

Where the tire meets the lab: Goodyear, Sandia combine capabilities in innovative research projects

Company extends joint research, direct funding with Sandia

When Dave Larson talks about model cooperative research and development agreements (CRADAs) with industry, he points to Sandia's work with the Goodyear Tire & Rubber Company.

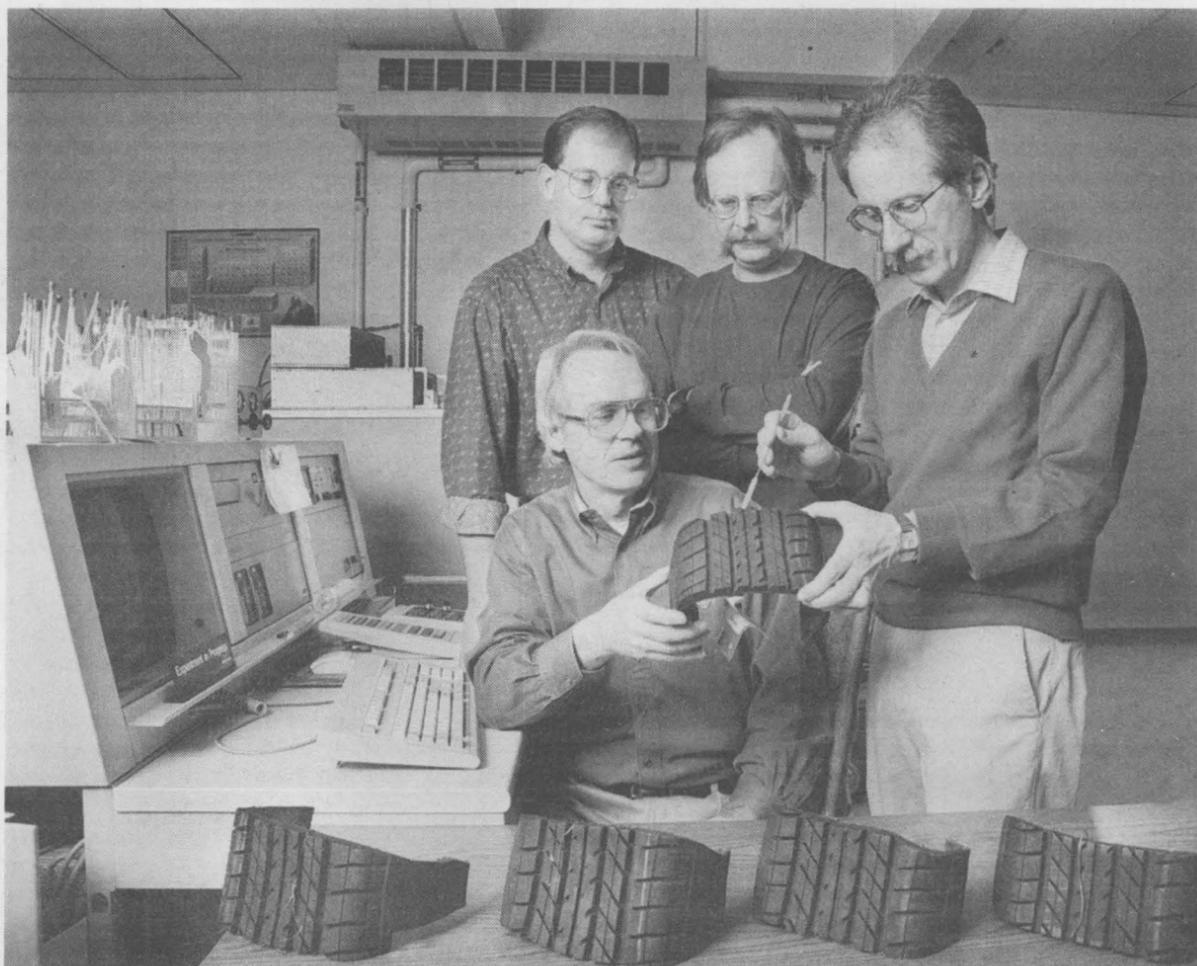
Dave, Manager of National Security Partnerships Development Dept. 4231, says the relationship with Goodyear progressed just as DOE and laboratory leaders envisioned when they shaped the government-industry partnership program made possible by the 1989 National Competitiveness Technology Transfer Act (NCTTA).

Goodyear executives and researchers also like the way the work has gone. One Goodyear vice president was quoted in a national business magazine as saying the investment in the joint research with Sandia has allowed Goodyear access to "technologies that you can't buy anywhere."

But perhaps the most concrete evidence of Goodyear's satisfaction with the research partnership, Dave says, is the company's willingness after three years to extend the work and invest additional millions of dollars in its own research and in direct funding to Sandia.

"In one three-year project, Goodyear is putting in \$7 million — \$4 million in funds to

One Goodyear VP said the work with Sandia has allowed access to "technologies that you can't buy anywhere."



UNDERSTANDING HOW TIRES AGE is one goal of an ongoing research partnership between Sandia and Goodyear Tire & Rubber Company. Ken Gillen (1811, front right) discusses a tire sample with Roger Assink (1811, seated), Mike Malone (1811, back left), and Gary Jones (1812, back right). (Photo by Randy Montoya)

542 Sandians request VSIPs; number of impacted positions begins to shrink

The first round of notification letters went out early this week to employees whose Voluntary Separation Incentive Program (VSIP) requests had been approved. As of *Lab News* press time, more than 30 of the requests had been granted.

Hundreds more employees are expected to receive word of their VSIP approvals in the coming days and weeks as Human Resources staffers continue to sort through piles of requests for the incentive designed to reduce the number of people who might later be asked to leave the Labs involuntarily if internal transfers and other realignment mechanisms don't yield sufficient results (*Lab News*, Dec. 6). DOE announced Dec. 3 that Sandia, through its three-phase Workforce Realignment Process, had identified a total of 435 "impacted" positions that no longer meet current or anticipated work requirements. (As the funding situation has become more clear, the total number of impacts has risen to 438.)

Human Resources received 567 applications by Monday evening, Jan. 6, the VSIP application deadline. Some employees took advantage of the one-week grace period and rescinded their requests. The following chart shows the final number of VSIP requests that remained Jan. 14:

	NM	CA	Total
Impacted	277	48	325
Nonimpacted	197	20	217
TOTAL	474	68	542

More than half of the final requests were from employees who are members of impacted peer groups — meaning Sandia intends to reduce the numbers of people working in those job functions. So far, all approved VSIPs have gone to members of impacted peer groups. By press time,

(Continued on page 5)

Sandia National Laboratories **Sandia LabNews**

Vol. 49, No. 1 January 17, 1997

Metropolitan Museum of Art and Sandia work to preserve national treasures

Research to produce inorganic coating for statues, bridges, tunnels

By Neal Singer

Media and Employee Communications Dept. 12640

Marble statues, the nation's bridge-and-tunnel infrastructure, and the Pentagon building share a common problem: carbonate mineral ingredients make them vulnerable to pitting from acid rain and eventual spalling from the freeze-thaw cycles that may follow.

