

# Historic collaboration pursues breakthroughs for 21st-century microchip fabrication

**Sandia joins LLNL, LBNL, Intel, Motorola, and AMD in multimillion-dollar lithography partnership**

By Nancy Garcia

For the three participating national labs, announcing an extreme ultraviolet lithography partnership was a celebration of doing what might once have seemed impossible: working together in a seamless fashion as a single entity to solve a major problem with leaders of a major industry.

For our microelectronics partners, it signaled a commitment to ramp up development of promising research that may lead to another three decades of ever-improving, ever-cheaper computer chips.

The commitment — \$250 million in industry spending over three years — will bring \$130 million to Sandia, Lawrence Livermore, and Lawrence Berkeley national labs. An industrial consortium led by Intel Corp., Motorola Corp., and Advanced Micro Devices Inc. will spend an additional \$120 million on materials, equipment, and personnel.

"The strongest possible endorsement of the capabilities of the Department of Energy's national laboratories is that industry is relying on

them to make breakthroughs," said Secretary of Energy Federico Peña at the Sept. 11 news conference announcing the partnership at the Tech Museum of Innovation in San Jose. "Their science and their work is the best in the world."

## A major change for Sandia

The labs will interface with the consortium as a single entity, a Virtual National Lab, bringing to bear multiple areas of technical expertise to create faster and more powerful microchips.

"This historic agreement is a major change for Sandia, which Lawrence Livermore Associate

Director for Lasers Mike Campbell and I are committed to making work," said California Laboratory VP Tom Hunter (8000).

The breakthroughs include Sandia's novel source of extreme ultraviolet light to expose patterns on silicon wafers. Rather than use an expensive and bulky synchrotron to fabricate chips, Sandian Glenn Kubiak (8250) invented a way to turn a supersonic jet of xenon gas into a hot plasma that glows with extreme ultraviolet light.

Intel co-founder and chairman emeritus Gordon Moore calls the invention "truly unusual" (Continued on page 3)

# Sandia LabNews

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## Get information about benefits changes, new vendors at Sept. 29 Benefits Vendor Fair

By Bill Murphy

A smooth, seamless passing of the baton: That's what folks in Sandia's Health and Work/Family Benefits Dept. 3343 are working for when the Labs makes the transition on Jan. 1 to new vendors to administer the Triple Option Plan, including the Prescription Drug Program, and Vision Care Plan.

To help in that transition, New Mexico-area employees and retirees can get complete information about a wide range of benefits and meet with vendor representatives during a Benefits Vendor Fair Monday, Sept. 29. It will be at the Coronado Club 8 a.m. to 4:30 p.m. (For details about the California-site vendor fair, see "California-site vendor fair set for Oct. 15" on page 6.) In addition to vendor representatives, the fair will feature information about child care, elder care, alternative transportation choices, and blood drives.

### New vendors coming on board

The Triple Option Plan (TOP), one of the primary medical benefit options offered by Sandia (the other is Lovelace in New Mexico and Kaiser in Livermore), will be administered by the Mutual of Omaha Companies. Mutual, which maintained an excellent track record as a former administrator of Sandia's pre-TOP

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## Congressional Expo in D.C. Sept. 30 to highlight future of intelligent machines

By Chris Miller

The potential of intelligent machines, not only as people helpers but as the product of a whole new multibillion-dollar industry, will be the focus of a daylong expo on Capitol Hill Sept. 30. Sponsored jointly by Sandia, DOE, and the Robotics and Intelligent Machines Cooperative Council (RIMCC), the Congressional Expo on Intelligent Machines is expected to attract the attention of Congress, industry, and Washington-area media.

"This is a very important event for Sandia because it represents the country's recognition of Sandia's leadership in the area of robotics and intelligent machines," says Pat Eicker, Director of Intelligent Systems and Robotics Center 9600. "No one bestowed this leadership position upon us; we got it through a lot of hard work."

The Manufacturing Task Forces of the US House and Senate requested the Expo for informing Congress about the intelligent-machines industry and its

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**BETTER ETCHING** — Pam Ward examines a glowing plasma created by an electric field passing through a nitrogen-oxygen gas. Video and electronic monitors (not shown) arranged and programmed by Pam, Michael Smith, and Joel Stevenson (all 1812) will save industry millions by ensuring peak plasma performance during microchip etching. A license-signing ceremony at Sandia on Sept. 18 created Peak Sensor Systems, a new Albuquerque company that will commercialize the technology. See story on page 2.

(Photo by Randy Montoya)

Southern black church leaders request Labs' security help

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Texas state lottery shows Labs employee the money — lots of it

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New processes, technology to streamline job movement

# This & That

John Shunny will be missed - Retired *Lab News* Editor John Shunny didn't survive the massive stroke he suffered Sept. 4. John, 72, never emerged from the coma he entered after a cerebral hemorrhage struck him while he was en route to Tucson with his wife Paige, and he died Sept. 11. A memorial service was held for him last Friday in Albuquerque. Because John retired 15 years ago, most employees today didn't know him, but he had many Sandia employee and retiree friends, and he set a direction for the *Lab News* when he became editor back in 1968 that is still being followed to a large extent today.

When John became editor, social activities, community events, human-interest stories, and other light fare dominated the *Lab News*. Although John knew it was important to cover these items, he worked to persuade Sandia management that the paper should have some real meat in it - discussing our interesting technical projects and workplace issues that employees are truly concerned about. Gradually he was successful, and the tone of the paper changed to reflect his thinking.

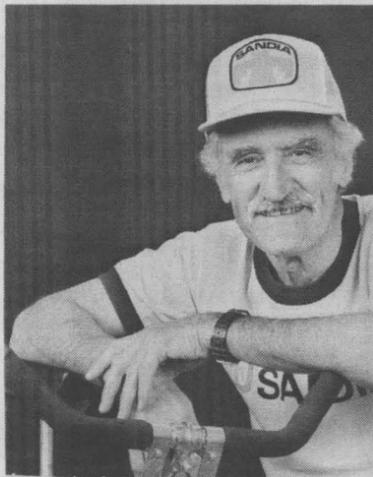
In the early 1970s John also started the first Sandia editor's column, which he called "Afterthoughts," poking a few sacred cows he thought needed poking, offering some serious food for thought, and exercising his well-developed sense of humor. It paved the way for Bruce Hawkinson's (12640) similar "Antojitos" column that ran from 1982 to 1989 and for "This and That," which I've written since 1989. It's largely because John dared to begin speaking his mind in print years ago that we have considerable editorial freedom in the *Lab News* today. Company communicators who enjoy such freedom are rare even now. As John himself put it, "Reading the typical company newspaper is like going down in warm syrup for the third time."

John was only 57 years old when he retired from Sandia in 1982, and he may have been Sandia's busiest retiree. He was active in many outdoor activities. For years he organized and helped run annual nine-day-or-so Colorado River rafting trips through the Grand Canyon, enjoyed by dozens of Sandians and their family members. He was an avid skier, teaching classes and participating in the Sandia Peak Ski Patrol.

I'll remember John for many reasons, but mostly because he was one of the most caring people I've ever known, helping organize and operate charity drives benefiting underprivileged families and children and abandoned/mistreated animals. Ever since John retired, *Lab News* staffers looked forward to his usual Tuesday visits when he came to our office to restock the Sandia souvenir items (hats, mugs, T-shirts, etc.) that our office and several others sell for the "South 14 Project." All profits benefit charitable causes, primarily poor folks living in several rural villages south of Tijeras, N.M., near Highway 14. John was one of the Sandians who started this project in 1967, and it was obviously one of his passions. He kept it going ever since, contributing thousands of hours toward it over the years.

All of us here will miss John Shunny a great deal. The world will miss John Shunny. His kind is not easily replaced. Memorial contributions may be made to the Animal Humane Association or a charity of your choice.

- Larry Perrine (845-8511, MS 0167, [lgperri@sandia.gov](mailto:lgperri@sandia.gov))



JOHN SHUNNY, 1925-1997

## Sandia business initiative helps spawn new Albuquerque company, Peak Sensor Systems

A license-signing ceremony to create Peak Sensor Systems, a new Albuquerque company that potentially will employ 40 people within a year, was held Sept. 18 at Sandia's Microelectronics Development Laboratory.

Peak Sensor Systems will begin operations in mid-October on Renard SE near the Albuquerque International Sunport. The company will produce a sophisticated computer program that works with a camera and peripheral equipment to help microchip fabrication companies better monitor the etching process and sharply reduce the number of errors.

The technique (*Lab News*, Aug. 29) was developed by Sandia researchers Pam Ward (1812), Joel Stevenson, and Michael Smith (both 1812), all of whom will take two-year entrepreneurial leaves-of-absence to produce and market the product.

"We hope to have a product on the market by July 1998," says Pam. "There were many people involved in the formation of this new company and we have high expectations for success."

### Strong potential for growth

Although the company will begin with seven people, Pam says the business should expand rapidly and employ 30 to 40 production and marketing people within a year, with a continuing strong potential for growth after that.

This latest example of technology transfer was aided by one of Sandia's newest efforts at creating partnerships with the private sector - the Business Recruitment Initiative. Created this year, the initiative is meant to initiate and coordinate corporate-wide efforts to bring key, targeted people near Sandia to create and enhance strategic partnerships.

The program works hand in hand with long-term efforts to create a research park near Sandia occupied by high-tech companies that can benefit from Sandia's proximity.

"We want to use the initiative to marshal the resources and advice necessary to enable the creation of spin-off companies using Sandia technology," says Cesar Lombana of Technology Partnerships and Commercialization Center 4200.

"We are looking for new partnerships with new customers - new high-tech companies that will have a physical presence in the Albuquerque area."

The signing ceremony included Mike McIntosh of Technology Management Advisors, LLC in Denver (which is providing initial funding for Peak Sensor Systems), and Jeff Bullington of AMMPEC (Advanced Materials Manufacturing Processes for Economic Competitiveness) in Albuquerque, which helped structure the licensing agreement.

- Chris Miller

## Sandia LabNews

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Ken Frazier, Editor .....505/844-6210  
Barry Schrader, California site contact .....510/294-2447  
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## Science News editor Ivars Peterson headlines Sandia/IEEE high-integrity software conference

Ivars Peterson, noted author and mathematics and physics editor of *Science News* magazine, will deliver the keynote address at the High Integrity Software Conference in Albuquerque Oct. 15-16, sponsored by Sandia, the Institute of Electrical & Electronics Engineers (IEEE), and the IEEE Computer Society.

Peterson's topic, "Averting a State of Perpetual Glitch," will address themes related to safety, security, control, reliability, and robustness of software and its development. It will be presented at 9 a.m. Wednesday, Oct. 15, following a welcome address by Heinz Schmitt, Sandia VP of Weapons Systems Div. 2000. The two-day conference is being held at the Doubletree Hotel in downtown Albuquerque.

Featured sessions address methods to aid human comprehension of complex systems, formal methods for software creation, software engineering processes, and software systems engineering. Presenters include faculty members from the

University of Houston, University of New Mexico, University of Minnesota, New Mexico State University, West Virginia University, and Vanderbilt University. Federal agency participants include Sandia, the National Institute of Standards and Technology, the Department of Defense, and NASA Ames Research Center. Industry presentations include representatives from Semantic Designs and the Software Engineering Institute.

The conference concludes with a panel discussion, "Strategic Directions: The Near- and Long-term View." The panel discussion is motivated by the ever-increasing use of software in high-consequence operations. Its goal is to seek a local consensus identifying the most pressing software engineering issues to receive near- and long-term attention.

For more information about the High Integrity Software Conference, visit the conference Web site at <http://www.sandia.gov/events/his97> or contact Lorraine Baca (2615) at 845-9721.

# Microchips

(Continued from page 1)

[but] a lot to learn." Advanced light source development will be one of Sandia's responsibilities.

In the lithography system, a mask pattern replicating a circuit is projected and reduced. EUV lithography (EUVL) uses reflective optics consisting of the most precise mirrors ever created, coated with multilayers of molybdenum and silicon, whose final roughness is controlled within the width of a few atoms. The mirrors' reflectivity is about 70 percent, requiring a very sensitive resist (that records the image on the wafer) to permit short exposure times and efficient factory throughput.

Sandia leads responsibility for developing new resists in organization 1800. Responsibility for making mask blanks resides at LLNL, where research will also be led on coatings and optics.

## Sixty Sandians participating

Sandia is also leading the project's systems engineering. The lithography tool incorporates a frictionless, magnetically levitated stage, modified by Sandia, for precision alignment between exposures. Design cycles will be shortened by using Sandia's powerful design, analysis, and visualization tools available over a secure intranet.

These tools were originally developed to facilitate Sandia's mission to maintain the nuclear stockpile. The Labs' EUVL effort involves up to 60 staff members in

organizations 8000, 2000, and 1800, with some optics development in 1300, says EUVL program manager Rick Stulen (8250).

An equal number are participating at LLNL. There, VNL technical director Rick Freeman (who began collaborating with Sandia nearly a decade ago while working for AT&T) administers the funding. Research funding will be split so that Sandia and LLNL receive about 45 percent each, said Sandia Executive VP John Crawford. With about 10 percent of the VNL budget, Lawrence Berkeley National Laboratory will use its Advanced Light Source synchrotron to measure how the optics perform with the invisible wavelengths of light used for the lithography exposures.

This largest investment ever by private industry in DOE technology helps keep DOE research at the cutting edge, Rick said.

