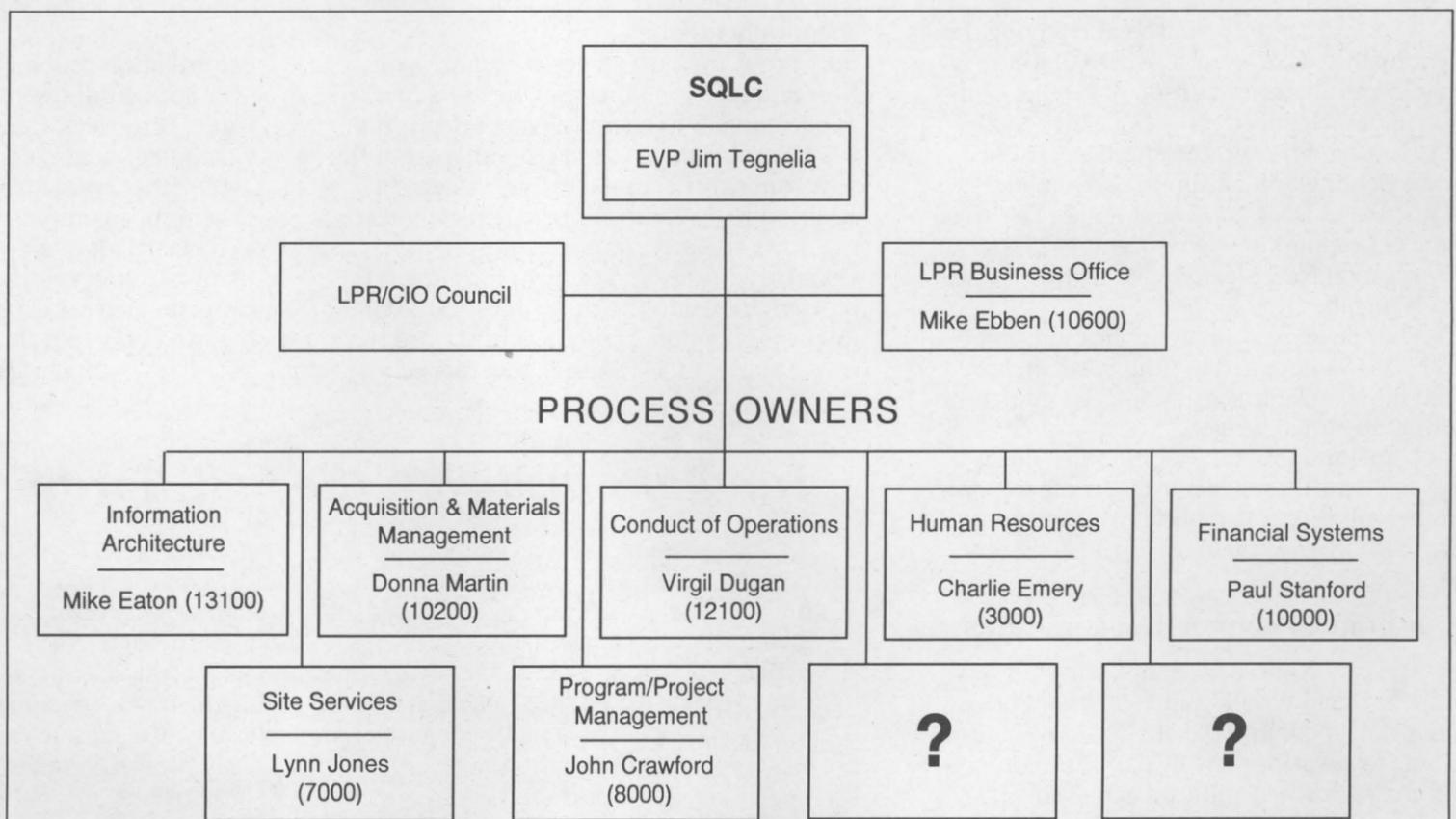
do business at Sandia," he said.

Mike added that reengineering a corporation is "like building a building. You have to do a lot of site preparation before you start laying bricks," he said.

He said the reengineering effort is being advised by what's known as the Laboratory Process Reengineering/Chief Information Officer (LPR/CIO) Council, a group of directors that meets monthly. (See "The Laboratory Process Reengineering/Chief Information Officer Council" above.) The LPR/CIO Council is assisted by the LPR business office in Center 10600, headed by Mike (see chart below).

But individual process owners responsible for particular corporate-wide processes will ensure that reengineering happens. "I hold them personally responsible for implementing these processes," added Jim.

During the meeting, four of the process owners discussed particular processes being reengineered at the Labs: Mike Eaton (13100) on the information infrastructure, Cynthia Schneeberger (10210) on acquisition and materials management, Virgil Dugan (12100) on conduct of operations, and Charlie Emery



HOW LABORATORY PROCESS REENGINEERING IS ORGANIZED — Executive Vice President Jim Tegnalia, along with the Sandia Quality Leadership Council (SQLC), is leading the LPR effort. The Laboratory Process Reengineering/Chief Information Officer (LPR/CIO) Council is serving an advisory role. Process owners responsible for individual reengineering projects within the Labs (bottom two rows) report to Jim and are assisted by the LPR Business Office, headed by Mike Ebben (10600). Question marks indicate major reengineering projects yet to be identified.

# Sandia-led team wins Gordon Bell Prize in scientific supercomputing

**A second Sandia team also among four finalists**

A team led by Sandia was awarded the prestigious Gordon Bell Prize for performance in large-scale scientific computing on Nov. 17 at the Supercomputing '94 conference in Washington, D.C.

Sandia shares the honors with colleagues from the University of New Mexico and Intel Supercomputer Systems Division.

The Sandians on the team are David Womble of Applied & Numerical Mathematics Dept. 1422; David Greenberg of Algorithms and Discrete Mathematics Dept. 1423; Stephen Wheat and Robert Benner, both of Parallel Computing Science Dept. 1424; and Joe Kotulski of Radiation & Electromagnetic Analysis Dept. 9352. The UNM scientist is Marc Ingber, and the Intel researchers are Greg Henry and Satya Gupta.

(David Womble also won a 1994 R&D 100 award for his work on parallel dense equation solvers.)

This was essentially the same team that last May broke the world's speed record for computing using Sandia's Intel Paragon parallel supercomputer (*Lab News*, May 27). The speed record of 143.4 billion floating point operations per second (Gflops/s) has since been surpassed by a group using a one-of-a-kind computer built by a Japanese consortium for computational fluid dynamics.

Sandia's winning Gordon Bell entry, which carries an award of \$2,000, was for a parallel dense equation solver and was titled "Applications of Boundary Element Methods on the Intel Paragon."