For this reason, New York's Metropolitan Museum of Art has teamed with scientists from Sandia to produce an inorganic coating that increases by a factor of ten the longevity of powdered calcite — the basic component of limestone — when the coated powder is submerged in a solution similar to mildly acidic rain.

The coating, which is chemically similar to glass, was developed at Sandia and tested on calcite powders. Because the coating is inorganic, it does not react as readily with acid rain as organic-

based materials.

Curiously, the coating is not intended to be a sealant that forms a water-tight skin around the statue. Instead, the coating forms within the pores of the masonry and strengthens it.

"These are not hydrophobic coatings," says George Segun Wheeler, a research director at the Metropolitan Museum of Art. "They would be seen, and look terrible."

"This is more like re-creating cement that had been eaten away. It's not like putting Thompson's Water Seal on your deck. The coating is not a water repellent but a consolidant."

According to Sandia researcher Kathy Nagy (6118), "Water can always seep into a statue or infrastructure component. Ordinarily, it migrates to the surface and evaporates. A waterproof coating wouldn't let that happen." Trapping water within masonry can lead to severe damage due to

(Continued on page 5)



3 Royalties earned from California site technology licenses top \$175,000

6 Measuring up: Primary Standards Lab earns national accreditation

This & That

Help Paul pick topics - Paul Robinson will discuss the issues Sandians most want to hear about at his next employee dialogue sessions Feb. 24, 26, and 27 (see schedule below). Attendance has dropped at the past few New Mexico sessions, and Paul is concerned that it may be because he isn't talking about what really interests many of you.

You can help remedy this situation by e-mailing your suggested topics and questions to Paul's assistant, Jane Elson (mjelson@sandia.gov), or to his secretary, Deanne Schwartz (dmschwa@sandia.gov); you can also mail suggested topics and questions to either one at MS 0101. If you prefer to send topics/questions via e-mail but remain anonymous to the head shed, send them to me (lgperri@sandia.gov) and I'll remove any trace of your name before forwarding them to Paul.

The employee dialogue schedule:

- Monday, Feb. 24, 3-4 p.m., BDM Bldg.
- Wednesday, Feb. 26, 8:30-9:30 and 10-11 a.m., Technology Transfer Center (Bldg. 825)
- Thursday, Feb. 27, 8:30-9:30 and 10-11 a.m., Bldg. 904 Auditorium at Sandia/California

* * *

Reply to anonymous contractor - I usually don't reply to anonymous complaints, but here's an exception.

The basic complaint: I poked fun recently at some signs posted at the Labs by a contractor, notifying Sandians that the contractor was involved in "the connectorization" of some data cables. The complaint writer acknowledged this wording was somewhat amusing, but asked, "Did you mean to make it seem that contractors are complete idiots...?"

Absolutely not. Since I began writing this column nearly eight years ago, I've printed many similar items about amusing typographical errors, misjudgments, and mistakes made by regular employees, including some by management, some by my *Lab News* colleagues, and some by me personally. This doesn't mean I think regular Sandians are idiots - simply that we're humans and aren't always perfect. I hope we never get so stuffy at Sandia that we can't step back at times and laugh at our harmless shortcomings and mistakes - no matter who we are.

* * *

Winter weather work delay? - It's easy to find out whether Sandia/New Mexico's work schedule has been altered because of bad winter weather IF you keep the phone number and quick dial code handy. Call Sandia Line at 845-6789. When it's answered, press 9 to get the quick-dial option, then press 9999#. Consider jotting down these numbers on your home telephone book or keeping them in your billfold.

* * *

Made for Albuquerque - I've never put a bumper sticker on any of my cars, but I may if I can find one I heard about recently: "Forget World Peace. Visualize Using Your Turn Signal!"

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

Division VPs pledge accountability for survey changes

When employees sent some revealing messages through the Sandians' Perspective survey early last year, Sandia's executive management promised to make sure their opinions resulted, ultimately, in a better place to work.

Now the Sandia Quality Leadership Council (SQLC) has taken another step toward that goal: Each vice president has pledged to take specific actions in his or her own division and has put those promises in writing, available to employees on a new site on Sandia's Internal Web. (From the Internal Web home page, select the "Organizations" and "Human Resources Division 3000" links.)

During the survey, administered in January and February 1996, employees generally responded unfavorably to questions about management's credibility, performance-management processes, decision-making, and other management-related issues (*Labs News*, May 24, 1996). Based on that data and with SQLC's guidance, the Strategic Human Resources Planning (SHRP) team, with director-level representation from each division, quickly organized employees' concerns into four corporate goals (*Lab News*, Aug. 16, 1996). SHRP then asked the VPs to incorporate these goals into their division-specific action plans.

The new Web site contains each division's "tactical approaches" in response to the survey, organized under headings corresponding to the four corporate goals: "line of sight" (ensuring that all Sandians know how their own and their organization's work contributes to Sandia's annual goals); "management credibility" (increasing the level of trust between upper management and employees); "people management effectiveness" (improving Sandia managers' people-management skills through training and promotion criteria); and "accountability" (enhancing employees' understanding of the Labs' decision-making process and improving accountability for decisions at all levels).

To improve top management's credibility among Human Resources employees, for example, HR VP Charlie Emery says Div. 3000 will, among other approaches, "consistently communicate, through department meetings, e-mail, etc., all SQLC decisions to their employees within one week of [each] SQLC meeting and demonstrate . . . commitment of the decisions."

California-site VP Tom Hunter (8000), under the heading "accountability," pledges to "follow through on our goals as identified on our PMFs [Performance Management Forms]. Clear consequences for lack of performance will be identified and acted upon."

The SHRP team plans to assess the divisions' progress toward meeting the criteria, share lessons learned and best practices, and report back at an SQLC meeting and to employees every six months, according to SHRP coordinator Nina Chapman (3000). In addition, says Charlie Emery, one of Sandia's goals is to match or surpass the norm scores for high-performing companies during the next survey with regards to employee opinions about the workplace environment. The next survey is scheduled for 1998.