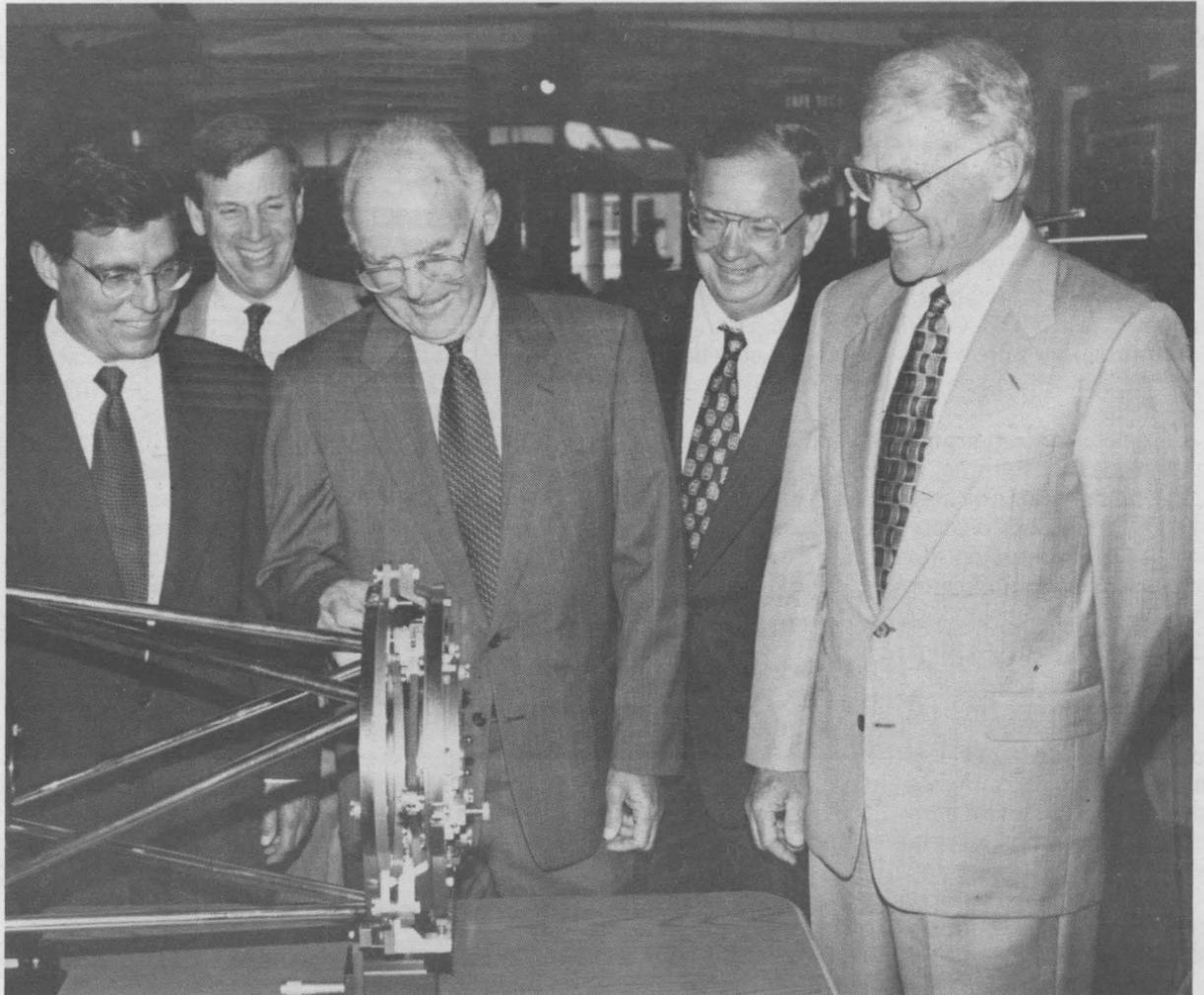
Growing from early, risky, and modest expenditures (see "Work goes back to 1984" on next page), the program has prospered for several reasons, Rick Stulen said.

## California location key

"A key aspect is geography," he said. "This would not have happened, I believe, if there was not a California site. It comes down to face-to-face interactions, coupled with our proximity to Silicon Valley." Intel headquarters are close, and the industrial consortium currently occupies office space at Sandia.

Also, the fortunes of the microelectronics industry are technologically driven, Intel's Moore pointed out. "In many ways, we're unique," he

*"It comes down to face-to-face interactions, coupled with our proximity to Silicon Valley."*



**HISTORY MAKERS** — Secretary of Energy Federico Peña, Lawrence Livermore National Laboratory Director Bruce Tarter, Intel co-founder Gordon Moore, Lawrence Berkeley National Laboratory Director Charles Shank, and Sandia Executive VP John Crawford view an advanced lithography projection system designed under an earlier cooperative research and development agreement by Rod Nissen and engineered by Dan Tichenor (both 8250). The hardware was on display at the news event in San Jose announcing the new multipartner agreement in extreme ultraviolet lithography, the largest investment ever by private industry in DOE technology.

# Sandia California News

said. "Since our inception the cost of our products have dropped as they have improved. The cost of a transistor has decreased something like 10 million fold. No other industry has done this over this short a time." However, he added, "We're running out of tricks."

Fundamental physics limits how much power can be packed onto a chip, which Moore calls a "micro acre" of silicon, adding value to this real estate. "When you get smaller, everything gets better simultaneously," he said; speed, reliability, and efficiency improve while unit costs drop.

Line widths have been shrinking to 0.25 micron in Intel's latest mobile Pentium processors with MMX technology. The industry has wrested perhaps four more generations of micro-circuit miniaturization from optical lithography than once thought possible.

## In production by 2002?

Imminently, Moore said, "we have to move to some other technologies using shorter wavelengths. Standard optics don't work." To stay on its current curve, Moore said Intel would need to

put advanced lithography into production by about 2002.

Although no clear contender has arisen for this future chip production standard, EUVL is attractive as an extension of optical lithography that could be conveniently phased into fabrication lines by replacing perhaps 10 to 15 percent of exposure bays at a time in phases, said Intel's Sandy Wilson, who is director of business programs for the consortium. Intel, which makes more than 80 percent of the world's microchips, has 10 fabrication plants (including one in Rio Rancho, just west of Albuquerque), and six more under construction.

"EUV allows us to retain the same paradigm of a factory that we've been used to working in for the last three decades," he said. Phasing in EUV would allow it to be used for the five or six critical layers of a 30-layer chip.

John Carruthers, Intel's director of component research (who served on a DOE Basic Energy Sciences materials panel for the labs), is credited with championing further development of the EUV accomplishments made jointly by the labs in recent years.

At a celebration acknowledging the rapid preparation of program offices for the consortium (which is known as the EUV Limited Liability Co., or EUV LLC) he said, "Without this patterning technique called EUVL, the whole semiconductor industry would really grind to a halt in about six or seven years. There really are no viable alternatives. This is really going to be the technology of choice."

## Move entire industry forward

"This whole technology is enabling. This will move the whole semiconductor industry world wide, starting in about 2002 to 2003, and will carry us into about 2030 or 2035. We expect to get about 30 years of production out

(Continued on next page)

## A world standard to ensure US global competitiveness

The new CRADA aims to create an engineering test stand to be used by semiconductor equipment manufacturers to develop engineering systems under contract with consortium companies. To participate, semiconductor equipment manufacturers must substantially manufacture their systems in the US. (A full 75 percent of these suppliers are currently outside the US, 70 percent of those in Japan.) Consortium members have the right of first refusal for these systems, which could then be offered to other customers.

All major US semiconductor manufacturers have been invited to join the consortium, and more members are expected. The consortium will gather royalties from the equipment suppliers to reimburse members' investment. The intent is to ensure US competitiveness and allow EUVL to become a world standard in a global industry. The DOE labs will retain rights to intellectual property outside the field of use of EUV lithography. Mass production with EUV is projected to begin in 2004, with the first products in 2007.

## Microchips

(Continued from preceding page)

of this."

Added Rick Stulen, "It's targeting a very clear and crucial need for the microelectronics industry. Our experience in state-of-the-art engineering clearly impressed the company. One spinback is maintaining our staff at the leading edge of engineering analysis. Our product-realization environment (a suite of software tools) now has its first hard deliverable deadlines for real product outside."

The consortium is guiding parallel research, such as mask patterning, inspection, and repair, said Chuck Gwyn, the consortium general manager (who worked 26 years in microelectronics at Sandia). This approach should halve development time of prototype production tools to 3½ years.

### Until the end of silicon

Over the near term, after the current CRADA ends in March 2000, Rick Stulen said the labs might continue to develop the system for at least another three years. Incremental optical improvements should allow EUV lithography to eventually print features less than 0.05 microns wide.

At some point, semiconductors begin behaving oddly as circuits shrink to a very fine scale. But Bill Brinkman, who was Rick Freeman's boss when AT&T worked on EUVL, has said this technology could take semiconductor manufacture until the end of silicon, when some other novel invention will have to supersede.

"That fact that it's an extendable technology was a key attraction for Intel," Rick Stulen said, adding that the investment also retains national labs' expertise. "With the reduction in Defense Programs support, these people would not be here today."

Eventually, he added, the DOE labs will gain faster computers for simulations to ensure the safety and reliability of the stockpile in the absence of nuclear testing.

### DOE funded early, risky stage

"We'll come out of this project with substantially more skill than we have today," John Crawford noted, calling the opportunity to work as a Virtual National Lab "a source of great expectation and pride."

DOE funded the riskiest stage of EUV development. Although it was always expected that

## What notables said about the agreement

"We've proven that we can build these chips at Sandia National Labs. Now we're going to work with the EUV consortium to develop mass production techniques to keep US technology at the forefront of the world's semiconductor industry."

— Secretary of Energy Federico Peña

"I want to congratulate [Secretary of Energy Peña] on the role that three of [his] laboratories are playing in the Virtual National Laboratory . . . I've been a very strong supporter of industrial partnerships involving the national laboratories that leverage scarce federal and private resources for national benefits."

— Sen. Pete Domenici, R-N.M.

"Today's announcement of the public-private

partnership to develop advanced lithography technology is another example of the state's important role in the high-tech industry. We will continue to be on the forefront of new technologies that will ensure that California is a leader well into the 21st century."

— California Gov. Pete Wilson

"This is a huge win . . . As I have been telling my colleagues in Congress, these kinds of public-private partnerships should be an example to the rest of the nation. . . . The American people have made huge investments in our national labs over the years and we can be proud of these new types of commercial applications that will keep America at the forefront of the New Economy."

— Rep. Ellen Tauscher (10th District), D-Calif.

industry would eventually take over development costs, Rick Stulen said, government EUV funding was entirely cut in September 1996 when Congress drastically reduced spending on DOE's Technology Transfer Initiative. He said the project demonstrates potential return on investment from "a good program that was cut back too far."

### Preserving a national treasure

Taxpayers benefit from ensuring continued US industrial leadership, speakers commented at the news conference.

"The semiconductor industry should be a \$300 billion industry at the millennium," said W. Jerry Sanders III, founder and chairman of Advanced Micro Devices. "We pay lots and lots of taxes. And we'll preserve a national treasure."

Added Peña, "This industry is one of the few very positive exporters that helps with our balance of trade. We want to ensure it remains a leader."

"We're investing heavily now to ramp up the learning curve," the consortium's Wilson commented.

"I don't think there are any other show-stoppers that money and effort can't overcome," Walter Bauer added. "All the technical problems have good solutions, and it's the one technology that can lead to the end of silicon. It can extend down to 0.07 microns or beyond."

Crowding several hundred million transistors onto a chip would be possible, Moore said,

enabling memory chips that might conceivably store as much as a terabit. Although he insists he has a poor track record of predicting impacts, he said gains might include helping computers recognize speech in context so they can hold intelligent conversations and translate languages, as well as forgoing the need for a keyboard.

"The partnership is significant for the future of important industries in this country, which employ more than

twice the number of workers than the auto and steel industries combined," Tom said, "and because microelectronics is an enabler of the information age. The entire three-year-program funding represents more than the nation's peak spending in the TTI program [DOE's Technology Transfer Initiative] in one year, which was \$212 million in 1995."

By helping power the information age, Peña said, the labs can further their missions in national security, energy, and environment with applications in micromachining, advanced sensors, precision measurement, and supercomputing.

Recalling that Moore had once urged future microelectronics developers to "think smaller," and congratulating the technical teams for a job well done, Peña added, "I would encourage each of us to 'think small.' It takes thinking small to dream big — that's what we're doing today."

*"It takes thinking small to dream big — that's what we're doing today."*



OVERVIEW — California Laboratory VP Tom Hunter addresses Secretary of Energy Federico Peña (seated in foreground) at Sandia's Integrated Manufacturing Technology Laboratory. Listening are Sandia Executive VP John Crawford (on far side of table at left) and Mike Campbell, Associate Director of Lasers at Lawrence Livermore National Laboratory, right. The session was part of the event announcing the new industry/national labs partnership in extreme ultraviolet lithography.

## Work goes back to 1984

The first laser plasma source was built at Sandia in 1984 under California VP Dick Claassen, who began an unclassified basic materials research program (with funding from the Strategic Defense Initiative) in parallel with Lawrence Livermore's efforts in X-ray laser research. The synchrotron nearby at the Stanford Linear Accelerator Center served as a resource.

AT&T had been conducting its research in this area by using a synchrotron at Brookhaven. Freeman, Rick Stulen, and Walter Bauer (8302) were pulled together by then-Sandia VP Venky Narayanamurti, who had been at Bell Labs. AT&T first demonstrated EUV lithography in 1989. The same year, Sandia and AT&T joined with LLNL and NIST to work on multilayers to reflect EUV light. The following year, Sandia began collaborating with AT&T on EUVL. By 1991, Sandia had produced the first EUV images using the laser plasma light source.