The Gordon Bell Prize recognizes significant achievements in the application of supercomputers in significant scientific and engineering problems. The prize committee, made up of four judges nationwide, had narrowed the competition this summer from an original field of about a dozen entries to four finalists.

## Two of top four entries

A second Sandia team was also among the four finalists. That team consisted of John Shadid and Scott Hutchinson of Parallel Computational Sciences Dept. 1421, Harry Moffat of Chemical Processing Science Dept. 1126, Bruce Hendrickson of Applied & Numerical Mathematics Dept. 1422, and Robert Leland of Parallel Computing Science Dept. 1424. Gary Hennigan of New Mexico State University was also a member.

They developed a new application code called SALSA designed to simulate complex fluid flows on large-scale parallel computers such as the Intel Paragon.

Both entries met the Gordon Bell Prize requirements that they must be computer programs with practical applications and run faster than any other comparable engineering or scientific applications.

## Four primary commercial applications

The parallel dense equation solver developed by David Womble and colleagues has four primary commercial applications that contribute to advancing the field of supercomputing and represent significant achievement. Each application sustains more than 99 billion floating point operations per second (Gflops/s) based on wall-clock time for the entire application and an actual count of flops executed. One application that used the entire machine memory sustains more than 140 Gflops/s and ran faster than any of the Japanese entries. The

common kernel for these applications is a dense equation solver based on the factorization of a matrix into upper and lower triangular factors. All four codes are in wide use by government and industry.

One application is a structural analysis code that can model strengths of composite materials, primarily those that need to be strong, yet lightweight.

Another application entails acoustics radiation propagation scattering and is useful for the analysis and development of sonar systems.

The third is modeling electromagnetic radiation propagation and scattering and is useful in computing low-frequency radar signatures from aircraft.

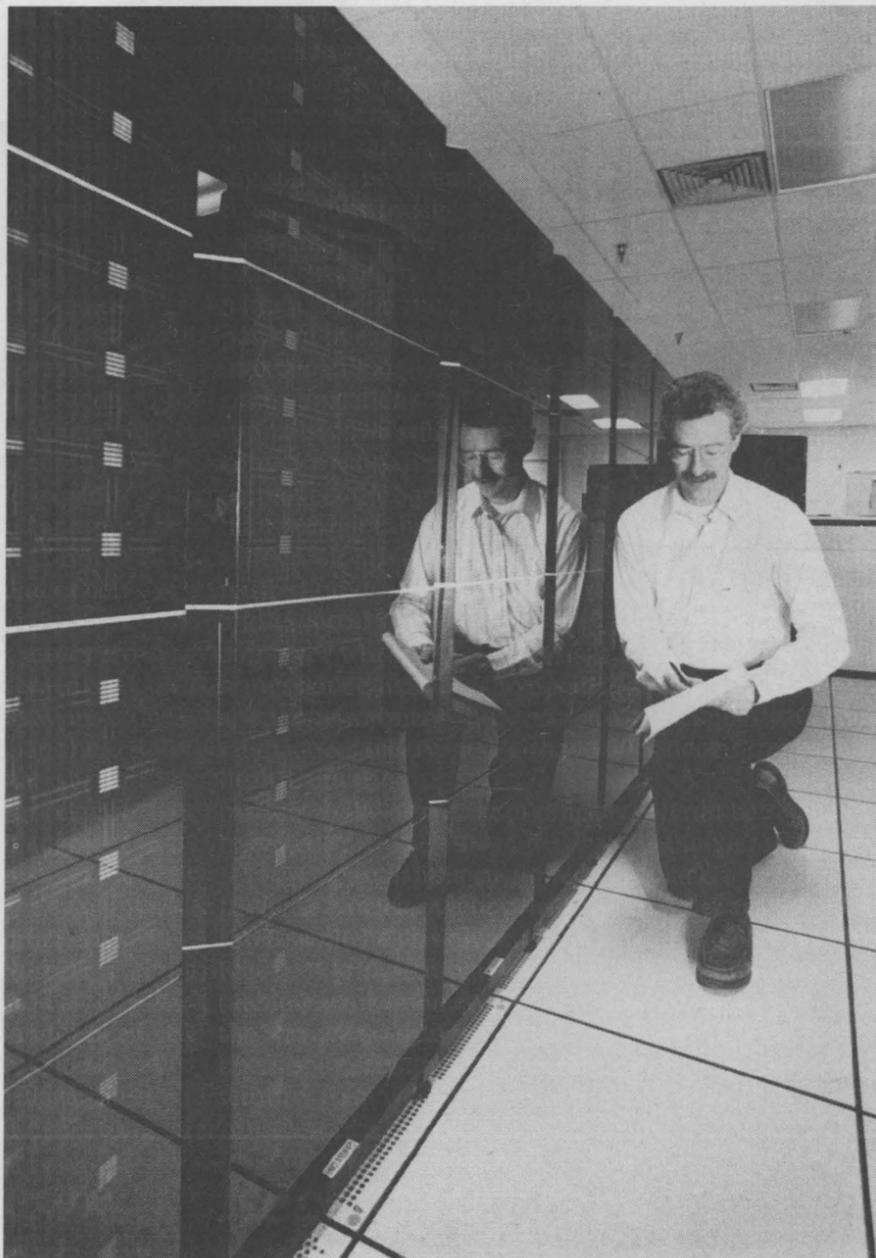
A fourth application is used in computing high-frequency radar signatures.

The SALSA code developed by John Shadid and colleagues solves chemically reacting flow problems with an equal emphasis on flow and reaction kinetics. One of its first applications is to chemical vapor deposition (CVD) problems. CVD reactors are part of the semiconductor manufacturing process. In addition to CVD modeling, chemically reacting flows are important in atmospheric chemistry, the design of fuel-efficient gas turbine engines, and the study of industrial pollutant production. Sandia scientists also have used a subset of SALSA to model cardiac

defibrillation problems.

"Both entries were very strong," says Ed Barsis, Director of Computational Science, Computer Science, and Mathematics Center 1400. "The award further solidifies our leadership in supercomputing, which is emerging as a crucial factor in accomplishing our missions. Many of our government and industry partners congratulated Sandia on our win and on having two of the four finalists."

—Chris Miller (12621) and Ken Frazier



**TWO-TIME WINNER** — Bob Benner (1424) with Sandia's Intel Paragon massively parallel supercomputer, used by a Sandia-led eight-member team in winning the Gordon Bell Prize in scientific supercomputing. This is Sandia's second Gordon Bell Prize. Bob was also a member of the first Sandia winning team, in 1988.

## Sandians also won the first Gordon Bell Prize

This is Sandia's second Gordon Bell Prize. In March 1988, a Sandia team won the first Gordon Bell prize ever awarded for demonstrating unprecedented "speedups" in parallel processing. Speedups are a measure of the increased speed at which a problem can be solved on a multiprocessor parallel computer in comparison with a single processor used in the same system.