"SQLC wants Sandians to know that they've been heard, that their concerns are being taken seriously, and that Sandia's management is committed to making these changes happen," says Nina. —John German

Around the corporation **LOCKHEED MARTIN**

Oak Ridge technology produces \$18 million in FY96 sales

Technology developed at Oak Ridge National Laboratory and licensed to industry produced \$18.3 million in sales during FY96, an 18-percent increase over the commercial sales value of ORNL technology during the previous fiscal year. Oak Ridge spokesman Ron Walli reported in a news release that tech transfer activities at the Tennessee lab "played a major role in influencing six private companies to either relocate or open operations close to DOE facilities operated by Lockheed Martin." He said ORNL-licensed technologies produced \$1 million in royalty income during FY96.

Sandia LabNews

Sandia National Laboratories

An Equal Opportunity Employer

<http://www.sandia.gov>

Albuquerque, New Mexico 87185-0165
Livermore, California 94550-0969
Tonopah, Nevada • Nevada Test Site • Amarillo, Texas

Sandia National Laboratories is a multiprogram laboratory operated by Sandia Corp., a wholly owned subsidiary of the Lockheed Martin Corp. and a prime contractor to the US Dept. of Energy.

Ken Frazier, Editor505/844-6210
Barry Schrader, California site contact510/294-2447
Lab News fax505/844-0645

Published Fortnightly on Fridays by
Employee Communications Dept. 12640, MS 0165

LOCKHEED MARTIN

Board of Directors passes retirement eligibility amendments

The Sandia Corporation Board of Directors and DOE have approved amendments to both the Retirement Income Plan and the Pension Security Plan retirement plans, making participants eligible for a service pension when they are at least 60 years old and with at least 15 years of pensionable service.

Previously, retirement plan participants were eligible at age 55 with 20 years of service or age 65 with 10 years of service. The amendments, effective Jan. 1, 1997, integrate an additional step into the minimum age/minimum term of employment requirements in the existing plans.

For more information, contact Benefits Administration Dept. 3344.

Retiree deaths

Tommie Bryant (56).....	8536.....	Nov. 3
Clinton Purdue (75).....	2313.....	Nov. 5
Dale Massey (73).....	1137.....	Nov. 11
Mary Beard (89).....	3421.....	Nov. 19
William Perret (88).....	9111.....	Nov. 19
Francis Gunn (85).....	3282.....	Nov. 20
Joseph Wynn (89).....	4511.....	Nov. 30

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

California site's 43 licenses account for 24 percent of all Sandia royalties earned in 1996

Royalty income at Sandia/California expanded by a factor of five in last year

Total royalties earned at Sandia/California in 1996 grew roughly five times over the amount earned the year before.

The current portfolio of 43 licenses garnered \$175,494 in royalties during the fiscal year ending Sept. 30, 1996, says Licensing Manager Subra Subramanian (8800). The total last year was \$35,200.

"We have grown significantly," he says.

Licensing activities have been emphasized throughout Sandia since the early 1990s, particularly starting in 1993, when Lockheed Martin began managing the laboratories.

Royalty income from the California site represents about 24 percent of the total earned by Sandia in fiscal 1996 (\$738,000), and the number of existing licenses from the California site are about 26 percent of the 167 total licenses currently held throughout the labs.

Of the 43 licenses at the California site, 33 were issued this year on upgraded codes for chemical kinetics modeling, Chemkin Collection. Older versions of Chemkin Collection have been used widely in the public domain.

The newer codes were first copyrighted 18 months ago. "I get at least a couple of requests a day from all over the world" for Chemkin licensing information, Subra says.

Subra's office, in partnership with Don Nissen (11600), the patent agent at the California site, encourages inventors to file technical advances (intellectual property disclosures and software copyrights) by returning a portion of the income to the inventors. Overall, about \$30,000 from 1996 royalties is going directly to inventors from the California site.

An additional \$15,000 is reserved for important contributors who have not been specifically

identified, such as contributors involved in classified work. Co-inventors from outside Sandia will receive about \$29,000 altogether. Finally, the office of California Laboratory Vice President Tom Hunter will receive \$102,633 to promote intellectual property development through technology maturation and discretionary R&D spending.

Technology maturation provides funding to allow inventors to more fully demonstrate their partially developed concepts, perhaps by building a prototype or completing testing.

Subra recently issued a call for technology-maturation proposals to be reviewed by a panel.

The panel would consider commercial potential and maturity of the concepts when selecting proposals for funding.

Subra expects by the year 2000 the California site will have a royalty share of around \$500,000. About \$250,000 would probably be available for technology maturation and the rest could be used by line management for discretionary R&D activities.

The distribution of royalty income to the California inventors for 1996 was made by Tom Hunter during a celebration dinner Dec. 18 at the Pleasanton Hilton, hosted by Warren Siemens, Director of Technology Partnerships & Commercialization Center 4200, who delivered the keynote address.

— Nancy Garcia

"I get at least a couple of requests a day from all over the world" for Chemkin licensing information.



CHEMKIN WINNERS — Among the California Sandians recognized for earning royalties this past year was this group responsible for the Chemkin Collection. From left are Joe Grcar, Ellen Meeks, Greg Evans, and Fran Rupley (all 8345), with VP Tom Hunter. Two others not present were Richard Larson and Andrew Lutz.

Sandia California News

Ron Stoltz takes governmental relations post at California site

Ron Stoltz has been selected to head the Government Relations Office (12120) at Sandia/California. He succeeds Jane Ann Lamph, who is returning to a technical assignment as manager of the Engineering for Transportation and Environment Department. One of her major activities will be pursuing demilitarization technologies for conventional and chemical weapons.

Ron will be part of the Governmental Affairs team with his New Mexico counterparts and with the team will provide information to Sandia on local, regional, state, and national issues. He has been manager of Product Realization Projects Dept. 8202 and deputy program manager for Product Realization at Sandia. He received his formal training at MIT, earning a BS, MS, and PhD in material science and engineering, with a minor in public policy. Following postdoctoral appointments at the Ecole des Mines in Paris, France, and at MIT, he joined Sandia in 1976. In 1981 he took a technical management position at the Exxon Corporate Research Laboratory, then returned to Sandia in 1983.

Ron's professional activities have included basic and applied research, technical management and staff development, program development, and, most recently, program management. From 1989-1992 he was DOE's Waste Stream Manager for Electroplating, focusing on environmentally conscious manufacturing. He was also instrumental in the design and development of the Integrated Manufacturing Technologies Laboratory at Sandia/California. Currently he manages the engineering deployment activities within the National Security Sector's Product Realization Program.

Livermore retiree dinner photos on Web

Attendees to the October Livermore retirees dinner who would like to see more photos of the event can find them on the Sandia Thunderbird World Wide Web page.

That page can be accessed over the Internet at <http://www.slfcu.org/thunderbird/index.html>



CONGRESSIONAL VISIT — Soon after her election to California's 10th Congressional District seat, Ellen Tauscher visited Sandia twice in December to get up to speed on science and technology at the Labs. She is shown here talking with VP Tom Hunter. At her Dec. 19 meeting she was briefed on nuclear weapons stewardship, countering weapons of mass destruction, and basic and applied research.