Following negotiations in 1991-1992 (before DOE's Technology Transfer Initiative was formulated), Sandia entered a cooperative research and development agreement with AT&T, spending about \$3 million of its own money (AT&T contributed an equal amount in kind).

## Black church leaders solicit Sandia's help in protecting people and property from arson, vandalism, violence

By John German

Practicality. Affordability. Two things schools and churches ought to consider when they buy a security system intended to protect people and property from arson, vandalism, and other crimes, according to Mary Green (5861).

Mary returned recently from a conference of 600 black ministers and church leaders in South Carolina where she preached the principles of practicality and affordability to an audience concerned about the recent spate of racially motivated burnings and other hate crimes against black churches in eight Southern states since January 1995.

The Congress of National Black Churches' (CNBC) Arson Prevention Task Force invited Mary and colleague Basil Steele (5804) to CNBC's Aug. 5-6 annual conference following some nationwide publicity last spring about Sandia's work helping New Mexico schools design practical security systems.

Although Basil couldn't go, Mary participated in a two-day workshop for South Carolina church leaders focusing on common-sense approaches to facility security.

"The type of security systems we are recommending are not really cutting-edge technology, but they can seem complicated to church leaders," she says. "Typically they end up buying whatever system a vendor recommends, and that's often not the most practical or inexpensive solution."

### Cost and avoidance

"I tried to share some common-sense approaches that will help them make the right decisions and avoid overkill, which most churches don't have the money for," Mary says.

Mary's advice is intended primarily to help church leaders sort through some of the technology-related decisions they encounter in choosing a modern security system — what systems work in what situations, where to put cameras and heat and motion sensors, which entryways to monitor, and (most critical) how much money they need to spend.

"You probably don't need a \$30,000 police-dispatch alarm system for a rural church that would take 30 minutes for the police to get to anyway," she says. "And you don't want to put motion sensors near a bulletin board where children's drawings are posted. Every time there's a draft, the papers blow around and set off the alarm."

And false alarms can annoy local police, who may not respond as quickly the next time your alarm goes off.

The principles Mary advocates not only preserve funds when a church buys a new security system, they also can help avoid expenses associated with vandalism.

Church leaders often aren't thinking about crime when they build a new church or design its grounds, she says. That can result in vandalism that is preventable if they insist that builders "do things smart" from the beginning, she says.

For instance, many churches have large stained glass windows facing the street, which may make a church more attractive to passers-by but, in many neighborhoods, invites vandals to throw rocks or shoot them out. Replacing a big ornamental window can be costly. If stained glass windows are used, she recommends they be positioned away from the street where they are still available for enjoyment by the congregation but are not as easily

damaged by vandals.

Mary also presented some of the principles of "Crime Prevention through Environmental Design" that have arisen from community policing efforts nationwide. Bushes near windows, security cameras vulnerable to theft, and fence lines that encourage graffiti "artists" are examples of common mistakes that can drain church coffers, she says.

### Burnings and bombings

But solving the problems of black churches that have in the past been targets of more serious crimes — arson, violence against a congregation member, even bombing attacks — may require a more resolved approach, Mary says.

"You have to make people's safety a priority," she says. "Again, it's important to plan for the worst, and to work with local law enforcement."

For a church that has been bombed or that receives bomb threats, for instance, it's dangerous to have a nursery or day care near a street or parking lot. When rebuilding following an arson, use flame-retardant building materials, she says.

"And if it's a target once a month, you might look at an aqueous foam system to put out the fire," she says.

She says Sandia's expertise in this area comes from years of serving as the lead lab in protecting DOE facilities and nuclear weapons in the US and abroad.

"We understand the principles of security and we've worked with the equipment," she says. "It seems like common sense, but it's more than that. We know what works, and that is valuable to school and church officials who can't afford to make mistakes."

Although Mary's participation in the workshop was informal, she says CNBC may decide to provide future funding that will allow Sandia to help on a more formal basis.

*"I tried to share some common-sense approaches that will help [church leaders] make the right decisions and avoid overkill, which most churches don't have the money for."*

## White House/NSF award honors Sandian Sandra Begay-Campbell for mentoring efforts

Sandia engineer Sandra Begay-Campbell (4512), chairman of the board of the American Indian Science and Engineering Society (AISES), this month accepted the 1997 Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring.

Sandra and AISES Executive Director Norbert Hill during ceremonies at the White House Executive Office Building accepted the award on behalf of their organization. The award included a commemorative plaque signed by President Bill Clinton and a grant of \$10,000 to advance the group's mentoring efforts.

### Nine groups, 10 individuals honored

AISES was one of nine groups honored in the award's second year. Ten individuals were also recognized for their mentoring efforts. The award, funded and administered through the National Science Foundation, recognizes outstanding work to increase the participation of underrepresented groups in science, math, and engineering through all levels of education.

"I was very honored by the award and I'm proud of my work with AISES," says Sandra. "It will

As the safety of America's school children has become a concern in recent years, Mary and colleagues have consulted teachers and school officials about common-sense security approaches as well.

Mary has visited with school officials in Hobbs, Silver City, and Las Vegas, N.M., and helped design a security regimen for Belen High School that has resulted in fewer acts of on-campus violence and vandalism (*Lab News*, March 14, 1997).

"Schools and churches are in the same boat," she says. "They don't have a lot of money, and they're often easy targets for vandalism and theft."

Dept. 5861 now is compiling a common-sense "how to" set of security manuals for schools, scheduled for distribution next summer. The project is funded by the National Institute of Justice.

"What I hear so often from schools is: 'We've lost a VCR, so we're going to spend \$10,000 on a security system,' she says. "But that doesn't really make sense from a fiscal standpoint."

She encourages teachers and school officials to deface equipment with paint or indelible markers, or to affix microdots (tiny pieces of microfilm that contain information about the owner) to equipment that is easily resaleable. That helps get the equipment returned to the school if a thief is caught.

"The best step schools can take is to make it a lot of work for someone to sell a stolen piece of equipment," she says.

A simple alarm system can help notify police or school officials of an off-hours break-in as well. "A few kids on a weekend could do hundreds of thousands of dollars worth of damage," she says.

"For both schools and churches, deterrence is the name of the game," she adds. "You've got to convince your adversary that this isn't a good target."



MENTORS — Sandra Begay-Campbell (4512), second from left, and Norbert Hill, right, accept the 1997 Presidential Award for Excellence in Science, Mathematics, and Engineering Mentoring on behalf of AISES, the American Indian Science and Engineering Society, of which Sandra is 1997 chairman of the board. Presenting the award are Neal Lane, Director of the National Science Foundation, and Kerri-Ann Jones, Associate Director of the Office of Science and Technology Policy.

be difficult for me when my AISES term ends this November."

In 1994, the Clinton Administration's science policy blueprint, *Science in the National Interest*, stated the goals of producing the best scientists and engineers for the 21st century and raising the science and math literacy of all Americans. The mentoring awards are one result of that report.

Presenting the awards were Kerri-Ann Jones, Associate Director of the Office of Science and Technology Policy, and Neal Lane, Director of the National Science Foundation.

— Bill Murphy

# Vendor fair

(Continued from page 1)

medical plan, replaces The Prudential, which has decided to leave the New Mexico market.

The contract to administer the Prescription Drug Program for TOP participants, currently managed by Caremark Inc., has been awarded to Eckerd Health Services, a subsidiary of JC Penney. Eckerd Health Services, with a long history of mail-order as well as retail-store prescription experience, has a retail pharmacy network of some 45,000 stores nationwide, compared to approximately 8,000 in the Caremark network.

The Vision Care Plan, now administered by Mutual of Omaha, will be managed by Cole Managed Vision. In response to participant concerns, the Vision Care Plan benefit has been expanded. In addition to the scheduled benefit (i.e., a scheduled reimbursement for covered vision services and materials), the plan that takes effect Jan. 1 will also include a "member provider network" option.

## Triple Option Plan

The Triple Option Plan combines aspects of managed care and traditional medical insurance, resulting in a health benefit that might be characterized as "managed choice."

According to TOP Planner Max Martinez (3343), the basic TOP benefit package will remain essentially unchanged under Mutual's administration. Monthly premiums and copayments will remain the same as current rates. The list of Primary Care Physicians (PCP) in the Mutual provider network will match up very closely — better than 80 percent — with The Prudential PCP list. Max cautions, though, that Sandians should attend the vendor fair to see if their PCPs are on Mutual's draft list. If not, new PCPs will need to be selected.

Sandians will be required to notify Mutual of their preferred PCP(s) — even if they are retaining the same one — during the open enrollment period, which is scheduled for Oct. 20-Nov. 9.

"Mutual of Omaha is extremely pleased to be working with Sandia National Labs again, administering the triple option point-of-service plan," says Tim McGill, Senior VP, Group Marketing, Mutual of Omaha Companies. "We've had a great relationship with Sandia and its employees in the past and look forward to providing them with quality products and services moving into the future."

Max says he is confident Sandians can expect excellent customer service from Mutual.

"Many of the people who will work on this account are people who worked with us before, so they understand the Sandia culture," Max says. "They understand that we are not your normal, everyday company and this is not your normal, everyday account."

"One of the things Mutual finds attractive about this account is that they see the Triple Option Plan as their flagship product of the future, so they are also stakeholders in making the TOP at Sandia a real success."

## California-site vendor fair set for Oct. 15

The California-site Benefits Vendor Fair is scheduled for Wednesday, Oct. 15, 9 a.m. to 3 p.m. in the Bldg. 905 mezzanine.

The fair will feature representatives from Cole Managed Vision (Vision Care Plan), Eckerd Health Services (Prescription Drug Program), Mutual of Omaha (Triple Option Plan), Kaiser (HMO), and Met Life (Dental Plan.) The fair will also feature a representative from Fidelity to discuss 401(k)-related issues.

Kaiser plans to have an allergist at the fair to discuss allergies and possible treatments. Cole will provide eyeglass cleaning and vision acuity testing. Kaiser and Mutual are providing gifts for drawings. Refreshments will be served.

Mail-order program (For maintenance prescription drugs)	Eckerd Health Services retail network pharmacies	Non-network retail pharmacies
<ul style="list-style-type: none"> <li>• \$9 copayment for generic prescription drugs</li> <li>• \$20 copayment for formulary brand-name prescription drugs</li> <li>• \$26 copayment for nonformulary brand-name prescription drugs</li> <li>• Maximum 90-day supply</li> </ul>	<ul style="list-style-type: none"> <li>• \$5 copayment for generic prescription drugs</li> <li>• \$12 copayment for formulary brand-name prescription drugs</li> <li>• \$15 copayment for nonformulary brand-name prescription drugs</li> <li>• Maximum 34-day supply</li> </ul>	<ul style="list-style-type: none"> <li>• 50 percent reimbursement</li> <li>• Maximum 34-day supply</li> <li>• File claims with Eckerd Health Services</li> </ul>



Another plus for Mutual: Max says it places great emphasis on its quality processes, and it plans Sandia representation on its quality assessment teams. Mutual is certified by the National Committee of Quality Assurance, a group that accredits facilities and quality processes in the medical industry.

Although the transition to Mutual should be essentially "seamless," Max says, there is one major change. The Mental Health/Substance Abuse program that has been administered by Value Behavioral Health has been folded into the Mutual contract. And the name of the benefit will change — it will now be called a "behavioral health" benefit instead of a mental health/substance abuse benefit.

After the open enrollment period, Mutual will send out an information kit including identification cards, a provider directory, and general information about administration of the benefit.

## Prescription Drug Program

As with the TOP, there will be only minor changes to the benefits in the Prescription Drug Program (PDP), which will be administered by Eckerd Health Services starting Jan. 1.

Copayments for prescription purchases at any of Eckerd Health Services' 45,000 retail network pharmacies — including virtually all pharmacies that are part of the 8,000-store Caremark network — will remain unchanged from current rates: \$5 copayment for generic prescription drugs, \$12 copayment for formulary brand-name prescription drugs, \$15 copayment for nonformulary brand-name prescription drugs (all payments represent a maximum 34-day supply).

In the mail-order program, rates will increase slightly. The new rates, for a maximum 90-day supply, are \$9 copayment for generic drugs, \$20 copayment for formulary drugs, and \$26 copayment for nonformulary brand-name drugs. (Because Eckerd has its own list of formulary drugs, some medications currently on Caremark's formulary list may not be included. As a result, some Sandians' prescriptions may become nonformulary, with a corresponding increase in copayment. Other Sandians may find their previously nonformulary prescriptions are included on Eckerd's formulary list. Their copayments will go down.)

For prescriptions filled at non-network retail pharmacies, the benefit remains unchanged: a 50 percent reimbursement of purchase price for a 34-day supply, with claims filed through Eckerd Health Services.

PDP Planner Deborah Jensen says Eckerd will bring a special focus on customer service to its management of the program.

"Eckerd is a subsidiary of JC Penney," says Deborah. "We feel that with the connection to JC Penney and the retailing industry, Eckerd really understands what customer service is all about."

What's new in customer service? Deborah elaborates: Physicians can fax or call in a new prescription to the mail-order program. That's new. Under Caremark, those prescriptions had to be mailed in. Also, plan participants can call or fax refill prescriptions. In other words, Deborah says,

Eckerd is significantly expanding the way participants can send in prescriptions to the mail-order program.