That Sandia work showed for the first time that by expanding the size of the problem, speedups could be achieved that were nearly in direct proportion to the number of processors linked together. Using a 1,024-processor hypercube computer, the team

achieved speedups of 1,020, 1,019, and 1,011 on three practical, full-scale scientific application problems. This achievement broke through what had been considered a major obstacle to parallel computing, opening the way toward major advances that have happened since worldwide in massively parallel computing.

Bob Benner is in the enviable position of having won two of the distinguished Gordon Bell Prizes. He was a member of the 1988 team that also included John Gustafson and Gary Montry, who are no longer at Sandia.

—Ken Frazier

# Feedback

## Labs' policy on homosexuality

Q: A Feedback letter about Sandia's new EEO policy regarding sexual orientation was published in the Sept. 16 Lab News. The writer made the argument that the Labs should not have a policy to protect homosexuals from discrimination, based on the logic that (in the writer's opinion) sexual orientation is a behavior based on choice. The letter claimed that other lifestyle choices (e.g., religion and marital status) are not issues in the minds of most people, so it is acceptable that they are a basis for protection from discrimination. The writer claimed that, somehow, religion can be definitively verified, but that sexual orientation cannot. Therefore, the policy leaves Sandia wide open to false charges of discrimination on the basis of sexual orientation by individuals who claim to be homosexual but are not. The letter writer, by the way, does not know anyone at Sandia who admits to being homosexual.

I was disappointed in Charlie Emery's [VP-3000]

## this month in the past...



(This column was written for the Nov. 11 issue, but we didn't have room for it. We hate to waste copy, so here it is, only two days into December.)

**40 years ago...** "Watch it, Buck, she's got a gun!" The Nov. 19, 1954, *Lab News* reported that Nancy Haskell, wife of Sandian Walter Haskell (now retired), bagged an antelope southeast of Socorro, on her first hunting trip. Her picture was printed along with Walter's observation that he was proud of her accomplishment and that his advice may have helped.

On the same page of that issue was a feature about another employee, Wally Bailey, who kept a flock of 1,500 laying chickens. Wally was quoted: "I know all of these birds by name. They talk to me. I talk to them. I know when they're angry, when they're moody."

**30 years ago...** Shrinking electronics — The resulting circuits would undoubtedly be looked upon as "dinosaurs" today, but Sandia was already busy designing and testing new ways to shrink printed circuits. The Labs' Printed Circuitry Section was using a new miniature welding technique called parallel gap welding to join metal, making possible the production of an entire printed circuit system no larger than a single circuit.

**20 years ago...** A "things can change quickly" item: A Feedback questioner in the Nov. 22, 1974, *Lab News* asked whether a digital watch might be added to Sandia's list of 25-year service anniversary gifts for employees. Part of the answer: "The awards program has been recently reviewed and revised. The addition of a digital watch was considered; however, the present price of the digital watch exceeds the expenditure limits allocated for an anniversary award." (Several years ago, a popular photography printing firm was offering a digital watch for two bucks if you brought your film to their place.)

response. In the past, when issues of nondiscrimination policy have been discussed, we have been told that this policy was put in place not just because it was the law, but because it was the right thing to do. The sexual orientation policy deserves special attention because, until the present policy was put into place, discrimination on the basis of sexual orientation was not protected at Sandia. I have been told that, until the late 1970s, acknowledged homosexuals were not even permitted to have security clearances. Since I have been at Sandia, an atmosphere of open disdain toward homosexuality has been tolerated. It should not be a surprise that the letter writer does not know anyone at Sandia who admits to being homosexual.

In the late 1980s I attended a directorate-level EEO meeting in which a staff member asked the director if Sandia had any plans to add "sexual orientation" to the list. When the director said "no," the questioner said "good," and most of the participants laughed and clapped. It seems to me that at Sandia, a very antihomosexual culture has developed.

I have only one question: Does the management of Sandia have any plans to send a clear message to employees that open homophobia will not be tolerated? While the other letter writer may not know any homosexual Sandia employees, I do. In my view, unless Sandia management takes a proactive role in changing the behavior of openly homophobic Sandians, any homosexual Sandia employees will have a very good basis for lawsuits.

A: In response to your question, I wish to affirm that Sandia is committed to ensuring a workplace free of discrimination, harassment, and retaliation for all employees, regardless of sexual orientation. Our EEO policy supports this commitment and Sandia has dedicated personnel resources to both respond to and monitor issues and concerns that employees may raise.

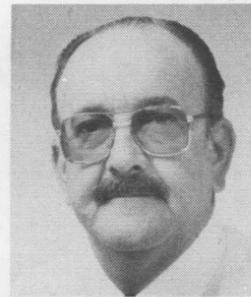
The Diversity Leadership and Educational Outreach Center has two departments — Equal Employment Opportunity (3611) and Diversity Planning (3612) — whose mission it is to ensure compliance with Sandia's EEO policy and help effect needed changes in our environment. The Diversity Planning organization has spearheaded and coordinated a number of activities that are aimed at improving our workplace environment. One of these efforts, the Diversity Champions program, has specifically addressed issues regarding employees of different sexual orientations, among other subjects.

Managers are entrusted and held accountable for ensuring a workplace free of harassment and retaliation. At the same time, employees are responsible for advising management of concerns so that appropriate action may occur. Sandia is committed to a positive change in the workplace and we are optimistic that our efforts through the Diversity Planning organization will provide positive progress. Managers did receive an EEO briefing this summer on changes in our EEO policy, which includes sexual orientation, and will again receive the information in the form of Sandia's Affirmative Action Program document, which we expect to distribute in late December or early January.

I appreciate your concern and wish to reinforce that both management and employees play a very important role in effecting changes in our environment, with managers taking the action and employees communicating their concerns and demonstrating respect for the individual, regardless of sexual orientation. Specific concerns and issues may also be addressed to the Equal Employment Opportunity and Affirmative Action Dept. 3611, the Ombuds, and personnel representatives.

Charles Emery (3000)

## Employee deaths



SAM THOMPSON

Thompson, and daughter, Sherry Lee Thompson.

Sam Thompson of Thermal/Hydraulic Analysis Dept. 6418 died Nov. 3 after a long illness.

He was 53.

Sam was a department manager and had been at Sandia since 1966.

He is survived by his wife, Alta Lee

\*\*\*

Hank Schuldt of Safety Engineering Dept. I 7732 died Nov. 4.

He was 62. (Photo not available.)

Hank was a senior member of the technical staff and had been at Sandia since 1964.

Survivors include his wife, Maria, and sons, Stuart and Scott.

\*\*\*



BERNIE KENNA

Survivors include his wife, Laura-Donna (2700), and sons, Woodrow and Randall.