Goodyear

(Continued from page 1)

Sandia, \$3 million in in-kind research by Goodyear — to DOE Defense Programs' \$1 million. That is certainly a well-leveraged program for the government," Dave says.

To get to that point from an even match of \$3 million each from Defense Programs TTI (Technology Transfer Initiative) funds and Goodyear money required building trust and confidence in Sandia's ability to deliver, Dave says.

Hal Morgan, Manager of Engineering and Manufacturing Mechanics Dept. 9117, and Al Hodapp (9117) have been overseeing that particular project, one of three CRADAs Sandia has with the tire manufacturer.

Had to prove timely and beneficial

Hal says a major challenge in working with Goodyear was proving that the research would result in something that could be timely and beneficial to their analysts and designers. "It's often difficult to benefit quickly from research, but last summer we were able to deliver a modeling tool ahead of schedule that helped Goodyear designers respond to one of their important customers," he says.

In character with many of Sandia's industrial partnerships, much of the Goodyear research is proprietary and protected under provisions of the NCTTA. But the general thrusts of the Goodyear CRADAs are no secret. They involve using advanced computational modeling tools and materials science experiments to develop better tires for Goodyear while improving applied mechanics simulation techniques used in Sandia's national security missions.

"For both Sandia and Goodyear, the research has resulted in a reduction of time and cost by allowing solutions to tire and weapons mechanics problems that were previously intractable with other computational methods," Hal says.

Dave says these new solutions are useful in addressing design issues ranging from large-scale weapon component deformation during accidents to advanced earth penetrators.

Modeling, engineering analysis

Under the CRADA managed by Hal and Al, Sandia and Goodyear researchers are developing and validating tools for finite-element analysis, a computer modeling technique for predicting thermal and mechanical responses of structures. These tools can be used to simulate and predict

Two Goodyear CEOs have visited Sandia

When Nissim Calderon, Goodyear vice president of research, told *Mechanical Engineer* magazine about Sandia and Goodyear employees rubbing elbows, he was talking in some cases about elbows that have spent a lot of time on corporate board room tables. Two Goodyear chief executive officers have visited Sandia in the past two years and have been hosted by two Sandia CEOs.

But before the visitors reached that level of prominence, Bill Alzheimer remembers a day in late 1991 when Joe Harris walked up the steps of Bldg. 878 with about a half dozen visitors in suits.

"I looked out the window and wondered who those people were," says Bill, who at the time was Director of Manufacturing Technologies. Before the day was over, Bill had met all of them, and they were Sandia's first Goodyear visitors to New Mexico. An earlier group of Goodyear representatives had visited Sandia/California at Joe's invitation.

Before that California visit, Joe recalls, he received a call from a Goodyear researcher who said he wanted to explore collaborative research possibilities with Sandia in the area of

computer simulation. Joe says he and other Sandians were at first skeptical of how a tire company and a nuclear weapons lab would fit as research partners.

"But when he (the Goodyear researcher) told me that Goodyear employed more than 90,000 people and was the last US-owned tire company, I told him I would be on the next plane to Akron," Joe says.

Joe's early discussions with Goodyear researchers eventually led to three CRADAs. After the CRADAs had been in force for about two years, Goodyear Chairman and CEO Stan Gault came to Albuquerque in March 1995 for a tour of Sandia and discussions with senior Sandia executives. His host was then-Sandia President Al Narath, now President of Lockheed Martin's Energy & Environment Sector.

In July 1996, Gault's successor, Samir Gibara, came to Sandia and was hosted by current Sandia President C. Paul Robinson. Bill and Goodyear Vice President Calderon were among more than a dozen Sandia and Goodyear vice presidents and directors who participated in the meetings.

manufacturing elements such as shaping and curing processes and performance characteristics such as rolling tire resistance and hydroplaning. By doing this, the new computational tools can reduce the need to build and test prototypes, which gets the tires to market sooner.

Under another CRADA, managed by Roger Clough, Manager of Materials Aging & Reliability: Bulk Properties Dept. 1811, researchers are using a variety of analytical techniques, including neutron scattering, to study the structure and properties of various materials used in tire fabrication. They are gaining an understanding of the aging and reliability of elastomers and developing methods for predicting material lifetimes. They are also developing advanced materials with improved properties.

The third project, managed by Randy Mayes of Experimental Structural Dynamics Dept. 9741, also involves the use of finite-element models, in this case to predict tire vibration for ride quality and noise applications. For this work, Randy says, Goodyear also is putting funds into Sandia, a commitment of \$750,000 over a three-year period.

The competitive advantages for Goodyear in

accomplishing the goals of this research is obvious, but the knowledge gained from the work also is allowing Sandia to accomplish its missions more effectively. Otherwise, DOE would not be contributing approximately \$2 million to the research in FY97, says Bill Alzheimer, Director of Energy Components and Metrology Center 1500.

Bill has the responsibility for general oversight of all of Sandia's work with Goodyear. He is pleased with the compliments paid to Sandia by Goodyear executives but also is quick to point out that Goodyear has brought more than money and kind words to the partnership.

Benefits flow both ways

"It's definitely a case of dual benefits for the government and industry," Bill says. "Results of research from the finite-element analysis CRADA already have been incorporated into Sandia's design of neutron generators, and research from the CRADA being managed by Randy allowed us to use a Goodyear finite-element capability to look at reentry vehicle vibration, a capability we had been wanting to develop for years," Bill says.

And, Roger says, the research being done under the materials CRADA, particularly methods for predicting materials lifetimes, is highly synergistic with work being done to support Sandia's science-based stockpile stewardship mission.

Nissim Calderon, Goodyear vice president of corporate research, was quoted in the October 1996 *Mechanical Engineering* explaining the dual benefits in algebraic terms.

"You greatly enhance the chances of success by making it a win-win situation for both the lab and the company," Calderon said. "Say Goodyear has a two-component project: A and B, while Sandia has another project characterized by A and C. Why not do A together and share the risk, share the effort, share the cost? And while we're at it, their scientists rub elbows with ours, and naturally they exchange expertise and suggest changes in current procedures, so the laboratory is also acting as a consultant, while the lab personnel get a reality check from business."

On the Sandia side, scientists and engineers in approximately a dozen centers share credit for the successes of the research partnerships, which had their genesis in the early 1990s when Joe Harris, now Manager of Customer Liaison Dept. 1404, began talking with Goodyear research executives about possible cooperative R&D projects.

Centers participating or that have participated in the research include 1800, 9100, 9200, 9400, 9600, 9700, 8100, 8700, and 6800.