Eckerd has a patient call center. Here's how that works: If Eckerd gets a prescription and happens to be out of stock on that drug, it'll call the participant right away about the status of the prescription. If the prescription ends up in-house for four days or longer, Eckerd calls. Such contact has not happened in the past.

"We feel these are real enhancements," Deborah says. "If it's delayed, you'll get a phone call telling you why. Eckerd involves the patient in the process."

Also, with Eckerd's formal "seamless" transition process, refill mail-order prescriptions on file with Caremark will be filled by Eckerd with little or no hassle for participants, Deborah says. As part of the transition, she explains, Caremark is providing Eckerd a data tape of active files and prescriptions. Eckerd will merge those data into their own system just as if they'd been there all along. For the participant: Business as usual. Just use the Caremark prescription refill number, Deborah says; Eckerd will take care of everything else.

All Sandians and retirees participating in the Triple Option Plan are automatically enrolled in the PDP, says Deborah. In early December, Eckerd will send out an implementation kit to include identification cards, a list of pharmacies, and other information.

## Vision Care Plan

Under the new Vision Care Plan vendor, Cole Managed Vision, Sandians have a new option for vision care services. In addition to the current scheduled benefit option — make a purchase, file a claim, and receive a reimbursement — the new Vision Care Plan features a managed-care-type option: Go into any one of Cole's network facilities nationwide and make a copayment for lenses, frames, contact lenses, or eye exams. No paperwork, no claims to file, minimal red tape.

Cole, by the way, has an extensive network of providers. It owns Pearle Vision Centers and the optical shops in JC Penney, Montgomery Ward, and Sears stores nationwide. Wherever there are gaps in its nationwide system, says Vision Care Plan Planner Karen Roybal (3343), Cole contracts with local optometrists and ophthalmologists to make the network as comprehensive and accessible as possible.

The new VCP, Karen says, seeks a balance: a move toward managed care — a trend throughout the private sector benefits field — while still retaining the kind of benefit Sandians have become familiar with over the years.

If there has been a perceived shortcoming in the vision benefit, Karen says, it has been that for most purposes, the benefit can be used only once every two years for a given service: one (partially) reimbursable eye exam every two years, one new set of lenses or contact lenses, one new set of eyeglass frames.

Although the frequency of the benefit has not changed, Karen says the new plan addresses the concern to some extent. Sandians — including retirees, who are not eligible for the Vision Care Plan itself — can participate in Cole's discount program. Some of the discounts are minor: \$5 off a regular eye exam. But some are pretty substantial: Savings of 40 percent, 50 percent, or more on frames, lenses, and various lens options such as tinting, antiscratch treatment, and other eyeglass enhancements.

Cole representatives will be at the vendor fair to discuss the new provider network option and the discount program.

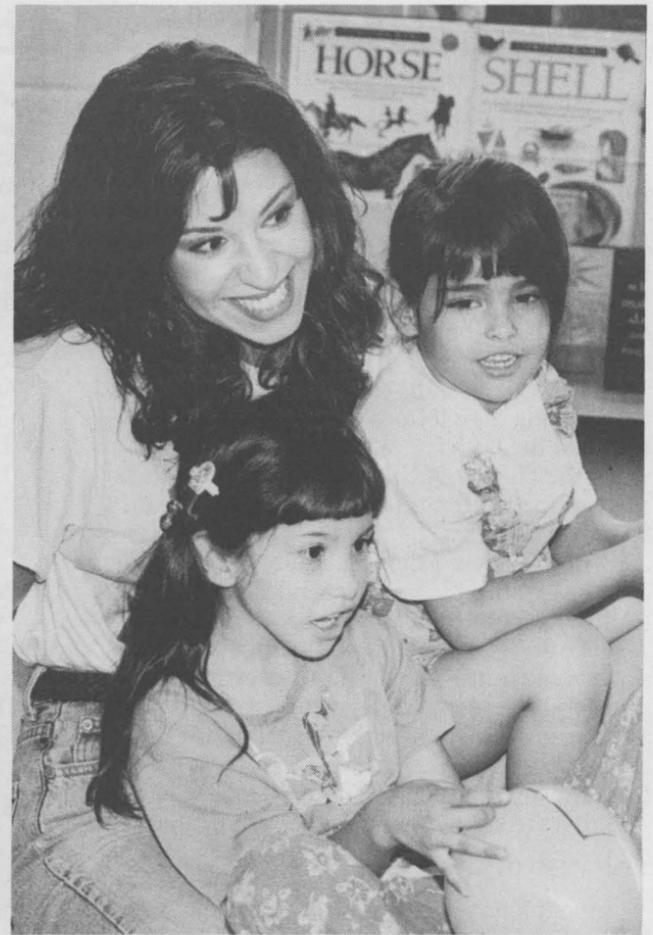
## Retiree deaths

William Ulrich (71).....	5114	.....Aug. 3
Albert Catuna (88).....	1832	.....Aug. 16
Manuel Martinez (77).....	1473	.....Aug. 16
Robert Boyles (74).....	3432	.....Aug. 26
Alfredo Trujillo (75).....	3425	.....Aug. 26
Charles Garcia (74).....	3421	.....Aug. 27
Walter Henderson (74).....	8262	.....Aug. 29

## Day of Caring — Sept. 12, 1997



A WONDERFUL DAY IN THE NEIGHBORHOOD — Redd Eakin (12670), Sandia Volunteer Program Coordinator, shares a hug with Fidelia Montoya at La Amistad Senior Center.



READING IS FUN — Valerie Portillo (10509) shared her time with two children at Martineztown House of Neighborly Services reading books on Day of Caring. Sandia's Employee Contribution Plan 1997 campaign for United Way kicks off with the return of last year's Reading is Fun Book Fair the week of Oct. 20. Books will be discounted 40 to 70 percent off publishers' prices. Look for announcements of locations and times in future issues of the *Weekly Bulletin* and *Lab News*.

Lab News Photos by Randy Montoya



ARTS AND CRAFTS — In photo above, Gina Pineau (6100) shares her crafting skills with a senior citizen named Aurora at Martineztown House of Neighborly Services' La Amistad Senior Center. More than a thousand volunteers from throughout Albuquerque turned out Sept. 12 to participate in the annual United Way of Central New Mexico's Day of Caring. Some 80 Sandia volunteers offered their time and skills in painting, groundskeeping, landscaping, and arts and crafts at Alta Mira Specialized Family Services for people with severe disabilities, Hogares' Casa Serena, Transitional Living, and Martineztown House of Neighborly Services. In photo at left, Sandia volunteers Yvonne Batchelor (9784, left) and Patrice Sanchez (2000) help spruce up the interior of Transitional Living, apartments for people with disabilities.



# Sandian isn't sure what's in store after this week, when the Texas lottery 'shows her the money'

By John German

It's the long shot we all dream about. One day you're you, and the next day you're you with a million bucks.

What would you do if you won the lottery? Buy a big house? Pay off your debts? Call in sick for the rest of your life? Serenade your boss with the lyrics from Johnny Paycheck's "Take This Job and Shove It"?

Last week, a Sandia employee and her husband began living their lottery-winner's dream on behalf of the hopeful (and envious) rest of us when they flew to Austin, Texas, to collect their share of the winnings from a \$10 million Texas State Lottery ticket.

The employee's name is Anita, an accounting clerk in Payable Accounting Services Dept. 10503. (Although many Sandians probably already know her identity, Anita requested that her last name not be used in the *Lab News* because of its many non-Sandia readers. A lawyer has advised Anita and her husband to get an unlisted phone number and post office box as well, to protect them from the hundreds of "business people" and charities that are known to hound lottery winners.)

## The rest of the story

About four years ago Anita, her husband Ray, her husband's brother Hubba (who lives in Mesquite, Texas), and Hubba's girlfriend began buying Texas State Lottery and New Mexico Powerball tickets twice a week regularly. Hubba would buy a few Texas "quick picks" (random number selections) prior to each drawing. Ray bought the Powerball tickets. They agreed that Hubba, his girlfriend, and the Anita-and-Ray pair would each get one-third if they ever won anything.

On Thursday, Sept. 4, Anita and Ray arrived home after a day's work (Ray works at General Electric's aircraft engine plant in Albuquerque),

where a message was waiting for them on their answering machine. It was Hubba who, in a very serious voice, said he needed to talk to them.

"We thought someone had died," Anita says.

After several tries, Ray finally got through. It took Hubba several tries to convince the two that they had won one-third of one-half of the \$20 million jackpot.

"We knew it was true when he finally said 'May God strike me dead if I'm lying,'" she says. "We didn't sleep for four days after that."

Hubba bought the ticket at a convenience store in Mesquite. The winning numbers: 8-13-18-29-39-46. The owner of a second winning ticket, purchased in Weatherford, Texas, hasn't yet stepped forward.

## \$10 million ain't \$10 million

Anita and Ray immediately flew to Mesquite, where they and Hubba met with a lawyer and a financial advisor. They formed a limited partnership, which has certain tax and property rights benefits.

They also found out that \$10 million ain't really \$10 million.

In some state lotteries, including Texas, you are asked to choose either "cash" or "annuity" when you buy a lottery ticket. If you choose annuity and you win, you get paid the full publicized amount over a 20-year period. In that case, the lottery commission takes what it has in the "kitty" (perhaps half of the jackpot amount), invests it, and pays you incrementally from the earnings.



"Anita"

If you choose cash and you win, you get what's in the investment kitty, period.

In Hubba's case, that was about \$5 million. Split three ways that's about \$1.7 million. Minus taxes, about \$850,000 cash. Anita and Ray won't be rubbing elbows with Bill Gates anytime soon, but they are happy as clams anyway.

"It doesn't seem real. It feels like someone's playing a joke on us," she says. "I guess it won't seem real until we have the money."

The couple flew to Texas late last week for a press conference involving a red carpet and an oversized check. They were told it would then take two days to have the money wired into a bank account of their choice.

## Don't quit your day jobs, lawyer says

What's in store for Anita and Ray? Will Anita serenade her boss? Will the 46-year-old retire early and spend her remaining days at the couple's cabin near Chama? Will Ray and Hubba buy a diamond-studded bass boat, which they have joked about?

Probably not, Anita says. They plan to invest the winnings as wisely as possible. Their lawyer and financial advisor have warned them not to quit their jobs until they find out how much regular income can be generated from the windfall.

So Anita still answers her office phone on the first ring, processes journal entries, and does ledger account analysis. She even told the lawyer that she had to get back to Albuquerque soon because her work was piling up.

"He looked at me like I was crazy," she says.

Her supervisor, Camille Gibson, says Anita called her to get a few days off when she found out she was a winner, but offered to come in and "review the payments" before she left anyway.

"She's an enthusiastic person, she does great work," Camille says. "It's the same ol' Anita."

"I always joked that if I won I'd throw my badge over the fence and wave good-bye," Anita adds. "But I plan to keep working at Sandia, at least for the near term," though she admits some mornings are more difficult than others.

"My alarm will go off and I'll say to myself, 'I don't want to go in today. What are they going to do, fire me?' Then common sense returns and I get up and go to work like always," she says.

She has a photocopy of the winning ticket thumbtacked to her cubicle wall.

Anita swears she and Ray haven't purchased anything other than groceries since they found out about the winnings. They haven't even gone out for a celebration dinner.

## Travel, a Toyota, and 108 bagels

The couple is planning a family trip to Hawaii this December. They hope to take Anita's 80-year-old mother along, who has always wanted to visit Hawaii. They also may make a few jaunts to other places they've wanted to see: Australia, the Caribbean aboard a cruiseliner, and several destinations in the US, she says.

And Anita plans to buy herself a new car, probably a modest Toyota or Nissan rather than the ride she really wants: a Mitsubishi Eclipse, which she says she's too old to be seen driving around in.

She'll probably take on that remodeling project she's been talking about as well.

Other than that, not much has changed. "We have fewer worries these days," she says.

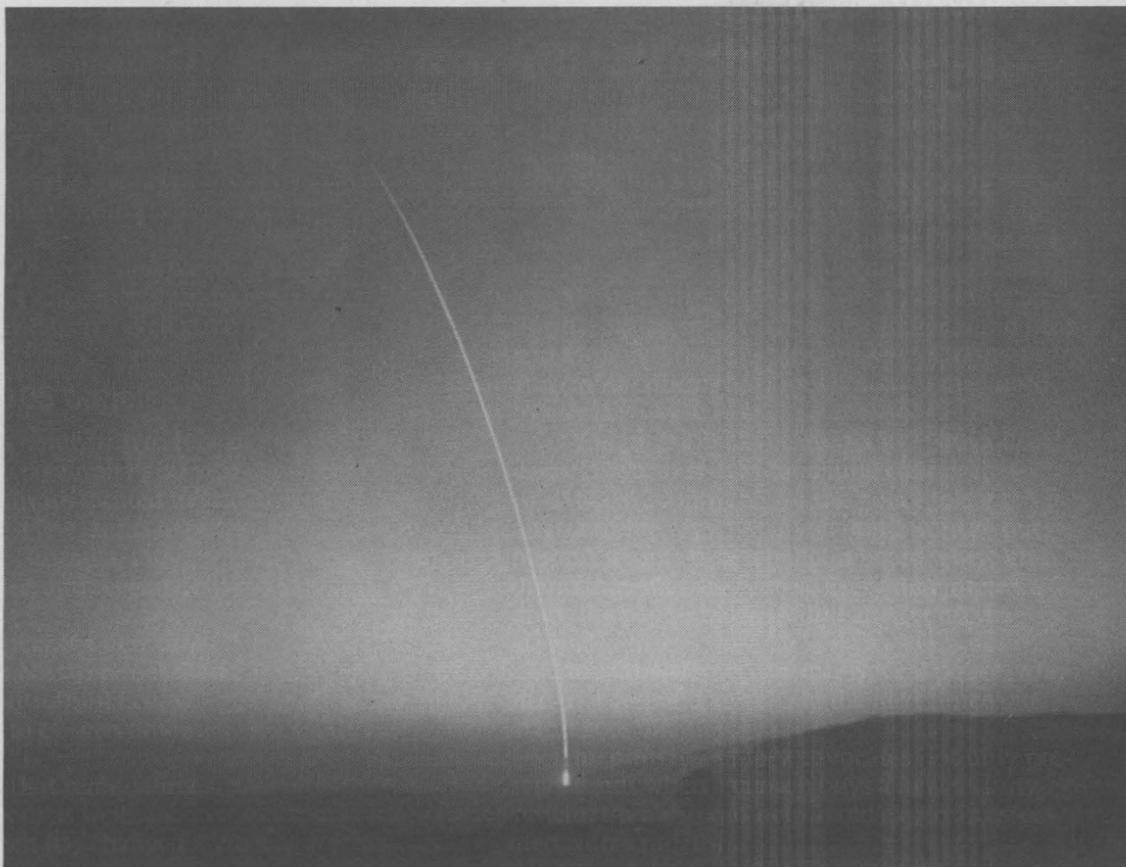
They may pay off their mortgage early. It'll be easier to keep their two children in college.