Bernie Kenna of Entry Control/Systems Engineering Dept. 5848 died Nov. 11 after heart transplant surgery.

He was 59.

Bernie was a senior member of the technical staff and had been at Sandia since 1961.

\*\*\*

Joe Rancier of Construction Management Dept. 7913 died Nov. 12 after a long illness.

He was 52. (Photo not available.)

Joe was an administrative services clerk and had been at Sandia since 1980.

He is survived by his brothers, James Rancier and Jerry Rancier, and sister, Neva Rancier King.

## Retiree deaths

Charles Herrmann (85).....7542.....	Oct. 3
Thomas Morgan (73).....3543.....	Oct. 4
Winifred Fellows (93).....3122.....	Oct. 8
Miriam Hall (68).....7202.....	Oct. 9
William Fleming (87).....7434.....	Oct. 12
Stephen Chester (65).....9268.....	Oct. 13
Henry Schroer (81).....7113.....	Oct. 14
Guadalupe Mireles (94).....4623.....	Oct. 15
Emelia Vigil (84).....7532.....	Oct. 16
Martha Belmonte (94).....4574.....	Oct. 17
Robert Berry (68).....9511.....	Oct. 18
Jeanne Boyd (72).....3151.....	Oct. 21
Ervin Bureta (72).....1485.....	Oct. 23
Cora Beckes (88).....3428.....	Oct. 24
Werner Kuhn (74).....3441.....	Oct. 28

Organization numbers indicate retirees' positions at the time of retirement and may not correspond to present-day organizations.

## Sympathy

To Juanita Padilla (1201) on the death of her father-in-law in Belen, Nov. 1.

To Craig Jones (13203) on the death of his mother, Anna Jones, in Larned, Kan., Nov. 1.

To Ken Frazier (12622) on the death of his granddaughter, Cayla Ruth Frazier, in Albuquerque, Nov. 18.