"It has been and continues to be a complete team effort," says Bill, "and the success achieved to date is due to the technical excellence that the staff from the various centers brought to the project." —Ace Etheridge

Got your lift tickets? Ski Days '97 are Jan. 24 & 31

All Sandia and DOE employees and their families are invited to join in the second annual Sandia/DOE Ski Days at Sandia Peak Ski Area Friday, Jan. 24, and Friday, Jan. 31.

The "Ski Days" event — sponsored by the Coronado Ski Club, Business Management and Chief Financial Officer Div. 10000, and DOE's Albuquerque Operations Office — is scheduled for two consecutive Fridays so employees can participate during their 9/80 Fridays off regardless of which cycle they are on. Other employees who choose to participate must schedule a day of vacation.

Lifts will open at 9 a.m. and close at 4 p.m. both days. The equipment rental shop opens at 8:30 a.m., and the lodge opens at 8. Morning lessons start at 10 a.m. Discounted lift tickets, rental forms, and lesson forms (see rates at right) are available only at the Coronado Club office (checks only please).

The event includes a "serious" race for competitive skiers and a "not-so-serious" race for fun; racing teams are being organized by Gary Riser (10000) and Rush Inlow (DOE/AL). Participants also may organize into ad hoc scavenger hunt teams at 8:30 a.m. at the lodge and search for prizes hidden by the ski patrol; contact Coronado Ski Club Director John Hancock (12304) at 844-3908 for scavenger hunt information. Ski Day participants can indicate whether they're interested in participating in these activities when they buy their lift tickets.

An after-ski party is scheduled for the evening of Feb. 5 (5:15-7:30 p.m.) at the Coronado Club, with music, dancing, food, drinks, door prizes, and awards for and videos of participants' "on the slope performances." (Sandia Peak Silver Pass season ticket holders need only pay a \$2 registration fee to be eligible for prizes, awards, and snacks.)

If you have questions, contact the Coronado Club at 265-6791.

Lift tickets

Adults, all day, all lifts	\$25
Juniors and Seniors (12 & under and 62 & older), all day, all lifts	\$18
All-day beginner chairlift (any age)	\$18
Super seniors (72 & older)	Free
Kids (48 inches & shorter)	Free

Rentals

Adult skis, boots, & poles, all day	\$12
Child skis, boots, & poles, all day (ages 5 & under)	\$8
Snowboard & boots, all day (requires \$350 deposit)	\$28

Snowboard package

All-day group lesson, board rental, & lift ticket (requires \$350 deposit)	\$55
--	------

Ski lesson package rates are available at the Coronado Club office.

Monuments

(Continued from page 1)

freeze-thaw effects, chemical reactions, and bacterial and fungal growth.

A brief history of lime

Difficulties in protecting limestone-based materials (marble is compressed limestone, and cements are made with lime) have been recognized since the late 1800s. Organic coatings such as resins and epoxies bond well to limestone but break down in sunlight and water. Inorganic coatings resist sunlight and water but bond well only to quartz, feldspar, and silicate rocks, rather than to the majority of statuary, which is made of limestone and marble.

The problem has been to create an inorganic coating that can bond to limestone-based materials. While several commercial coatings are available, the museum and defense researchers thought a better product could be produced through use of modern technology rather than by the trial-and-error testing done formerly of necessity.

Funded by Sandia's Laboratory Directed Research and Development program, the coating in development at Sandia is made of a two-sided "passivant" molecule that couples with its organic side to the carbonate structure and with its inorganic side to an overlying inorganic protective layer involving a silicon-based polymer.

When she announced the Sandia results at a meeting of the Materials Research Society in Boston in early December, Kathy showed why scientific observation is sometimes superior to so-called common sense. She said that contrary to what one might expect, the attaching molecule, or passivant, "that binds least strongly gave the best protection. We think that those molecules binding strongly are actually enhancing the dissolution rate."

Computer modeling saves time by eliminat-

ing inefficient molecular arrangements from laboratory testing. The modeling, under the direction of Sandia researcher Randy Cygan (6118), also provides an idea of the degree of protection provided by other molecular arrangements.

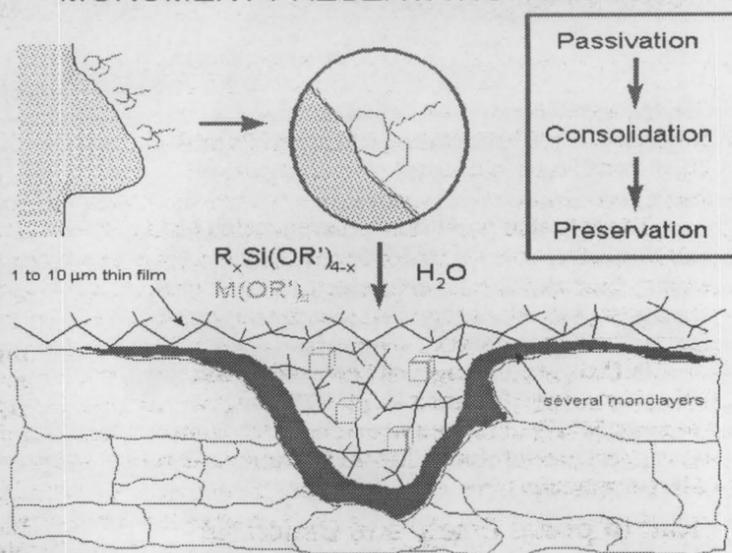
According to Randy, "The total energy of the chemical system was monitored as a function of the atomic positions based on the energy contributions of bond stretching, bending, and torsion of the binding molecule."

Monte Carlo simulations of the sequential packing of individual molecules as they bonded to the calcite surface helped evaluate the expected surface coverage of the molecules.

The coating is applied in an alcohol solution called a sol-gel, developed at Sandia under the leadership of chemist Jeffrey Brinker (1831). When the solution dries, only the coating is left. Carol Ashley (1831) and Cathy Scotto of the Naval Research Laboratory participated in the sol-gel synthesis and applications parts of the study.

Geochemists measure the dissolution rates of calcite powders when attacked by one substance — simulated acid rain — and protected by another — the inorganic coating. Through use of magnetic resonance imaging, Sandia scientists Roger Assink (1811) and Todd Alam (1811) watch the progress of moisture through limestone when different coatings are applied. Univer-

MONUMENT PRESERVATION APPROACH



TWO-SIDED "adhesive" (gray, U-shaped layer), developed by Sandia with NY's Metropolitan Museum of Art, adheres to crack in rock-like carbonate layer below and to an inorganic sol-gel layer above. Cubes represent silicon or zirconium oxide, added for strength. Statue nose (upper left) demonstrates tridentate binding of adhesive, called a passivant.

sity of New Mexico graduate student Sudeep Rao measures the mechanical strength of coated limestone cores.