"And if we do it right, they'll have something when we die," she says.

In the long term, Anita says, they'll probably at least think about retiring early. She might get involved in more volunteer work.

But above all, she doesn't want to become a different person. "People say winning the lottery can be a blessing or a curse. I hope it's a blessing."

The first day of work after Anita learned of her good fortune, split three ways, minus taxes, she brought in nine dozen bagels for her colleagues in Accounting, Finance, and Payroll.



A MINUTEMAN II blasts through the evening twilight at Vandenberg Air Force Base (Calif.) June 23 on its way to the Kwajalein Missile Range in the Pacific. It was the "first" in a series of 13 National Missile Defense Integrated Flight Test Program launches designed to help the Ballistic Missile Defense Organization develop a missile defense system capable of protecting the US against a limited missile attack. This test and the next are to evaluate sensors onboard interceptor-type missiles launched from Kwajalein. Sandia designed and built the experimental payload on the Minuteman — including a 300-pound reentry vehicle and eight lightweight decoy targets. During the test, the RV and decoy targets were deployed from the Minuteman in mid flight. As a sensor payload onboard a Kwajalein-launched interceptor-type missile flew by the target array, the sensors used differences in shape, aerodynamic behavior, and infrared signatures to distinguish between the decoy targets and real RV. The June 23 flight test was a makeup launch for a failed test on Jan. 16, during which the Sandia payload was launched and deployed successfully but the interceptor sensor payload launch was scrubbed due to a power system failure (*Lab News*, Feb. 28). Eric Reece, Manager of Targets and Lethality Dept. 2417, says the June 23 makeup test was "successful in every sense of the word." Nine Sandia centers in four divisions are involved in the program. (Photo by Diana Helgesen, 9761)

# Revised business rules, better use of computer capabilities will facilitate internal job movement

Beginning Oct. 1, Sandia staff and managers will use a new computer-based post-and-bid system for internal job movement. The reengineered internal movement processes take full advantage of the Labs' investment in networked computers and reflect significant process and business rule changes. The new processes represent the final phase of integrating all staffing acquisition — external hires, staff augmentation, and internal movement — and the realization of one-stop shopping.

Computer capabilities make it possible to automate many of the internal movement functions and provide on-line access to information about staffing procedures, policies, points of contact, electronic forms, and in some cases electronic routing of forms.

Here are some of the key changes:

- Same-day job postings — Job vacancies will be posted on line at the JOBSS Internal Web site on the same day the approved Tactical Staffing Requisition form is received by the Staffing Dept. (The JOBSS site will be accessible beginning in October via the Human Resources home page, which in turn will have a permanent link, starting in October, on the Internal Web home page.) Job vacancies will no longer be posted in the *Weekly Bulletin*.

- Electronic resumés — All nonrepresented employees will be required to have an electronic resumé completed (using Resumé Builder accessible via the HR home page) to bid for job vacancies.

- Fewer bidder-eligibility rules — Streamlined rules make it easier for employees to bid on job vacancy postings.

- Expanded Bid Line hours — 24-hours-a-day, 7-days-a-week bidding on job vacancies via the Job Vacancy Telephone Bid Line, 845-7958.

The chart below provides more details about the internal movement process.

— Bill Murphy

## Reengineered internal movement: What's new?

Manager initiates staffing requisitions	Employee bids on job (non-represented)	Manager receives info about bidders	Manager makes selection	Personnel action approvals	Directed transfers
<p><b>Staffing is requisition-based:</b> In addition to external hiring and staff augmentation, post-and-bid is now requisition based.*</p> <p><b>Web-accessible TSR form:</b> Tactical Staffing Requisition (TSR) form is electronic and accessible on the Web. The routing and approval process remains a paper process for the time being, but next year routing and approvals will be electronic.</p> <p><b>Job evaluation process:</b> Eliminated for all IJS positions.</p> <p><b>Posting job vacancies:</b> Within 24 hours of receipt of the approved TSR, the vacancy is posted on the new JOBSS Web site and the telephone bid system.</p> <p><b>Value-added assignments:</b> Matrix assignment must involve important work valued by both organizations.</p> <p><b>Up-front communication and documentation:</b> It is suggested that both managers and the employee discuss skills, duties, and responsibilities prior to the assignment. Also suggested is a memo of record outlining agreements about these issues.</p> <p><b>PMF &amp; compensation reviews:</b> It is suggested that the 'matrixed to' manager have input to the employee's PMF at beginning of review cycle and at mid- and year-end reviews; that the 'matrixed to' manager be invited to participate in performance/compensation group review discussions involving matrixed employees.</p>	<p><b>Simplified eligibility rules:</b> An employee who has been at Sandia for more than one year can bid on any job vacancy.</p> <p><b>Nomination letters:</b> Eliminated</p> <p><b>Resumé requirement:</b> Before bidding on a non-represented job opening, employees must enter their resume in the web-based application Resumé Builder.</p> <p><b>Job vacancy listing:</b> Post-and-bid vacancies are posted on the new JOBSS Web site and the telephone bid line system. Bidders still use the telephone bid system to bid on job openings. Matrix opportunities are also described on the JOBSS site, but interested employees contact the manager directly.</p> <p><b>Bidding period:</b> New jobs are posted daily, with a minimum posting period of nine working days.</p> <p><b>Represented employees:</b> Eligibility rules are specified in respective contracts. While it is not required that represented employees enter their resumes in Resumé Builder when bidding on a represented job opening, doing so allows managers to view the represented bidder's resumé and is therefore generally considered advantageous for bidders. Information about represented job openings is found on the new JOBSS Web site and the telephone bid line.</p>	<p><b>Electronic bidder information:</b> Managers can access information about bidders on the new Sourcing and Selection Web site even while the posting is still open.</p> <p><b>Scope of bidder information:</b> Bidder information includes a list of all bidders, those who met mandatory criteria and those who did not, number of desired criteria met, job ladder and level, past performance data, occupation, organization, base rate, and other employee information. Managers also see the resumés submitted by bidders through Resumé Builder.</p> <p><b>Electronic skills/word matching:</b> Managers now receive a list of bidders sorted by those who met, and did not meet, the requirements specified in the TSR. The list is based on skills/word matches between the TSR and the bidder's resumé.</p>	<p><b>Number of interviews:</b> It is recommended that a manager interview a minimum of three bidders for each vacancy.</p> <p><b>Selection documentation:</b> Two selection documents are completed and submitted by the selecting manager. The first is the new Web-based Selection Checklist form available on the Sourcing and Selection site. The second document can be either a justification memo, or an Employee Selection Matrix.</p> <p><b>Non-selection notification:</b> Managers notify non-selected bidders by telephone or letter. A non-selection letter template is available on the Web under Corporate Forms.</p>	<p><b>Electronic routing &amp; approvals:</b> Most personnel actions are routed and approved electronically. Originators of electronic personnel actions can now track the status of the action and, if necessary, electronically cancel an in-process personnel action. Earlier approvers are notified by e-mail if a later approver disapproves the action or if the originator cancels the action.</p> <p><b>Delegation of authority:</b> A designated approver may electronically delegate authority to an "absence delegate."</p> <p><b>New policy on retroactives:</b> Retroactive personnel actions are approved only in very rare cases such as a court order.</p> <p><b>Friday dates:</b> Personnel actions for internal movement must be dated with a Friday date.</p> <p><b>"Plus 1 Manager" approval:</b> About half of all personnel action codes are approved by the manager who is one level above the affected employee.</p> <p><b>Fewer action codes:</b> There are 23% fewer personnel action codes, and many events that previously required submission of a separate OCN are now handled automatically.</p> <p><b>Certifier function eliminated:</b> There is at least one less approver for every personnel action since the certifier function has been eliminated.</p>	<p><b>Redefined criteria:</b> Directed transfers are used only when: (1) justified by business needs; (2) anticipated reduction in funding and/or lack of work; (3) a need for unique skills unlikely to be found in the post-and-bid process; (4) the employee is part of a development program or rotational plan; or, (5) the transfer resolves a people issue.</p> <p><b>Does not circumvent post-and-bid</b> Directed transfers shall not be used to circumvent the post-and-bid process.</p> <p><b>Documentation:</b> Justification must be provided using a Personnel Action Approval form in accordance with new guidelines and must include an explanation as to why the position was not filled using the post-and-bid process.</p> <p><b>Directed transfer approvals:</b> When the transfer is within a division, the action is approved by the next higher level of management in both the releasing and receiving organizations. When the transfer is across divisions, it must be approved by the next higher level of releasing and receiving management and the HR director for the site.</p>
<p style="text-align: center;"><b>Additional Information</b> Beginning in October, the Sandia Internal Web home page will provide easy access to these Web sites:</p> <p><b>HR home page and associated links:</b> Accessible October 1997 from the Sandia home page <b>Resumé Builder</b> <a href="http://www.hris.sandia.gov/Project/resume/resume.html">http://www.hris.sandia.gov/Project/resume/resume.html</a></p> <p><b>JOBSS Web Site</b> Accessible October 1997 from the HR home page <b>Staffing: Sourcing and Selection Web Site</b> Accessible October 1997 from the HR home page <b>HR Procedures</b> Call your HR Representative or Staffing Specialist <b>Job Vacancy Telephone Bid Line: 845-7958</b> <b>Electronic Personnel Action Approvals: 844-8661</b></p>					

\*The Staffing Sourcing and Selection Web site provides detailed guidance on the requisition process as well as a decision tree for "make/buy" and "internal/external" sourcing decisions.

## Take Note

The Albuquerque-area National Council on Alcoholism and Drug Dependence (NCADD) is seeking individuals interested in serving on its volunteer board of directors. The board meets at 5:30 p.m. on the second Monday of each month. In addition, members may participate in two to six committee meetings a year. The NCADD provides information, referral, assessment, intervention, training, and other related services to approximately 10,000 people throughout New Mexico annually. For more information, call Jill Anne Yeagley, executive director, at 256-8300.

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The 33rd annual All Faiths Receiving Home Auxiliary's Apple & Arts Festival celebrates fall on Saturday, Sept. 27, 9 a.m. to 4 p.m., at the Youth Hall on the State Fairgrounds. This fall family event features a variety of arts and crafts, a chile lunch, and apples from Dixon Orchard. Bargain hunters will find satisfaction at the silent auction. Admission is free and a chile lunch is \$5. The Fairgrounds parking fee is \$2. Proceeds benefit All Faiths Receiving Home. For more information about All Faiths programs and services, call 268-6648.

## Town meetings scheduled to discuss Labs' changing business practices

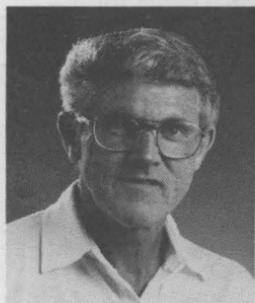
Employee town meetings to discuss new internal movement processes and other key changes in the Labs business practices are scheduled for Oct. 1 and Oct. 8, 9-11 a.m. (MT) at the TTC (Bldg. 825). The sessions will be simulcast to the California, Carlsbad, and Virginia sites.