# Mileposts

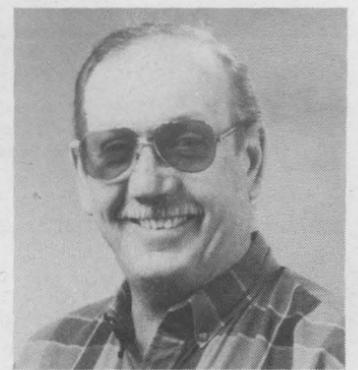
December 1994



Penny Jones 15  
9613



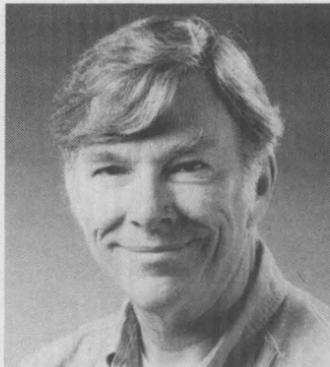
Richard Rogers 30  
10504



Dennis Bolton 15  
6642



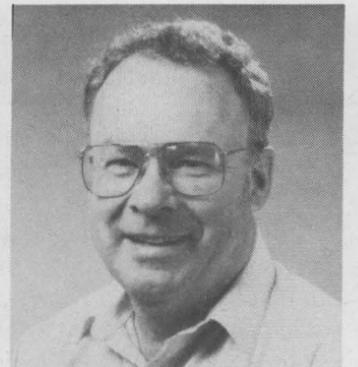
Bob Banks 35  
3531



Dick Shead 35  
5912



Chris Gutierrez 15  
6901



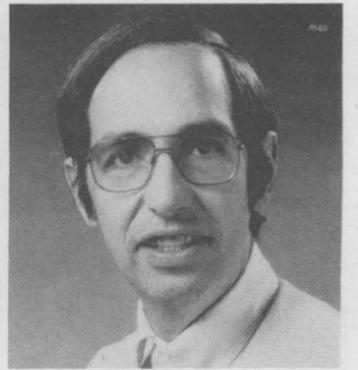
John Gieske 25  
2752



Jim Gosler 15  
5903



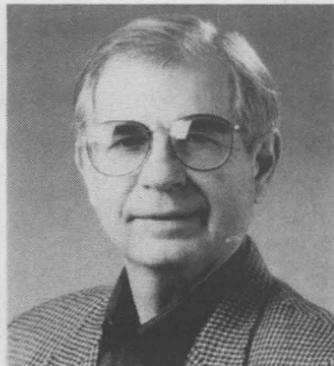
Sandra Anderson 25  
1141



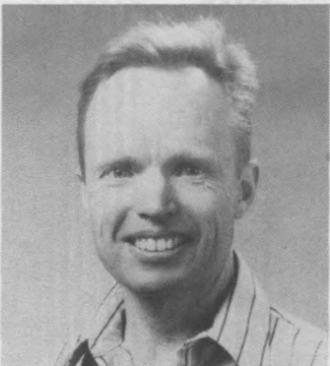
Mark Snell 15  
5845



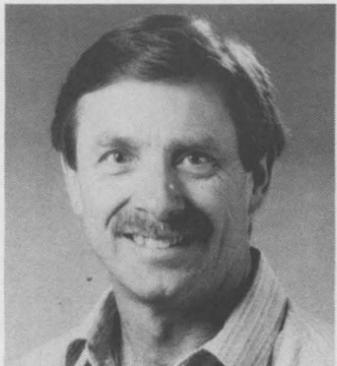
Frank Martin 15  
5808



James Giachino 25  
7402



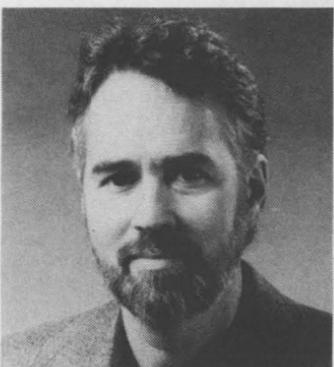
Daniel Doughty 15  
2223



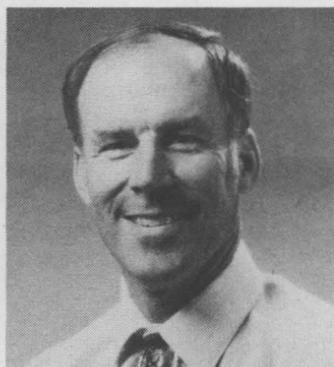
Don Cook 30  
7576



Agnes Fragua 15  
1140



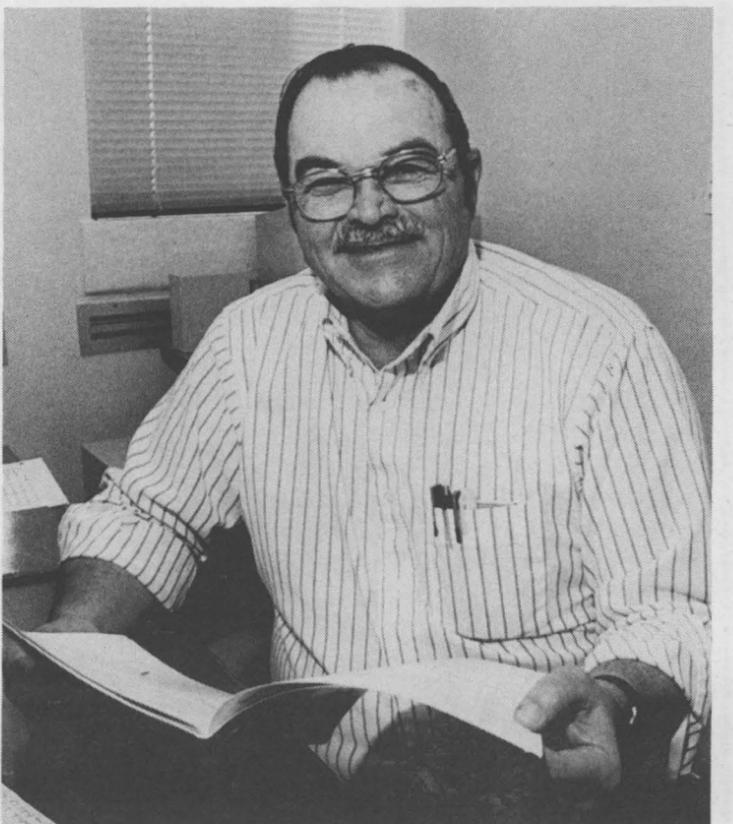
Michael Finley 25  
13412



Wayne Burton 15  
7256



Duane Burgeson 15  
9835



Milt Stomp 35  
6200



Gordon Smith 15  
5807



Eloy Gutierrez 25  
5502



Joe Koski 15  
6642

# Sandia Classified Ads Sandia Classified Ads Sandia Classified Ads Sandia Classified Ads

## MISCELLANEOUS

LIVING AND DINING ROOM FURNITURE, contemporary, artwork, queen bed, like new, \$1,500 all or individual prices. Griego, 864-2624.

WOOD ENTRY DOOR, complete w/frame (3-ft.); thermal windows, 3' x 5' and 3' x 3'. Morales, 296-0928.

CHAIN HOIST, 2-ton, \$150; 2 VCRs, \$40 for both; 14-in. PC monitor, 1024x768, \$150; PC chassis & power supply, \$25. Pritchard, 293-5297.

DAYBED, white, iron hearts, (no trundle), \$75; drafting desk, solid wood, w/storage, \$35. McDuffie, 292-0459 or 263-5578.

DRYER, Sears Kenmore, heavy-duty, electric, 3-cycle, w/fabric selector, excellent condition, harvest gold, \$110. Strascina, 294-0305.

"CLIFFHANGER" AND "LAST ACTION HERO," Sony games, new, perfect Christmas gifts, \$20 ea. Baker, 888-9650.

LOBO BASKETBALL TICKETS, pair S-side, Row 8, all regular games (except 3); all three tournaments, \$318 cash. Menicucci, 842-6330.

OSCILLOSCOPE, Hitachi V1100-A, excellent condition, top of the line, paid \$2,200, will sell for \$600 OBO. Giere, 296-1347.

FIREPLACE INSERT for wood-burning fireplace, glass doors, electric blower, black w/brass accents, \$75. Langwell, 293-2728.

DOWN JACKET, Pioneer Wear, size medium, light beige w/western-style suede-leather panels, cost \$160 new, asking \$50. Schkade, 292-5126.

STEP AEROBICS & VIDEO, \$55; woman's jazz shoes, new, size 7, \$15; carry-on luggage (2), \$30 & \$40. Turner, 823-9506.

STORM DOORS, two, 36-in., aluminum, w/frames, \$20 ea. Nicolaysen, 275-9657.

SCIENCE FAIR GOODIES: electronics, mechanics, meters, motors, gear trains, transformers, optics, etc., approximately 100 pounds, free to good home. Horine, 266-4534.

CHILD'S CHAIR, \$12; leather hand-tooled golf bag, new, \$70; Italian inlaid-wood gaming table, \$800. Klavetter, 299-4299.

WOMAN'S RING, 18K white gold, 1/2-ct. diamond solitaire, written professional appraisal at \$2,195, asking \$1,795. Lehrer, 898-2581.

ELECTRIC STOVE, \$150; Boos Block chop block, \$75; end table, \$25; spice racks, \$25. Banks, 291-1794.

ORLEY'S CUSTOM WOOD STOVE, like new, \$600; four radial tires, 195-60-R14, w/rims, good tread, \$300. Glover, 898-4305.

KING-SIZE WATERBED, complete w/frame & heater, \$45. Widenhoefer, 298-2510.

TROLLING MOTOR, 3-hp, as is; 38-in. square oak & tile coffee table; metal drop-side typing table, make offers. Lewis, 291-8181.

'91 LANCE TRUCK CAMPER, 8-1/2-ft., self-contained, bath & galley, adult used, non-smokers, excellent condition, \$7,000 OBO. Zaorski, 281-9194.

ROTO HOE ROTOTILLER, rear tine, w/shredder, needs motor, \$150; 1,000-lb.-capacity utility trailer, no body, \$75. Chorley, 296-1454.

TELESCOPE, reflector, equatorial mounts, wood tripod, accessories, 900mm x 114mm, \$275; sapphire earrings, top quality, new/never worn, \$350. Eikelberg, 296-0899.

FREE DOG, small/medium, Australian shepherd/springer spaniel mix, sweet, needs loving family; typewriter, electronic Silver Reed EX42, \$90. Montano, 892-0987.

DOGHOUSE, new, medium size, 15" x 22" inside, insulated, shingled, very sturdy, \$35. McAllaster, 856-7715.

GITAR, Applause GTX, \$250; Peavy bass, \$275; Peavy amp, \$350; Pyramid amp, \$50; bull snakes, large, \$30, small, \$20. Dubois, 256-9165.

FREE POTTED PALM, 25-gal., 2-ft. trunk, 10-ft. fronds, \$20 for pot. Martin, 294-8387.

RAM for PowerPC & similar computers, 8MB, 40-2 80ns., 72-pin, used only 3 days, \$400. Brannon, 260-1322.

DESK, oak, painted, \$50; organ, Lowery Genie 44, \$550; guitar, Kingston, dual pickups, \$50; microphone Realistic dynamic, \$15. Lanoue, 877-7902.

SKI RACK, locking Barrecrefter SR-72 for 6-7 pair skis, rain-gutter mount, \$45. Brammer, 266-5158.