The preliminary product is a bendable glassy coating a few molecules thick that coats like glue. It is silicon-based — a kind of glass — rather than carbon-based, like plastics.

542 VSIP requests submitted

(Continued from page 1)

all impacts in 47 peer groups had been resolved; some 244 impacted peer groups remained.

Once all the VSIP requests from impacted employees have been processed, HR will begin to examine the job descriptions of the 217 nonimpacted employees who submitted VSIP requests to determine whether some of their jobs can be filled by impacted employees. If so, a number of nonimpacted employees may also receive VSIPs.

20 non-VSIP resolutions

Karen Gillings, Manager of Staffing Dept. 3535, says it's still too early to tell whether Sandia will achieve its goal of eliminating all 438 impacted positions without layoffs, as hundreds more VSIP applications still must be considered. But she says the HR staff is encouraged by the number of applications submitted and that there are still a variety of ways impacts can be resolved before the next step of the realignment process, the "60-day period for placement of surplus employees," becomes necessary.

Several impacts are being resolved as the result of impacted employees being selected to fill openings posted in the Dec. 3 posting of some 166 positions. Additional resolutions are occurring as a result of managers identifying staff augmentation contractor positions that could be filled permanently by impacted Sandia employees. Non-VSIP resolutions now total about 20.

But by and large the best opportunity to find additional job opportunities within Sandia is the so-called "second-wave" job posting that was made available Jan. 14 on Sandia's Workforce Realignment Web site, she says. (Look for the realignment icon on Sandia's Internal Web home page.) The posting contains the job descriptions of more than 119 nonimpacted employees who want to resign and receive VSIP benefits. Employees who remain impacted and who are qualified for positions on this list may bid through Wednesday, Jan. 22.

Phase Two ends Feb. 17

Don Blanton, Director of Human Resources Center 3500, says he remains hopeful that the VSIP will help alleviate Sandia's staffing problems before the end of the voluntary action phase in the realignment process. He says he is encouraged by the number of VSIP applications submitted. The giant job posting and the "nonimpacted positions" posting, both added to the process as the result of employee comments following last year's realignment, also are helping bring the number of impacts down, he says.

Still, Don says, it's possible Sandia will have to enter Phase Three of the realignment process, during which individual employees are designated "surplus," if all the impacts can't be resolved by the end of Phase Two. If that becomes necessary, some employees will be notified of their surplus status by the end of February.

As positions are filled, VSIP requests are accepted, and impacted peer group situations are resolved, affected employees will be kept apprised of their status in the realignment process by their managers. Employees whose VSIP requests are approved will be notified in a memo from Human Resources as soon as possible after approval.

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

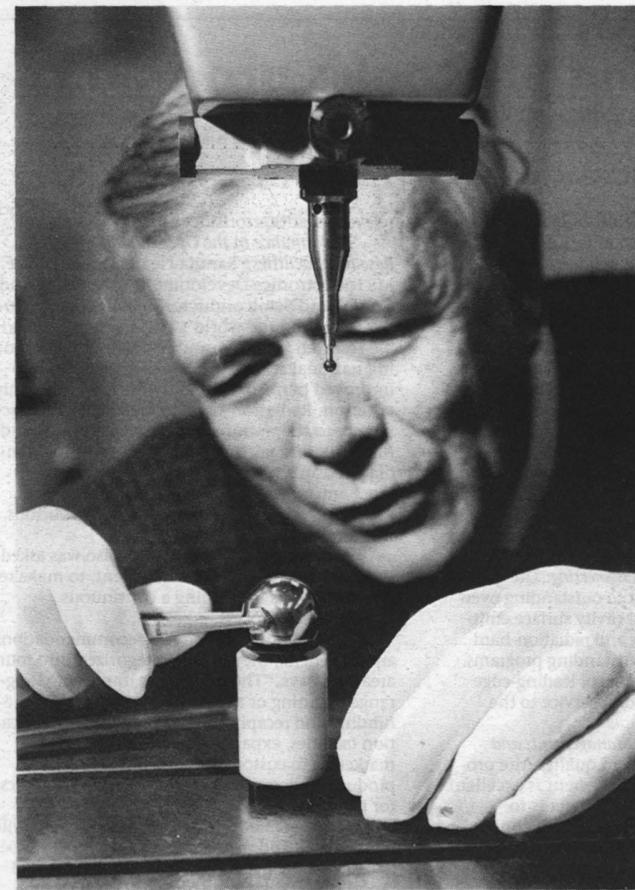
—John German



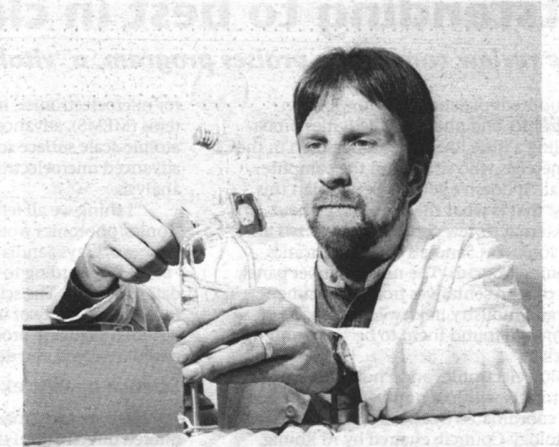
EXHIBITS PEOPLE REMEMBER — Jim Walther, newly appointed Director of the National Atomic Museum and Manager of Dept. 12660, joined Sandia early this month. A 15-year veteran of museum management, Jim served most recently as Vice President of Programs and Exhibits at the Museum of Discovery and Science in Fort Lauderdale, Fla., a family science museum. He's also a founding member and the immediate past president of the National Association for Museum Exhibition. As a longtime exhibit designer, one of his priorities at the National Atomic Museum will be development of a variety of provocative, memorable, ever-changing interactive exhibits that help educate visitors, particularly youth, about science and technology and that "keep people coming back," he says. He also hopes to guide the museum's maturation into a well-attended cultural landmark that "plays a vital role in our community," in part by overseeing a smooth transition to a (yet unnamed) location off of Kirtland Air Force Base, developing a long-term financial strategy and support system that allows the museum to "earn more of its own keep," helping professionalize the museum's processes and policies, and obtaining accreditation through the American Association of Museums.



GETTING WIRED — Mel Salazar (left) and Stu Kupferman, both of Primary Electrical Standards Dept. 1542, work with a high voltage calibration system, one of many sophisticated calibration devices used in the Primary Standards Laboratory at Sandia.