Topics for both the Oct. 1 and Oct. 8 sessions are:

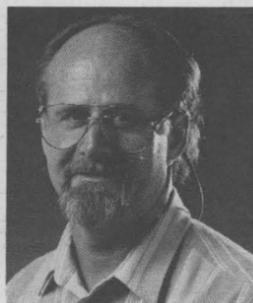
- Electronic Timekeeping: What's New in FY98
- The "How To" of Reengineered Internal Movement
- Electronic Business Applications on the Horizon
- Standard Labor Rates: It All Adds Up
- Electronic Workflow, Workbox, and Delegation of Authority
- Using the New Web-Based Employee Benefits Self-Service Application
- Brief Review: Policy Changes to Vacation Accrual and Carryover Sickness Absence

# Mileposts

## September 1997



James Hubbs  
25 1541



Patrick Horton  
20 5845



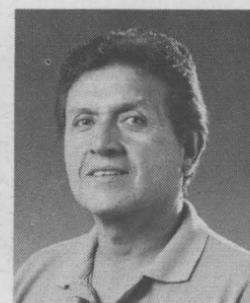
Robert Easterling  
30 5412



Sharon Ann Chino  
15 10509



Marcus Bunting  
30 5413



Ernest Padilla  
20 9781



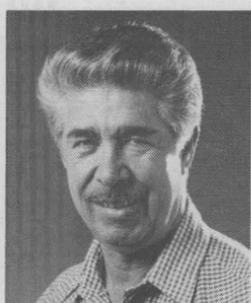
George Clark  
35 2671



Patrick Murphy  
30 7934



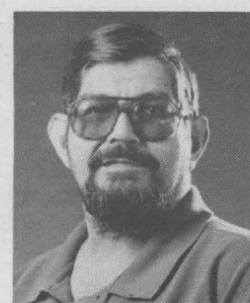
Richard Beckmann  
30 5515



Antonio Marquez  
25 1484



Timothy Taylor  
30 5711



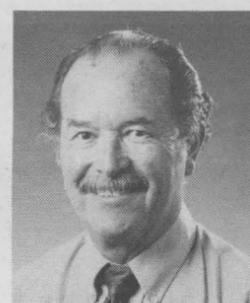
James Clabaugh  
35 2111



Renee Foster  
25 3535



Roger Edwards  
30 1251



Kenneth Ronquillo  
30 4023



Sungkwun Lyo  
20 1113

## Robotics expo

(Continued from page 1)

importance to the nation's future competitiveness. The Expo will be in the Cannon House Office Building.

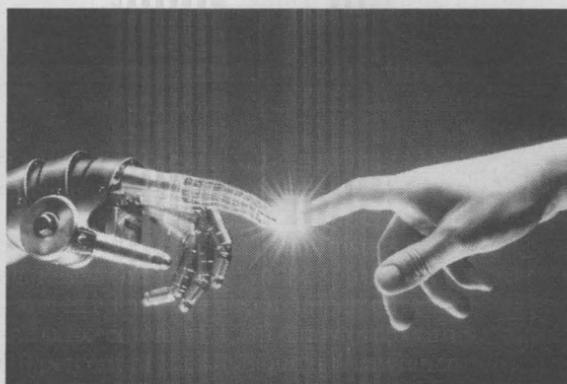
The event includes exhibits, intelligent-machine demonstrations, and panel discussions with speakers from Congress, universities, federal laboratories, and industry. Among the exhibitors will be Boeing Commercial Aircraft Co., Textile/Clothing Technology Corp., McDonalds Corp., Carnegie Mellon University, Deneb Robotics, and the Center for Robotics in Medicine and Industry. The panel discussions will cover the opportunities and economic potential for the emerging US robotics and intelligent-machines industry, and the need for a national initiative to ensure America is the world leader in creating a dynamic industry.

### 'Father of robotics' to speak

New Mexico's US Senators Pete Domenici and Jeff Bingaman both plan to speak at the Expo, as well as Vic Reis, DOE Assistant Secretary for Defense Programs, and Joseph Engelberger, known throughout the world as "the father of robotics."

Among the Sandians involved in the Expo will be C. Paul Robinson, Labs President and Director; John Crawford, Executive VP; Gerry Yonas, VP of Information and Pulsed Power Research and Technology Div. 9000; and Bob Egan, VP of Electronics, Materials Research, and Components Div. 1000.

The intelligent-machines demonstrations will include the NASA Sojourner, with video and photos from its twin on Mars; miniature mobile



LOGO ARTWORK used on invitations and fliers for the Congressional Expo on Intelligent Machines scheduled for Sept. 30 in Washington, D.C.

robots, from one foot to little more than an inch across; microscopic robotic grippers smaller than a human hair used for assembling nanorobots the size of a grain of sand; a six-legged walking robot that can explore rough and unknown terrain; hardware developed for eye surgery that is now being applied to automotive assembly tasks; and a robot arm demonstrating rapid manufacturing assembly processes.

### Pat Eicker playing central role

Pat, winner of this year's Joseph F. Engelberger Robotics Award for leadership, is wearing two hats for the Expo. As Director of Intelligent Systems and Robotics at Sandia, he will lead the effort to promote the Labs' technical accomplishments in robotics and intelligent machines as well as its role in carrying out the national initiative and creating a new industry. As president of the Robotics and Intelligent Machines Cooperative Council, a volunteer advisory group created to accelerate and promote robotics technologies, Pat will oversee a broader effort to coordinate the initiative and garner the aid of government.

Expo organizers hope to demonstrate the role the federal government can play in the development of the initiative, similar to its role in stimulating the expansion of other major industries — automobiles, computers, and airplanes. The government can first identify and promulgate the needs of robotics and intelligent machines and then can provide seed funding for national testbed centers, where government, university, and industry researchers can work closely to bring new products and technologies to market. Sandia,

home of the Robotic Manufacturing Science & Engineering Laboratory (RMSEL) — the largest robotics research and development laboratory in the US — would be a logical location for one of the testbeds.

"If we are successful in getting these testbeds funded, it would allow us to do good, collaborative technical work around the country with universities and industry in ways it's hard to do right now," Pat says. "Those collaborations also will help identify potential customers for Sandia."

The Expo is the principal outcome of the National Needs Workshop on Robotics held last October in Albuquerque immediately after RMSEL's dedication. About 60 robotics experts from throughout the country representing industry, vendors, universities, and the national laboratories attended the workshop, which was sponsored by the National Science Foundation and DOE.

The workshop helped solidify support and cooperation among different segments of the robotics and intelligent machines community, from users and suppliers to those involved in research and development. The workshop's white paper, outlining the vision for a new robotics and intelligent machines industry based on cooperation and collaboration, caught the eye of Washington policymakers and helped establish their desire for the Expo.

## Fun & Games

**Ice hockey** — The 30-30 Ice Hockey Association is looking for new players for the fall season. The league plays Sunday mornings at the Outpost Ice Arena. For more information, contact John Cilke (6541) at 291-8732 or Dave Cady at 856-6121.

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**Tennis** — Results of the annual Coronado Tennis Club Labor Day weekend tennis tournament held Aug. 30-Sept. 1:

Men's 3.0-3.5 singles: Leland Byers (4914), 6-2, 6-3

Men's 4.0-4.5 singles: Cliff Ho (6115), 6-2, 6-2

Men's doubles: Wendell Archer (1251) and Herman Smith (DOE), 6-7, 6-3, and 7-6

Mixed 7.0 doubles: Jim (14405) and Nancy Gebhart, 7-6, 5-7, and 6-3

Mixed 8.0 doubles round robin: Fred (ret.) and Sara Cericola

## Congratulations

To Debra (12331) and Wayne (1823) Buttry on the adoption of their son, Nathan Andrew, born Aug. 23.

To Linda Jaramillo-Alfaro (10511) and Lawrence Alfaro, a son, Aaron, Sept. 14.

To Norma (4823) and David Lauben on the adoption of their 9-year-old daughter, Kristen Whitney Lauben, Sept. 15.

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

## MISCELLANEOUS

ROCKER/RECLINER, \$30; oak TV stand, \$25; XC skis, \$30; loveseat, \$15; lamp, table, \$10 ea. Porter, 821-7813

TODDLER BED, & linens, \$50; infant carriers: backpack, \$30; front carrying, \$10; Macintosh memory, 2x8MB SIMMS, \$30. Hietala, 867-9577.

SMOKER BOX, for gas grill, makes smoke in gas grill from wood chips, cast iron, 7-3/4" x 4-3/4" x 1-3/4", new. \$20. DiPrima, 275-3479.

PENTIUM-90, 1.6 GIG-HD, 16 MEG RAM, CD, sound, WIN95, OFFICE97, 21-in. SVGA monitor, \$850. Burstein, 899-8971, after 6 p.m.

CHEST FREEZER, 15.8 cu. ft., Kenmore, \$90. Owens, 281-8525.

LEGO PARTS, 7,361 pieces, in 20 sets, clean, complete, will sell as a whole only, \$400. Meirans, 271-2313, evenings.

OGEE CLOCK, 1830's, 24-hour, 27 x 16, \$155; Jim Beam's Duesenberg Model-J car decanter, \$95. Anderson, 296-3352.

TELESCOPE, Celestron Firstscope 114, 4.5-in. Newtonian, equatorial mount, tripod, \$200 OBO. Bradley, 281-7086.

GOLF CLUBS, new King Cobra clones, graphite shafts, 3-PW, \$150; misc. clubs, drivers, putters. LaDuca, 292-6745.

THULE SKI/BIKE RACK, w/locks, holds 3 pair skis; 1 bike, w/mountain bike adapter, \$100. Knisely, 296-2521.

WASHER/DRYER, (2 sets) almond/white, \$300 ea. set; Gibson upright freezer, \$150. Dansby, 821-4416.

ALUMINUM CAMPER SHELL, fits Ford F150 pickup, \$50. Johnson, 296-4659.

BUNK BEDS, w/3 underbed drawers, Broyhill "Vacation" model, oak, w/mattresses, very good condition, \$225. Richard, 286-2134.

SOFA BED/MATCHING LOVESEAT, \$275/both; Igloo dog house, medium, \$30. Jaramillo, 292-3295.

LAWN MOWER, w/grass catcher, 20-in., \$40; carpeted van floor mats, \$20; backyard dining canopy, \$10. Harrison, 897-0658.

POWER RIDER (like Healthrider), mint condition, \$90. Hartman, 296-7924.

ROWING MACHINE, variable resistance, great for TV watchers, \$40; cycling shoes, woman's 40, never used, \$30. Filuk, 281-0078.

CAMPER SHELL, fiberglass, fits long-wide box, excellent condition, \$350 OBO. Schaub, 865-8807.

DOGHOUSE, large, wooden, free, but you pick it up. Robbins, 823-2492.

NORDICTRACK WALKFIT TREADMILL, Model 5500, like new, cost \$600, asking \$300. Hardy, 897-9032.

GARAGE SALE, fund-raising for U-13 girls Duke City soccer team, more than 10 families, Sat., Sept. 27, 8:30 a.m.-4 p.m., 2724 Utah NE. Fraley, 299-6946

TRAIN TABLE, 4' x 8', for model train set-up, \$25. Kelly, 293-2475.

SAGUARO CACTUS, 3-ft., healthy, in large terra-cotta pot, indoor plant, nursery tagged, highest offer obtains. Thompson, 292-2877.

GARAGE SALE, 2-family, Fri. & Sat., Sept. 26-27, 4900 Casa del Oso, on Morris at Osuna. Klamerus, 294-3398.

TWIN BEDROOM SET, white, French-Provincial canopy, bed/mattresses, chest of drawers, dresser/mirror, bed-spread & canopy, \$250. Larkin, 237-2559.

LEATHER RECLINER, by Lane, cream color, paid \$600, asking \$300; sofa & love seat, Southwestern design, paid \$700, asking \$350. Naru, 821-7490.

DACHSHUND, AKC, beautiful long-hair miniature, male pups, 2nd shots & wormed, 15 wks. old, will deliver in Albuquerque area, \$225 cash. Gray, 281-4172.

EXERCYCLE, Tunturi, recumbent, used 3 months. Thorp, 292-0169.

LEATHER JACKET, Hein Gericke, size 42, black/gray, \$200; chaps, \$100; winter gloves, \$20; diving wetsuit, 6mil, \$150. Apodaca, 298-2122.

LARGE SOFA, tan w/neutral flower design, \$150 OBO. McNeill, 897-2634.

DUAL-TAPE DECK, \$135; lamp table, \$125; king headboard, \$100; cell phone, \$75; CD player, \$50; pager, \$40; pet carrier, \$10. Salazar, 899-0483.

SOFA, blue sectional, excellent condition, built-in bed and recliner, paid \$1,400, asking \$900 OBO. Moore, 286-8924.

EXERCYCLE, upper/lower body, work-out adjustable, men-or-women calorie counter, \$75. Marr, 345-4006.

SUN-TANNING UNIT, complete w/bulbs & timer. Gillen, 294-7551.

ELECTRIC LAWN MOWER, hot-water heater, woman's 3-spd. bike, electric dryer, livingroom furniture, stereo, door. Crosby, 565-1310.

GOLF CLUBS, King Cobra 1, 3, & 5 woods, firm graphite shaft, man's RH, w/covers, \$240 total. Yingst, 835-0749.

TWO STUDENT DESKS, \$10 ea.; Kenmore washer/dryer, \$100/set; American People Encyclopedia set (1980), \$40. Lujan, 822-0205.

TREADMILL, GE, adjustable speed, good condition, \$70. Montano, 892-0987.

TIRES, 4-31/1150, 4-31/1050, w/white spoke rims, 4/215/75, w/chrome rims; Nissan parts: blue bench seat, dash, carpet, electric wire harness. Chavez, 861-0712.

CHAIR/LOUNGE, automatic, for elderly, arthritic to raise to feet, medium size, 2 yrs. old, beige, \$250; other infirmity items. Layne, 296-7159.

HOLLEY 4011 CARBURETOR, 800 CFM spreadbore, dual feed, double pumper, too big for my engine, \$190. Dickenmann, 892-9561.

HIKING BOOTS, 8-in. leather, used twice, \$15; front bumper hitch w/ball, makes trailer parking easy, \$10. Horton, 883-7504.

WOMAN'S SKI BOOTS, size 7, Raichle rear entry, used little, \$20. Krause, 858-1289.