STEREO, MCS 100-watt, dual-cassette, graphic equalizer, w/Technics single CD player, \$250, oak entertainment center for TV and stereo, \$100. Purvis, 867-5150.

SOLID-PINE END TABLE, approximately 18"H x 29"W x 19-1/2"D, \$50 OBO. Whitehead, 292-1604.

LEATHER CHAIRS, two Barcelona-style, black, chrome frames, \$200 for both or \$125 each. Stephens, 766-6674.

STUDENT VIOLIN, Pfretzschner, 3/4-size, bow, shoulder rest, hard case, Robertson's appraisal, \$400, will sell for \$300. Burns, 281-3922.

DINING ROOM SET, square solid-oak table, w/four chairs, contemporary style, honey-oak finish, \$175. Kelly, 271-9589.

INTERIOR DOORS, hollowcore, 30-in., w/frame and hardware, (4 total), \$10 ea.; TV antenna, outdoor roof model, free to good home. Schauer, 255-4253.

WOODEN ROCKING HORSE, like new, great for Christmas, paid \$75, asking \$30. Filter, 823-1232.

AT&T 6300+ COMPUTER, 80286, 3MB RAM, 80MB external disk, Centronix keyboard, color monitor, 5.25-in. 1.2MB floppy, best offer. Cabe, 857-0639.

COMPUTER WORK CENTER, includes desk, hutch, adjustable shelves, printer stand w/corner adapter, \$50. Ottinger, 275-2348.

QUEEN-SIZE WATERBED, bookcase headboard, padded rails, heater, standard mattress, inner liner, \$50 OBO. Brock, 296-7307, leave message.

SKI BOOTS, man's size 10, Lange ZS, excellent condition, \$75. Wong, 856-1050.

WOOD SHAPER, w/base and casters, never used, \$295; Precor rowing machine, new condition, \$159. Beckett, 884-5237.

JOHNSON 23-CHANNEL CB RADIO, for automobile w/base station, never used, cost \$500 new, \$100 OBO. Mozley, 884-3453.

DINING TABLE, 58" x 38" and 18" extension, insulated pad, 4 padded chairs, \$125; steel car ramps, \$9. Reed, 268-7484.

UPRIGHT VACUUM CLEANER, Electrolux, good for college student, no attachments, \$45 OBO. Moreno, 294-4268.

STEEL RALLY WHEELS, Mitsubishi Montero, w/center hubs, \$100/set; front bumper for '86-'90 Isuzu Trooper, perfect, \$50. Goodson, 265-2080.

RUGER P85 9mm PISTOL, w/3 clips and soft case, \$400 firm; baby jogger, good condition, used very little, \$225 firm. Potter, 869-4716.

TZ-75 PISTOL, 2 barrels, calibers 9mm and .41, long slide, ported, 4 mags, ammo, perfect in box, \$550. Roth, 344-7060.

FREE MICROWAVE OVEN, doesn't heat, might be repairable, Amana, large size. Lagasse, 298-0977.

QUEEN-SIZE WATERBED, no headboard, good condition, \$50 OBO. Gurule, 873-9150.

BASSETT OVERSTUFFED SOFA, 7-1/2-ft., black velour w/rust accents, 1 year old, excellent condition, \$500. Hendrick, 294-5983.

PASTA MACHINE, Simac 700, automatic, imported from Italy, new \$280, used only twice, wooden drying rack included, \$125. Ross, 299-3023.

BUNK BEDS, heavy pine wood, twin-size, one bunk board mattress included, \$120. Andersen, 294-8624.

BUNK BED, white metal, twin over-full, mattresses, \$275; futon bed, w/mattress, \$200. Both used 9 months. Ortiz, 766-5676.

**Deadline: Friday noon before week of publication unless changed by holiday. Mail to Dept. 12622, MS 0413, or fax to 844-0645.**

### Ad Rules

1. Limit 20 words, including last name and home phone (the *Lab News* will edit longer ads).
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.

WESTERN-STYLE COUCH, 6-ft., oak & deerhide, good condition, \$250 OBO. Peace, 291-8422.

SEWING MACHINE, Singer Lockstitch, for children aged 7+, never used, in original box, w/carrying case, \$40. Wagner, 823-9323.

TABLE SAW, Craftsman, 10-in., casters, dust collector, blades, new \$520, excellent condition, \$275 OBO. Dreike, 299-6670.

HANDGUNS: Walter PP .380, 2 mags, \$450; CZ-50 .32 auto, \$400; Hungarian Makarov, 2 mags, ammo, holster, \$200. Mann, 343-0524.

ATARI MODEM, 1200-baud, \$5. Compton, 899-0679.

HANGING LIGHT FIXTURE, black, 6 tall translucent globes, \$25. Hunter, 294-2877.

LEATHER CHAIR, \$175; Tyke Hike red canvas rocker, \$15; chest, \$125; teak twin bookcase headboard, \$75. Cashwell, 856-1968.

FREE LAVA ROCK, different sizes; free wooden fence. Ewen, 836-3563.

SPANISH TAPES, State Department course, 30 units, \$35. Lorence, 275-3586.

SKI WEAR, woman's size 4/6, White Stag, bibs, jacket, sweater, hat, gloves, muffler, pink/navy, worn twice, \$100. Seyfer, 292-0179.

OAK ROLLTOP DESK, S-top, brass trim, cubby holes, 2 file doors, 1920s, \$950 OBO. Dybwad, 296-9047.

AT&T PC-6300 COMPUTER, w/memory upgrade, includes monitor, keyboard, mouse, manuals, software, and Epson dot-matrix printer, \$200. Falacy, 898-9333.

WASHER & GAS DRYER, Sears Kenmore, heavy-duty, \$500/both. Hindi, 296-6510.

DISHWASHER, undercounter, gold color, Sears, good condition, \$75 OBO. Conrad, 299-3516.

WALL FURNACE, natural gas, w/fan; bookcase, 6' x 2'; white curtains, w/rods, inner & outer, 5' x 4', 4' x 4'. Van Deusen, 291-8196.

PERFECT SPA, 6'7" x 6'7", seats 4-5, 6 mos. of chemicals, Southwest tiled/redwood base, 220-volt, extras, \$4,700. Falconi, 856-8720.

SOLOFLEX, w/leg & butterfly attachments; Sony sound camera & projector. Make offer. Bradley, 836-6650.

STAR NX-1000 PRINTER, w/extras, \$60; space heater, 1320w/1650w, \$15; grinder/sander, 7"/10a, \$50. Abbot, 298-2039.

SKI PACKAGE, woman's Raichle boots, size 7, Atomic ARC skis 175, Saloman bindings, used once, \$200 OBO. Gauna, 828-2048.