TAKING ITS MEASURE — Jay Chamberlin, Primary Physical Standards Dept. 1541, meticulously places a calibration sample in the Primary Standards Lab's state-of-the-art Moore Universal Coordinate Measuring Machine. The machine can measure complex, irregularly shaped objects with a precision of 0.025 micrometer.



GAS LEAK DETECTION — Mark Benner, Primary Physical Standards Dept. 1542, makes adjustments to a gas-leak-detection calibration system. The detectors are widely used throughout the nuclear weapons complex to check the integrity of critical seals and vacuum equipment.

Primary Standards Lab earns national accreditation as a calibration laboratory

State-of-the-art facility serves DOE's weapons program, industrial and university customers

By Bill Murphy

Lab News Staff

The Primary Standards Laboratory (PSL) at Sandia has been accredited by the National Institute of Standards and Technology (NIST) National Voluntary Laboratory Accreditation Program (NVLAP) as a calibration laboratory. The accreditation makes the lab one of about 20 facilities nationwide that have been certified under the NIST program.

"Not only does the accreditation certify our technical competence in metrology [the science of measurement] and represent a significant achievement for our staff," says manager Dick Pettit (1542), "it also provides the national and international recognition that is so important in developing new partnerships."

The PSL, operated by Sandia for DOE, assures the accuracy of measurements for customers by certifying standards, developing measurement techniques, and advancing the state of the art in metrology.

"Our main job here," says Dick, "is supporting the standards program for DOE's nuclear weapons complex." Each NWC facility has an on-site standards lab that calibrates local measuring and test equipment. The PSL provides top-level calibration of the standards used at these so-called second-level facilities. The PSL, in other words, provides calibration services for the weapons complex's resident calibrators. Much of Sandia's own second-level standards lab operation has been integrated into the state-of-the-art PSL facility and performs most of the calibration services for Sandia's wide array of measuring devices.

The importance of maintaining standards cannot be overstated, says Dick. In science, any data you obtain via experiment are no more precise than the accuracy of the measuring devices used in the procedure. Likewise, in the industrial arena, measurement and manufacturing accuracy are prerequisites for quality and product reliability.

Imagine, Dick says, a precise component that is being designed and manufactured by several companies. The component parts will be shipped to Sandia for assembly and test-

ing. In order for the parts to fit and function as intended, these companies must use common units of measure, such as length, voltage, and mass, for example, throughout the design phase, testing phase, and manufacturing phase. Maintaining standards at each company that are traceable to standards maintained by NIST and properly calibrating the design and inspection equipment ensure that the component will meet its requirements.

PSL is a finely tuned instrument

The PSL accreditation is part of a process launched by NIST to streamline and improve calibration practices for government, industry, and universities. Users dealing with an accredited facility, Dick notes, can be assured that the measurement standards are maintained rigorously and are traceable to national standards, which are most often maintained by NIST. While the NIST accreditation program has a US focus, the organization is negotiating with several countries around the world to assure mutual recognition of each country's accreditation programs.

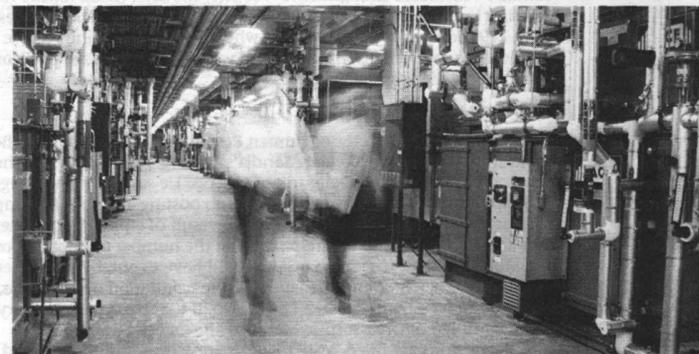
Maintaining rigorous standards calls for a special sort of facility, one that functions like a finely calibrated instrument itself. The PSL is such a facility. The \$30 million lab, which opened

its doors just two years ago, was designed specifically for the metrology mission it performs.

For example, in order to control vibration, which can play havoc with a whole host of measurements, the building's two main concrete slabs under the laboratory areas measure a massive 270 feet long by 60 feet wide by 2 feet thick and float independent of the rest of the structure. In addition, temperature and humidity are controlled rigorously in all testing areas throughout the building. In fact, Dick says, temperature is the most difficult environmental factor to control. The PSL contains 26 separate air handling systems, each one dedicated to process the air in a particular test area. The air handling system blowers are spring mounted; like the isolated slab, the spring mounts assist in vibration control. Air temperature throughout the building is controlled to within 1° C, although within certain modules, the degree of control is 0.01° C, says Dick.

All the lab's test modules are contained within an EMI shield designed to eliminate electromagnetic interference that could interfere with calibration efforts.

Each year, the laboratory performs more than 2,000 certifications of top-level standards and more than 5,000 certifications of Sandia measuring and test equipment.



PRECISE AIR CONTROL — Jim Kwak (left), Primary Physical Standards Dept. 1541, and Dick Pettit, Manager of Primary Electrical Standards Dept. 1542, stroll down the 270-foot-long mezzanine that contains the Primary Standards Lab's sophisticated air control system. The mezzanine holds 26 separate air systems, which together maintain precise temperature and humidity conditions throughout the facility.

The parameters cover more than 80 measurement areas divided into three broad disciplines: physical, electrical, and radiation.

Physical calibrations

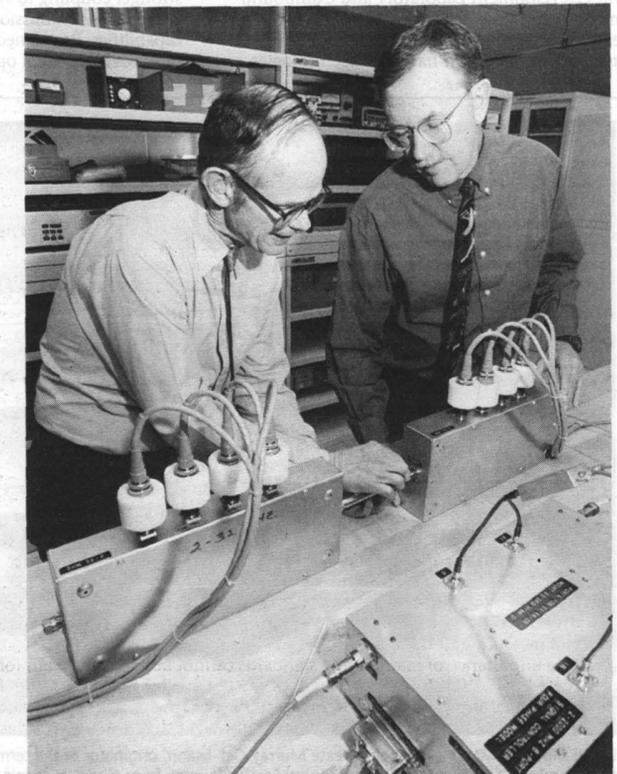
One area of physical calibration involves high-precision dimensional standards for advanced manufacturing. This activity is supported by using a universal coordinate measuring machine, which has the capacity to measure complex shaped objects as large as 1.2 meters with a precision of 0.025 micrometer (or about one-three thousandth the width of a strand of human hair). The highest level of accuracy in length measurements is performed interferometrically using the wavelength of laser light. The laboratory also calibrates gas leak standards that are used extensively throughout the weapons complex to check the integrity of critical seals and vacuum equipment using leak detectors. Gas leaks are calibrated using specially developed, computer-controlled, high-vacuum, magnetic sector mass spectrometers. Other instruments calibrate temperature standards up to 2,300° C. The laboratory has gas-flow standards that are used to calibrate flow meters up to 50 cubic feet per minute.