OAK ROLL-TOP DESK, S-curve, pigeon holes, 49"W x 30"D x 44"H, \$525. Dybwad, 296-9047.

YARD SALE, Sat. Sept. 27, 1119 Granada Hills Ct. NE, tools, bicycle, camping equipment, picnic table, more, 8 a.m.-2 p.m. Koenig.

LARGE AQUARIUM, w/stand, \$55; small aquarium, w/stand, \$35; bookcase, \$5; bicycle, \$10. Dean, 299-3281.

BARBIES BEACH BUGGY, kids battery-powered jeep, \$50. Wright, 296-3850.

BOOKS: *Life Library of Photography*, 27 volumes, \$100; *Life History of US*, 12 volumes, \$75; *This Fabulous Century*, 8 volumes \$50. Kaufmann, 292-9249.

FREEZER, United Commercial, 18-cu. ft., heavy-duty, upright, excellent condition, \$400 OBO. Henderson, 831-5128, weekdays, 6-8 p.m.

SUNBEAM MIXMASTER, 4-spd., hand mixer, excellent condition, \$8.50. Wagner, 823-9323.

FREEZER, 9-cu. ft., upright, white, walnut door, \$100; heavy-duty aluminum storm doors, \$15 ea.; sleeping bags, never used, \$10 ea. McGirk, 884-4592.

SOFA SLEEPER, queen, Southwest colors, very good condition, \$150. Kubiak, 856-7455.

HEALTHRIDER, top-of-the-line model, excellent condition, \$150 OBO. Wilson, 286-8192.

FULL PA BAND SYSTEM, \$1,500 or trade for equal value; pop-up camping trailer, '96 Jayco Eagle 8, sleeps 6, \$3,600; HealthRider, \$100, man's bike, \$100. Rhoden, 293-5301.

PRECIOUS MOMENTS COLLECTION, some retired, some members only, \$35-\$100. Wenzelburger, 256-9370, call 5-8 p.m., ask for Rosa.

SET OF RIMS, 13 x 7, McLiens & Roadsters, chrome w/gold, speakers, amp. Gonzales, 869-2186, pager.

ENTERTAINMENT '98 BOOKS, Boy Scout Troop 496, restaurants, travel, lodging, lots of bargains, \$35. Keener, 294-1919.

WHITE WICKER DRESSERS: tall, 5-drawer, 49"H x 19"W x 17"D, \$70; short 3-drawer, 29"H x 29"W x 16"D, \$50; brass pulls. Strascina, 294-0305.

MICROWAVE, Amana Touchmatic II Radarange, w/temperature probe, \$65; Corning ceramic cooktop, white, \$40; stainless-steel double sink, w/faucets, \$15. Bear, 881-7128.

BOY'S HUFFY BIKE, 20-in., \$40; double umbrella stroller, \$20. Fajardo, 296-6845.

BROWNING 7MM ACTION RIFLE, Mag bolt, walnut stock, w/Bushnell 3 x 9 variable scope, \$450. Smith, 856-9176.

BRASS HEADBOARD, queen-size, w/porcelain accents, \$75. Wilson, 858-1131.

TABLE & CHAIRS, fifties-style, art deco, chrome legs & vinyl chairs, \$175. Jones, 856-1837.

BIKE SEAT FOR CHILD (attaches to adult bicycle), good condition, \$10. Ludwig, 856-5111.

HEADBOARD, w/shelves, mirrors, queen-size, solid oak, good condition. Carroll, 298-2827.

THREE-PIECE LUGGAGE, Samsonite (hard), strawberry color, \$80; brown swivel chair/rocker, \$40. Greear, 839-4255.

GARAGE SALE, 8440 Joseph Sharp NE, Sat., Sept. 27, 9 a.m.-1 p.m. Shrouf, 821-0765.

**DEADLINE: Friday noon before week of publication unless changed by holiday. MAIL to Dept. 12640, MS 0165, FAX to 844-0645, or bring to Bldg. 811 lobby. You may also send ads by e-mail to Nancy Campanozzi (nrcampa@sandia.gov). Call Nancy at 844-7522 with questions. Because of space constraints, ads will be printed on a first-come basis.**

### Ad Rules

1. Limit 22 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.

THREE WORK BENCHES: heavy-duty, w/2-in. thick laminated maple worktops; two \$60 ea., one \$85; moving. Sparks, 266-5060.

GIRL'S GYMBOREE & DISNEY CLOTHING, coats (infant-4T); toddler car seat, \$20; infant crib & mattress, \$200; Tot-loc chair, \$7. Sjaardema, 299-8042.

THOROUGHbred MARE, available for half lease, intelligent, gentle 6-yr.-old, needs experienced, confident, & gentle English rider, \$75/mo. Baldo-Pulaski, 345-0432.

VSIPI BOUTIQUE, professional woman's clothing at bargain prices, petite to large sizes, Sept. 26, 5-7:30 p.m., 9/27 10-12 a.m., 9901 Dorothy Place NE. Crego, 292-0266.

## TRANSPORTATION

'84 HONDA CIVIC S, 178K miles, runs/looks great, Alpine stereo, roof rack, \$2,000. Draper, 281-2663.

'88 CHEV. CORSICA, PS, PB, AM/FM, low mileage, 1 owner, good condition, 6-cyl., \$2,500 OBO. Stephenson, 836-4260.

'92 TOYOTA PREVIA DELUXE, 5-spd., front/rear AC, new clutch & tires, excellent condition, 74K miles, \$11,750. Owyong, 797-4137.

'93 MERCURY VILLAGER, blue, tinted glass, rear air/heat, PW, PL, PS, (NADA \$12,400), \$10,900. Bates, 291-6060.

'91 FORD EXPLORER XLT, 4x4, 6-cyl., 5-spd., 4-dr., AC, AM/FM cassette, good condition, \$11,000 OBO. Maestas, 299-0336.

'89 SAAB, Model 900, 4-dr., good condition, security lock, w/snow tires, \$6,900. Krone, 293-5778.

'89 JEEP WRANGLER, 4.2L, V6, 5-spd., 112K miles, hard-top, bikini-top, AC, alarm, oversize tires, \$8,000 OBO. Cancilla, 298-8741.

'85 TOYOTA 4-RUNNER, 5-spd., AC, JVC AM/FM cassette, chrome wheels, towing pkg., white, no accidents/dents, 169K miles, \$7,200 OBO. Newman, 266-6928.

'93 FORD MUSTANG GT 5.0, 5-spd., 30K miles, warranty, alarm, tint, cruise, PW, PS, excellent condition, \$11,200. Dooley, 828-9243.

'80 CHEV. STEPSIDE PICKUP, original owner, runs great, everything under hood new, \$2,700. Epperson, 268-8409, ask for Joyce.

'83 TOYOTA TERCEL, 150K miles, 2-dr. hatch, white, \$1,000. Simms, 345-4429.

'93 FORD EXPLORER XLT, 5-spd., 4WD, 4-dr., AC, PW, alarm, CD, 64K miles, excellent condition, \$15,000. Kincaid, 296-6014.

'94 JEEP GRAND CHEROKEE LAREDO, 44,700 miles, excellent condition, loaded, CD, leather, ABS, \$17,999. Johnson, 286-2276, ask for Curtis or Laurie.

'84 MERCURY MARQUIS, 6-cyl., 4-dr., AT, tan/brown, 90K miles, good condition, \$1,200 OBO. Kelly, 884-4443.

'88 PLYMOUTH GRAND VOYAGER LE, V6, AT, front/rear AC, loaded, very good condition, 1 owner, 133K miles, \$3,600 OBO. Drotning, 821-9598.

'90 NISSAN MAXIMA, great condition, AT, leather interior, previously owned by auto repair shop owner, \$8,300 firm. Hunter, 865-5745, ask for Jeff.

'66 BUICK LESABRE, classic, beautiful shape, AC, AT, V8, 67K miles, \$3,500 OBO. Reese, 281-3498.

'91 EAGLE TALON, 91K miles, well maintained, red w/black spoiler, gray interior, gurguaged, \$5,000. Pasco, 890-6306.

'93 CHEV. BLAZER LT TAHOE, 4x4, leather, royal blue, AT, all power, digital display, 81K miles, \$13,800. Gallegos, 899-9004.

'85 VOLVO 760 GLE, excellent, gasoline, AT, PS, PW, sunroof, leather seats, AM/FM cassette, 78K miles, \$4,000. Halbgewachs, 268-1584.

'67 CHEV. 327 PICKUP, 1/2-ton, V8, 4-barrel carb., AT, rebuilt engine, new mahogany long bed, new carpet, beautiful condition, \$2,800. Colgan, 344-3776.

'90 FORD AEROSTAR XL, extended van, w/7-passenger seating, PL, PW, cruise, dual AC, \$5,500 OBO. Ferguson, 281-0135.

'90 CHEV. CAPRICE CLASSIC, \$4,000. Martin, 343-9719.

'83 NISSAN PICKUP, king cab, long bed, manual transmission, driver's door damage, runs well, \$800. Doyle, 299-9455.

'95 SUZUKI SWIFT; '95 Jeep W/Y, 6-cyl.; '92 Ford F250 pickup, AT; '87 Chev. Camaro, bids through Sept. 29, right to refuse bids, sold as is. SLFCU, 237-7386, ask for Christine.

'91 GEO TRACKER, 4x4, convertible, AT, AC, power, new belts/hoses, 1 owner, 62K miles, like new, \$7,200. Simonton, 797-4825.

'91 JEEP GRAND WAGONEER, Final Edition, V8, leather, tons of extras, need more tow capacity, will part trade for '92 or later Suburban, 3/4-ton, \$12,000. Barlow, 505-820-6845.

'92 MUSTANG LX, convertible, Special Edition 5.0, leather interior, fully loaded, AT, factory row bar w/brake light, alarm, 90K miles, \$9,995. Tedrow, 866-1106.

'68 CADILLAC DEVILLE SEDAN, 2nd owner, excellent condition, \$2,195 OBO. Campbell, 268-4925.

'88 BLAZER, 74K miles, AC, radio, many new parts, retail \$7,275 + 20 percent, asking \$7,000. Miller, 293-4093, evenings or weekend.

'82 HONDA ACCORD, 5-spd., hatchback, w/louvers, silver, AC, cassette, new seat covers, good body, reliable, 157K miles, \$1,300. Feltz, 856-1322.

'73 DODGE D-200 CLUB CAB, new transmission, 94K actual miles, needs seat & carburetor repair, \$2,000. Clark, 869-2569.

'92 FORD EXPLORER XLT, 4WD, AT, AC, PS, PB, ABS, sunroof, PW, PL, power mirrors & seats, 59K miles, \$11,900. Pecsok, 275-6526.

'95 TOYOTA TACOMA PICKUP, 2WD, extended cab, 18K miles, loaded, factory warranty, \$13,500. Aragon, 888-3473.

'96 SAAB 900S, 5-dr., 14.5K miles, power sunroof, alarm, AC, AT, mint condition, \$22,500 OBO. Sellinger, 828-4993.

'80 CJ7, 304-V8, AT, hardtop, smog legal, 2.5-in. lift, 33-in. mud T/A's, Tuffy console, more, \$6,200. Schlienger, 822-9326.

## RECREATIONAL

'93 ALLEGRO BAY MOTORHOME, 37-ft., 10.5K miles, 454 Chev., AT w/OD, loaded, excellent condition. \$55,000 firm. Homan, 892-3346.

'93 VACATION AIR TRAVEL TRAILER, Park model, 39-ft., tilt-out living room & bedroom, special built w/many extras, \$12,500. Jarrett, 254-1035.

CAMPER, 32-ft. Holiday Rambler, 5th Wheel; 1-ton dually truck, self-contained; both \$6,000. Sanchez, 864-3581.

CABOVER CAMPER, Eldorado, 7-ft. Aire, old, needs repair, originally for small pickup, modified for regular pickup, free. Walkington, 839-9662.

SANDIA PEAK SKI PATROL SKI SWAP, check-in Oct. 31-Nov. 7, sale Nov. 1, 9 a.m.-4 p.m., Nov. 2, 1-4 p.m., sell old, buy new. Haley, 281-2898.

GLASTRON BOAT, 14-ft., w/6-hp Evinrude outboard, oars, trailer, \$1,000 OBO. Burns, 281-3922.

SKI BOAT, 18-ft. Nordic, 460-cu.-in. Ford, tandem trailer, cover, \$6,900 OBO. Abbin, 296-7678.

'79 COMPANION MOTORHOME, Dodge 440, 24-ft., 47K miles, roof AC, 3-way frig., generator, micro, \$7,200. Schluter, 281-5954.

## REAL ESTATE

3-BDR., plus office, den w/fireplace, large kitchen, living room, fenced back w/playground, very quiet Lomas/Tomasita area, 1,924 sq. ft. Hobbs, 291-8267.

2-BDR. CONDO, 2 baths, NE Heights, next to mountain & open space, 1,225 sq. ft., \$108,900. Brown, 298-8447.

3-4 BDR. HOME, 2 baths, remodeled custom adobe, 3 acres in alfalfa, irrigation rights, pipe fenced corral/barn, \$249,900. Bruff, 232-7608.

3-BDR. HOME, Towne Parke, 1-3/4 baths, 1,350 sq. ft., \$124,000; 2-bdr. Sandia Plaza condo, 3501 Juan Tabo NE., 1-1/2 baths, pool, clubhouse. Lucero, 296-2473.

3-BDR. NE HOME, newly remodeled, 1,900 sq. ft., 1-3/4 baths, Dennis Chavez school district, \$159,000. Miller, 828-2708.