GARAGE SALE: furniture, miscellaneous household items, etc., Dec. 2-3, 8 a.m.-4 p.m., 14324 Bauer Rd. NE. Elson, 298-4216.

DINING ROOM TABLE, w/4 chairs, \$400; matching washer/dryer, \$300; refrigerator, 23-cu.-ft., \$575; 2 cat climbers, \$40. Salazar, 281-0560.

HARLEY-DAVIDSON BOOTS, size 6-1/2. Roybal, 255-2909.

CEILING FAN, never unboxed or used. Olecksiew, 898-6472.

RUGER M77, .257 Roberts, excellent condition, w/Burris scope & sling, \$400 firm; new SKS, \$250. Buttz, 822-1448.

OAK CANOPY CRIB, mattress, bedding, \$300; 3-ft. circular activity toy, \$15; baby carriers, \$5; antique sewing machine, \$60. Gilkey, 294-4790.

COMPUTER PRINTER, Panasonic KX-P1191, dot-matrix, cable, manual, box of paper, free of troubles, \$85. Shunny, 265-1620.

SUPER-SINGLE WATERBED, w/heater, liner, mattress, and 3-drawer pedestal, best offer. Nicolary, 296-6408.

NORDICTRACK PRO, electronics package, brand new, \$550; rower & stair stepper, heavy-duty, excellent condition, \$75/ea. Garcia, 298-3815.

HOLLOWCORE DOOR, 30-in., \$20; sliding glass door, \$20; insulating drape for patio door, one-way pull, \$10. Schuster, 299-1072.

## TRANSPORTATION

'90 FISHER BASSBOAT, 14-ft., 25-hp Mercury engine, fishfinder, livewell, trolling motor, trailer, \$3,000 OBO. Martin, 866-5772.

'86 FORD AEROSTAR, V6, blue/gray, cassette, clean inside and out, front and rear air conditioner/heater, \$3,200. Craner, 856-6403.

'84 JETTA, 5-sp., AC, 87K miles, gray, clean & reliable, \$1,900 OBO. Parrott, 255-3614.

'69 MG MIDGET, 58K miles, new top, wire wheels, runs well, \$2,500. Coalson, 298-0061.

'77 MERCURY MONARCH, looks good and runs well, new tires, \$900 OBO. Solberg, 884-8413.

'79 MERCEDES, 300 SD, original motor totally rebuilt, clean, excellent condition, new tires, cream w/buckskin interior, \$5,250. Salazar, 281-0560.

'92 GMC 4x4, dually, extended cab, new tires, camper shell, bed liner, \$22,500. Barbour, 254-0562 after 5 p.m.

'71 MERCEDES 280S, 4-dr. AT, AC, PS, PB, perfectly maintained and restored, fully documented, always garaged, must see, \$9,500 OBO. Richards, 296-2272.

'80 KAWASAKI 100 ENDURO, 1,500 original miles, must see, great Christmas gift, \$550, might trade. Roeschke, 266-8988.

'85 LINCOLN CONTINENTAL, Mark VII LSC, 111K miles, \$3,250; '90 Bronco XLT, full-size, 4x4, excellent shape, 80K miles, \$10,250. Hallman, 899-2336.

'85 CHRYSLER FIFTH AVENUE, 58K miles, plush, loaded, one owner, like new, V8 engine, 4-dr., real nice. Sanchez, 898-9598.

'68 FIREBIRD SPRINT, original owner, 93K miles, recent paint, upholstery, brakes, no damage, garaged, \$4,400. Bailery, 292-2051.

GIRL'S BICYCLE, Diamondback, nearly new, \$65. Turner, 823-9506.

WOMAN'S BICYCLE, Sears Free Spirit, good condition, \$25. Lewis, 291-8181.

BICYCLES: boy's 20-in. Redline, \$65; man's Huffy Crosswind, 26-in., 12-sp., \$65. Both in excellent condition. Richard, 293-4017.

'73 BUICK RIVIERA, Albuquerque car, 65K miles, all power, \$3,200. Peace, 291-8422.

BOY'S BIKE, 19-in., red, very good condition, \$40. Hunter, 294-2877.

'86 PORSCHE 944, 70K miles, excellent shape, \$8,200. Hindi, 296-6510.

'85 PONTIAC 6000, excellent condition, great gas mileage, 85K miles, \$2,250. Whitham, 266-9313.

DIAMONDBACK FREESTYLE BIKE, w/rotor & pegs, 20-in. 5-spoke wheels, hand brakes, \$75. Van Deusen, 291-8196.

'63 VW BUG, white, 4-sp., radio, heater, sunroof, \$810. Elson, 298-4216.

'55 BLUESTAR ALUMINUM BOAT; '88 Mercury 20-hp motor, less than 20 hours use, new impeller & seals, winterized, \$1,750. Will separate. Grenfell, 344-9355.

'71 & '79 FIAT CONVERTIBLES, and a parts car, great car. Roybal, 255-2909.

'85 PONTIAC TRANS AM, HO V8, 5-sp., new KYB struts, AC, stereo cassette player, excellent condition, \$4,195. Cook, 296-3064.

## REAL ESTATE

VACANT LOT, on Dover Court in Paradise Heights subdivision, located northwest of St. Joseph West Mesa Hospital. Brown, 865-1151.

3-BDR. HOME, bright, open floor plan, remodeled kitchen, new roof, near elementary school & park, Wyoming/Harper, \$130,000. Leland, 828-1075.

## WANTED

ACCORDION DOOR, 35.5" x 80", complete w/hardware, color is unimportant, price is important, need reasonably priced. Baker, 888-9650.

CARPOOL, want to join or start, from Peralta/Valencia to Area 1. Greenwood, 869-0153.

IRON WEIGHTLIFTING DUMBBELLS, individual or set, price negotiable. Schafer, 292-4712.

BICYCLE RACK that will attach to the front of a Ford Explorer. Thompson, 298-7847.

PLACITAS LAND for building retirement home, 2-5 acres. Shephard, 298-4879.

VITAMIX JUICER that blends entire fruit or veggie into juice. Jones, 856-0053.

ANTIQUY BOTTLES, also conversation w/person who bought bottles advertised in Oct. 14 *Lab News*. James, 268-6403, ask for Lynn.

DAY-CARE PROVIDER, needed for 3-month-old infant, 7:30 a.m.-5:30 p.m., Mon.-Fri., nonsmoker, La Cueva area. Renken, 856-5849.

TWO QUARTER PANELS for '67 or '68 Ford Mustang, needed to restore car. Moreno, 294-4268.

VCRS MODULE for satellite receiver, latest version. Burns, 281-3922.

HOUSEMATE, female or male, 3-bdr. house, separate baths, 2-car garage, plenty of storage, fireplace, large backyard, \$250/mo., 1/2 utilities. Ewen, 836-3563.

USED ALTO SAXOPHONE, for first-year student, reasonably priced; used gymnastics mat & balance beam, good condition. Beckmann, 296-1829.

PET BARRIER for behind third seat of Voyager minivan. James, 344-7854.

## LOST & FOUND

LOST: prescription sunglasses, brown frame, in soft black "REI" case, lost between Bldg. 890 and water tower lot. Lierz, 293-2886.



This newspaper can be recycled with Sandia office paper

## Sandia News Briefs

### Sandia biomedical initiative to be discussed at Dec. 12 program

Biomedical Program Director Sam Varnado (9400) is hosting a Biomedical Day on Monday, Dec. 12, in the Technology Transfer Center (Bldg. 825), 8 a.m.-noon. Corporate strategy for Sandia's biomedical initiative and information about related activities at Sandia will be discussed. Dr. Steve Dawson from Massachusetts General Hospital will be the keynote speaker. He will talk about surgical rooms of the future and about minimally invasive diagnostics and surgery. Several of the program's eight thrust area managers will present their strategies for the future and talk about projects in their respective areas. Several will be highlighted to show projects in different activity phases and successful industry partnerships. Technology Transfer representatives will talk about services they provide. All interested Sandians are invited to attend. Call Toni Leon Kovarik (4211) on 271-4254 for information.

### Plasma technology directory to be published

A directory of plasma technology and practitioners within the 10 DOE national laboratories is being compiled. Anyone wanting to be included in this directory should send pertinent information to Pamela Ward, Mail Stop 0367, Sandia National Laboratories, PO Box 5800, Albuquerque, NM 87185-0367. Include your name, phone and fax numbers, organization and room address, e-mail address, plasma areas of expertise (e.g., microwave plasma, modeling, etching, deposition), and available equipment, including diagnostic capabilities. Individuals at other DOE labs who would like to be the contact for collecting this information should contact Pam on 505/844-2038 or PPWard@Sandia.gov. electronically. The directory will be issued in February. It will be a reference and resource for networking and problem-solving to those in the national labs, as well as for potential commercial customers wishing to participate in technology transfer opportunities. The directory will be revised periodically. Free subscriptions will be available to those listed in the directory. Anyone else interested in receiving a directory should contact Pam.

## Knowing needs sometimes not enough

### Medical Corner

By Arlene Price

Health Promotion and Employee Assistance Dept. 3335

We all develop habits we wish we could change. Sometimes we promise ourselves we will make a change and actually make it, but later slip back into old ways.

For example, you may promise yourself you will lose five pounds in a month, or quit smoking, or start a new exercise program. When you don't accomplish your goal, you may feel you have failed and attribute your failure to a lack of will power. Typically you give up trying to accomplish your goal. How you judge yourself when you slip back into old patterns is crucial.

Two words used to describe slipping back into old patterns are "relapse" or "lapse." "Relapse" has been defined as "the act or instance of backsliding, worsening, or subsiding." A better description for "relapse" is that it is a process involving decisions you make and actions you take over a period of time.

The word "lapse" refers to a single occurrence such as a single mistake, an error, or slip. A good example is the professional skater who loses balance and falls on the ice. Whether the skater gets up and continues to perform depends largely on whether he/she views the fall as a slip or an all-out failure.

How you interpret the event or what you

believe about yourself in a situation has been found to determine whether you will renew your efforts toward achieving your goal. If you have an "all or nothing" view of the world — that is, "I'm either a saint or a sinner; a success or failure" — and the belief that one mistake is just one step away from failure, the tendency is to give up and say, "I can't do it."

By recognizing that mistakes are bound to happen while you are learning, you are able to continue toward your goal. In fact, you can learn from your mistakes and become even more effective the next time.

It doesn't matter whether it is a lapse or a relapse. Improving over time is a process as you learn new skills. The important thing to remember is that you are capable and that you can do it just as well as the next person.

### How to keep the gains you make; program Wed., Dec. 7

Medical's Health Promotion and Employee Assistance Department is hosting a program on how to maintain the gains you make in acquiring a new skill (weight loss, quitting smoking) — "When Knowing What's Good for You Isn't Enough." The guest speaker is Albuquerque psychologist Celia Michael. The program will be presented at the Technology Transfer Center (Bldg. 825), noon-1 p.m., on Wednesday, Dec. 7.

For further information, please contact Arlene Price on 845-8729.

## Coronado Club

Dec. 2 (tonight) — Friday night dinner/dance. Dinner served 6-9 p.m. All-you-can-eat buffet, baked ham, baron of beef, roast turkey breast, poached fish, Chef's choice, \$6.95 members, \$7.95 guests. Music by the Isleta Poorboys, 7-11 p.m.

Dec. 3 (Saturday) — Children's Christmas Party, with Santa Claus, 9 a.m.-12 noon. Pancake and waffle breakfast, 99 cents for either. Milk or juice a la carte, coffee free to parents.

Dec. 4 — Sunday brunch buffet, 10 a.m.-2 p.m. Tea dance, 1-4 p.m., music by Best Shot.

Dec. 8 and 22 — Bingo nights. Card sales and buffet, 5:30 p.m. Early birds' bingo begins at 6:45 p.m.

Dec. 16 — Coronado Club Christmas Party. Dinner served 6-9 p.m. All-you-can-eat buffet, baked ham, baron of beef, roast turkey breast, poached fish, Chef's choice, \$6.95 members, \$7.95 guests. Music by Together Band, 7-11 p.m.

Dec. 18 — Sunday brunch buffet, 10 a.m.-2 p.m. Tea dance, 1-4 p.m., music by Los Gatos

Dec. 31 — Western New Year's Eve, with the Isleta Poorboys. Doors open at 6 p.m. with a cocktail hour. Dinner served 7-9 p.m. Surf 'n' turf buffet with prime rib and golden fried shrimp, salad bar, green chile stew. Music from 8 p.m. to 12:30 a.m. Bottle of champagne at midnight. \$25 for member couples and \$30 for guest couples. Prepaid reservations only, through Dec. 23.

## ★ Congratulations

To Martha (7300) and Joe (1841) Cesarano, a daughter, Anna Marie, Sept. 24.

To Erin and George (6514) Longmire, a daughter, Leala Shannon, Oct. 28.

To Marguerite Kaminski and Bill Ling (4113), twins, daughter Cherstin Montana Ling, son Chance Edwin Ling, Nov. 2.

To Lorraine and Julian (9432) Trujillo, a son, Joseph Daniel, Nov. 4.



AMERICAN INDIAN HERITAGE MONTH — Perry Horse (left) discusses his experiences as president of the Institute of American Indian Arts with Susan Kato (3020) and Dean Pershall (9216). Perry, a former Sandian, was the guest speaker at the American Indian Heritage Month annual luncheon on Nov. 17.