3-BDR. HOME, 2 master suites, Rio Rancho, immaculate, 2 full baths, 1,500 sq. ft., much storage space, large xeriscaped lot, \$92,500. Kovarik, 897-2188.

3-BDR. HOME, near base, 610 Valencia SE, 1,600 sq. ft., remodeled, basement, workshop, \$103,000. Bonn, 298-4263.

3-BDR. HOME, Edgewood, 1,408 sq. ft., 1-3/4 baths, 2-car garage, safe subdivision, 1 acre, easy commute, must sell, upgrades, \$132,700. Kunerth, 281-6689.

3-BDR. CUSTOM HOME, east mountains, 2 baths, 2.3 acres, 1,600 sq. ft., wood-beam ceilings, Saltillo tile, passive solar, garage, \$135,000. Justin, 281-6606.

3-BDR. HOME, 2 baths, 2-car garage, kiva, covered patio, secure enclosed yard, fully landscaped, Eubank/Montgomery, (Sandia 15-min.). Aguilar, 275-2827.

## WANTED

FRENCH TRANSLATOR, informal translation of French rare-dog-breed book excerpts. Wilson, 275-8384, after 6 p.m.

MOVING BOXES, will pick up. Sartor, 858-2554.

MAGAZINE ARTICLES, on artist Andrew Wyeth, 2/10/97 *People* and 3/97 issues of *Life*. Harris, 265-4792.

PEOPLE (5-10), seeking to collectively own vacation house in Costa Rica, have prospect. Roseth, 856-6964.

HOUSEMATE, wanted to share spacious house, Inez neighborhood, 3-bdr./2-baths, garage, off street parking, pets ok, \$425/mo +1/2 utilities. Murphy, 323-2796.

CAR, good, old, safe, nice, & reliable for student. Hill, 293-2376.

USED MACINTOSH POWERBOOK, for word processing. George, 292-5368.

PIANO. Korbin, 299-9088.

HOUSEMATE, 2-bdr., 2 baths, 1 mile to UNM Law School, 1st/last, \$395/month w/utilities. Hsia, 260-0359, ask for Jim.

'68-'71 CORVETTE, must be in running condition; Igloo-type dog house, for large or extra-large dog. Kureczko, 281-8206.

## WORK WANTED

MATH TUTOR available for high school math: all types, all levels, reasonable rates. Turner, 823-9606.

## LOST & FOUND

LOST: Woman's tennis bracelet, on Sept. 2, between Cafeteria & Bldg. 890, can ID w/matching earrings. Martinez, 284-3641.

FOUND: White envelope, w/new pair of silver earrings, addressed to "Pat," signed "Betty," in Bldg. 836, Room 1000. Talant, 845-9832.

LOST: Small shiny black/white makeup bag, with makeup and contacts inside, desperately needed, Bldg. 800, Thurs., Sept. 4. Torres, 284-2416.

## Sandia Web developers design DOE's new education outreach site

Department of Energy Headquarters tapped Sandia's Web development expertise recently in putting together a new Internet site for teachers and students that supports Energy Secretary Federico Peña's education outreach initiatives.

The page is titled ESTEEM, for Education in Science, Technology, Energy, Engineering, and Math. A link to the new site appears on DOE's home page (<http://www.doe.gov/>), accessible through Sandia's External Web.

The project began in August just prior to Peña's trip to Albuquerque, during which he was scheduled to demonstrate use of the Internet at a Rio Rancho elementary school. In anticipation of that event, Sam Rodriguez, DOE Assistant Director of Energy Research for Communications and Development, asked Lockheed Martin Energy and Environment Sector VP for Public Relations Jerry Langheim for assistance in putting together a page of links to educational sites that Peña could show students, teachers, and media.

Langheim offered Sandia's expertise in Web site development, and Peña and his staff were impressed with the results, says Manny Ontiveros, Manager of Advanced Communications Dept. 12690, who coordinated the project.

After the visit, DOE requested that Sandia put together a more permanent Web-based entryway leading to DOE educational sites complex-wide. Mona Aragon of Creative Arts Dept. 12620 designed and programmed the pages.

The result is an attractive site featuring a cityscape image map with links to DOE laboratories, as well as to a variety of education-related sites developed by other government agencies and universities. Elementary-, middle-, high school-, and university-level links contain educational information tailored to particular age groups. Other links provide information about specific topics.

Click on the cloud icon and get information about ongoing climate research, for instance. Select the gas station icon and get information about fossil fuel energy. The Energy and Science Museum is really a link to sites provided by Brookhaven National Laboratory, including an "Ask the Scientist" site that teachers and students can use to get answers to their science questions from Brookhaven researchers.

There's also a computer store (DOE computing information), a mall (under construction), a windmill (the science of wind), a library (primers on the solar system, genetics, electronic cash, etc.), a teacher's lounge (instructional materials for teachers and a virtual chat room), a playground (under construction), a university (information about fellowships and internships), and roads to NASA, the National Science Foundation,

and other home page destinations.

DOE facilities nationwide are adding education-related links all the time, says Bill Dawes, Manager of Education Outreach Services Dept. 3613. Dept. 3613 is working to add more information about Sandia's summer student internships, postsecondary minority institution assistance, and other education outreach programs, he says.

"Our investments to promote national scientific excellence cannot succeed if young Americans don't have the appropriate skills," reads a statement from Peña appearing below the ESTEEM image map.

"We need a scientifically literate public, as well as a highly skilled technical workforce, to support our future energy, environmental, and national security objectives. I want to use the Internet to introduce our children to DOE's supercomputer work, to our work in designing super-efficient automobiles, and to our work in biology, chemistry, and physics."

—John German

## Sandia News Briefs

### 'Seaborgium' honors science titan, former AEC chairman Glenn Seaborg

Element 106. Seaborgium. Abbreviation: Sg. To his Nobel Prize, Glenn Seaborg can add another great crowning achievement to an illustrious career that spans well over half a century and includes co-discovery of at least 10 elements and 10 years as chairman of the Atomic Energy Commission, predecessor organization of the Department of Energy. On Aug. 30, the International Union of Pure and Applied Chemistry approved names for elements 104 through 109. IUPAC designated element 106 "seaborgium." Other names include: element 104, rutherfordium; 105, dubnium; 107, bohrium; 108, hassium; 109, meitnerium. The elements, belonging collectively to the transfermium family, do not occur naturally but are created in the laboratory and have vanishingly small half-lives. The IUPAC names were approved by the American Chemical Society on Sept. 7.

### 'Character Counts' with Sandia, Southwest Airlines, and YMCA

Sandia is teaming with Southwest Airlines and Mountainside YMCA to celebrate the lessons of "Character Counts." During festivities preceding the Balloon Glow of the Kodak Albuquerque International Balloon Fiesta on Oct. 5 there will be Character Counts sign-up and giveaways in the Children's Area at the north end of Balloon Fiesta Park. Character Counts week is Oct. 19-25. The Character Counts pillars are respect, responsibility, trustworthiness, citizenship, fairness, and caring.

## Coronado Club

Sept. 25 — Thursday bingo night. Card sales and buffet start at 5 p.m., early birds' bingo at 6:45 p.m.

Oct. 3 — Oktoberfest. Bavarian-style music and floor show, 7-11 p.m. Music by Die Polka Schlingels. Reservations at 265-6791.

Oct. 5 — Sunday brunch buffet, 10 a.m.-2 p.m. \$8.95 all-you-can-eat buffet; \$9.95 for nonmembers; kids 3-12, \$4.19; under 3 free. Music by Swingshift, 1-4 p.m.

Oct. 2, 9, 16, 22, 30 — Thursday bingo night. Card sales and buffet start at 5 p.m., early birds' bingo at 6:45 p.m.

Oct. 17 — "Western Night" dinner/dance. \$6.95 all-you-can-eat buffet (\$7.95 for guests), 6-9 p.m. Music by Isleta Poor Boys, 7-11 p.m.

Oct. 19 — Kids bingo. Buffet, 5-8 p.m.; cartoons, 5-7 p.m.; bingo, 7 p.m.

Oct. 21 — Sunday brunch buffet, 10 a.m.-2 p.m. Music by Bob Weiler.

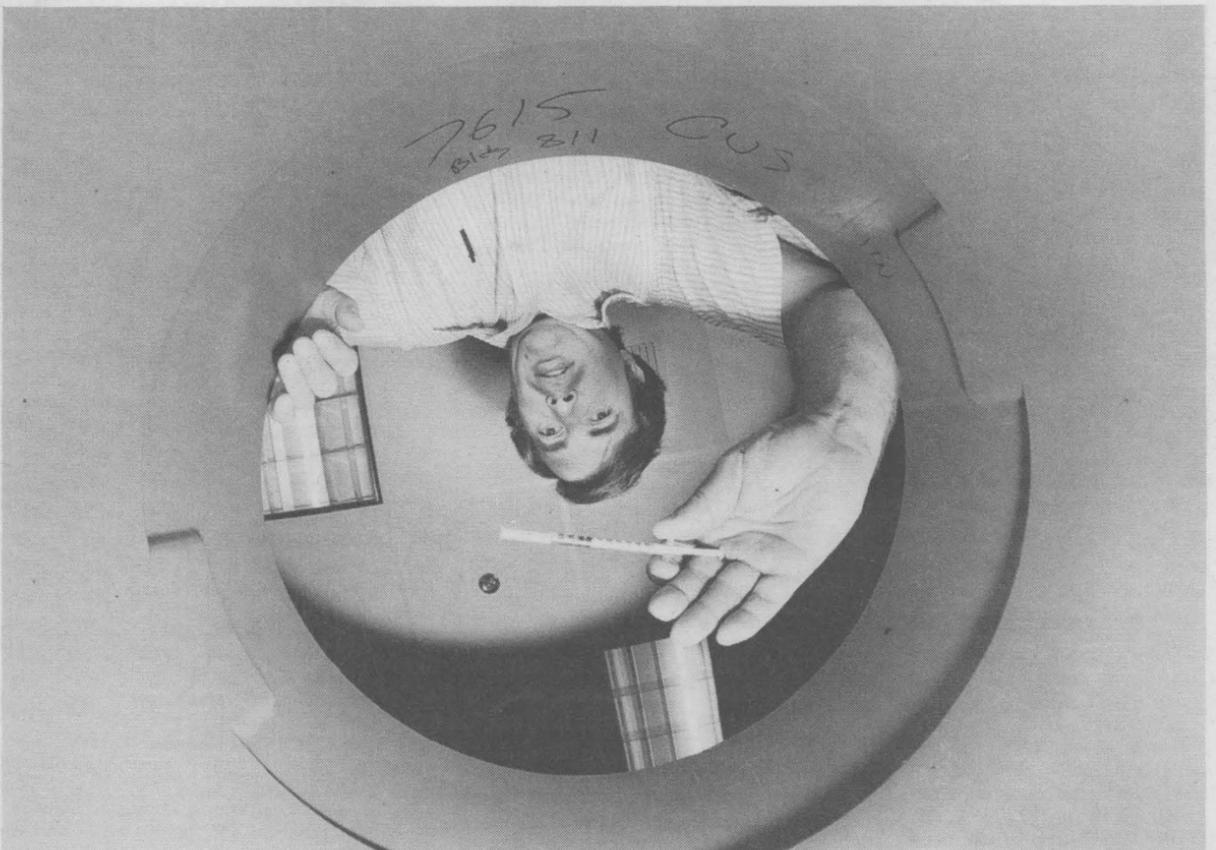
## Fun & Games

**Fun Walk** — The 1997 Albuquerque AIDS Walk is scheduled for Saturday, Oct. 18, at Tiguex Park in Albuquerque. This 6th annual 5K (3.1 miles) walk raises money for nine Albuquerque nonprofit organizations that offer prevention education programs to the community and provide services to people with HIV or AIDS. Beneficiaries include AIDS Emergency Fund, Albuquerque Area Indian Health Board, Community of Damien, Health Care for the Homeless, HIV Coordinating Council, NAMES Project New Mexico, New Mexico AIDS Services, NM Street Outreach Programs, and Youth Development, Inc. Approximately 2,000 people attended last year's walk and raised more than \$100,000. For information, call 271-0003, send a fax to 271-0482, or e-mail AIDS WALK@AOL.com.

## Welcome

New Mexico — Henry Duong (6406), Steven Hafner (5100)

Illinois — Richard Lehoucq (9222)



**A SHARP EYE FOR SHARPS** — Sharp objects left in trash cans, bags, and boxes can endanger the people who pick up and handle your trash and surplus equipment. Here, custodian Bernie Zimmerman (7645-2) carefully handles a syringe found in a Sandia trash can. A Reapplication worker was stuck with a hypodermic needle several months ago and had to be administered an AIDS tests in Medical. This is not an isolated incident, according to Bob Eldredge, Manager of Property and Reapplication Dept. 10267 (844-3260), and Reggie Tibbetts, Manager of Custodial Matrixed Services Dept. 7845 (844-5244). Too often, Sandia Custodial and Reapplication workers are cut and receive puncture wounds from needles, glass, coffee can lids, sheet metal, wire, and other sharp objects. They ask that you take special precautions with sharp objects. Coffee can lids should be covered with cardboard and tape and be labeled. Glass, especially broken glass, should be sealed inside a rigid cardboard container and labeled, or deposited in blue-and-white cardboard glass collection containers. Wire and pipe should be bundled and sharp ends should be taped. Hypodermic needles used by diabetics should always be wrapped in tape and then sealed inside a labeled box or rigid container. (Photo by Randy Montoya)