Electrical standards

The PSL maintains a state-of-the-art DC Josephson Voltage Standard, high voltage divider standards, a wide variety of AC and pulse voltage/current standards, and microwave capabilities that support radar and communication equipment.

Radiation calibrations

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



MAKING CONNECTIONS — Bob Moyer (left), working in the Microwave Power Transfer Standards Lab, hooks up a dual six-port network analyzer as Dick Pettit watches. The two are with Primary Electrical Standards Dept. 1542.

Sandia's microelectronics and photonics programs 'outstanding to best in class,' says review panel

Outside review committee praises program, a 'vital national resource'

The hundreds of Sandians who work on microelectronics and photonics activities probably are feeling a little like the outdoorsmen in the beer commercials who sit around the campfire musing that "it doesn't get any better than this."

At least that is what they could say about what an external review committee reported after it recently looked at Sandia's Microelectronics and Photonics Program. The nine-member panel, composed of representatives from government, academia, and industry, reviewed all aspects of the program and found them to be "outstanding to best in class."

The Microelectronics and Photonics Program involves projects within a number of Sandia centers and is coordinated by the Electronics Science and Technology Council, chaired by Al Romig, Director of Microelectronics and Photonics Core Competency Center 1300.

"The committee was asked to review the entire program for quality, programmatic performance, relevance to national needs, and performance in operations of laboratories, and in each area the assessment was outstanding to best to class," says Al. "Based on the narrative rating, the summary ranking is easily outstanding with a numerical rating in the 90 to 100 range based on Department of Energy guidelines."

Program 'essential' to DOE's mission

The review panel began its executive summary with these words: "The Sandia Microelectronics and Photonics Program represents a vital and strategic national resource." That beginning paragraph goes on to say that the program is essential to Sandia's DOE mission and important to the nation's microelectronics structure as a way of leveraging and co-developing technology with industry.

Included in the program are elements of Physical & Chemical Sciences Center 1100, Electronics Components Center 1200, and Microelectronics & Photonics Core Competency Center 1300, including activities of Sandia's Microelectronics Development Laboratory and Compound Semiconductor Research Laboratory. Specific research areas reviewed included custom integrated circuits, radiation-hardened technologies

for microelectronics, microelectromechanical systems (MEMS), advanced silicon technologies, and atomic-scale surface science, solid-state sensors, advanced microelectronics packaging, and failure analysis.

"I think we all felt that Sandia's microelectronics/photonics work was both innovative and vigorous," says Sandia President Paul Robinson, "but it is rewarding to have outside experts validate that view. The science, the technology, and indeed the variety of imaginative hardware that our folks regularly produce are hallmarks of successful research and development."

Science quality 'excellent to outstanding'

Here are assessment performance measures quoted directly from the report:

"Quality of Science and Engineering: The quality of the programs is excellent to outstanding overall. MEMS, VCSELs (vertical cavity surface emitting lasers), failure analysis, and radiation-hard activities are examples of outstanding programs. In each case there are elements of leading-edge capability, innovations, and/or service to the nation and industry.

"Program Performance, Management, and Planning: Based on results and quality, the program performance and management is excellent as well. The key to improved impact is to develop more detailed roadmaps with connection between science and system applications. The Electronics Science and Technology Council is an excellent framework for developing forecastable, product-oriented roadmaps and plans. The customer must be involved in the planning stage and kept in the loop during development.

"Relevance to National Needs and Agency Missions: The relevance of the national mission through the Sandia Microelectronics Program to the DOE stockpile stewardship mission is clearly outstanding. This mission is well defined and comprehended by SNL personnel. In further strengthening this, Sandia should encourage stronger coupling to systems programs. SNL cannot meet its mission without radiation-hard capabilities. Broadened mission to include surety can provide areas of opportunity for expanded

relevance (antiterrorist technology).

"Performance in the Operation of Major Research Facilities: Sandia clearly operated the Microelectronics Development Laboratory and Compound Semiconductor Research Laboratories as among the world's best-in-class for flexible research facilities, and provides an outstanding national resource. Metrics are essential to improved performance, but cost is not the only criterion. Radiation-hard capabilities, efficiency, impact to the national security customers, and infrastructure partnerships are important. Sandia needs to continue to employ a creative mechanism(s) for capitalization. The current approach, which depends upon contributions from industry, is at risk."

Al says the review committee also was asked, in addition to the overall assessment, to make recommendations for guiding a continuous improvement process.

"The committee made 29 recommendations, and in general, they can be categorized into four areas," Al says. "Those areas are improving long-range planning or roadmapping, solidifying the funding and recapitalization plan for the fabrication facilities, expanding internal and external marketing to customers, and continuing new product implementation and expanding metrics for technology development."

Al says each of the 29 recommendations will be evaluated and, where possible, actions will be taken to implement the suggestions. A detailed report summarizing the response to all recommendations will be made to the review committee at the next review, tentatively scheduled for fall 1997.

— Ace Etheridge

Committee offers strong endorsements about specific research areas

Here are selected comments from the committee report about specific research areas:

Custom integrated circuits/radiation-hard technology: "The committee is convinced that SNL must possess in-house capability to design and fabricate radiation-hard parts to meet its mission. . . . Leadership opportunities for Sandia with other government defense and commercial customers may exist that span the design-to-assembly of integrated radiation-hard microsystems."

Micromachines: "The committee strongly endorses this program. It is first-rate science and engineering."

Advanced silicon technology: "MDL should be sustained and further developed as a major national resource, with strategic capabilities, e.g., radiation hard, MEMS, sensors, new materials, demos. . . ."

Atomic-scale surface science: "This is first-class original research, with the researchers having a command of future program directions."

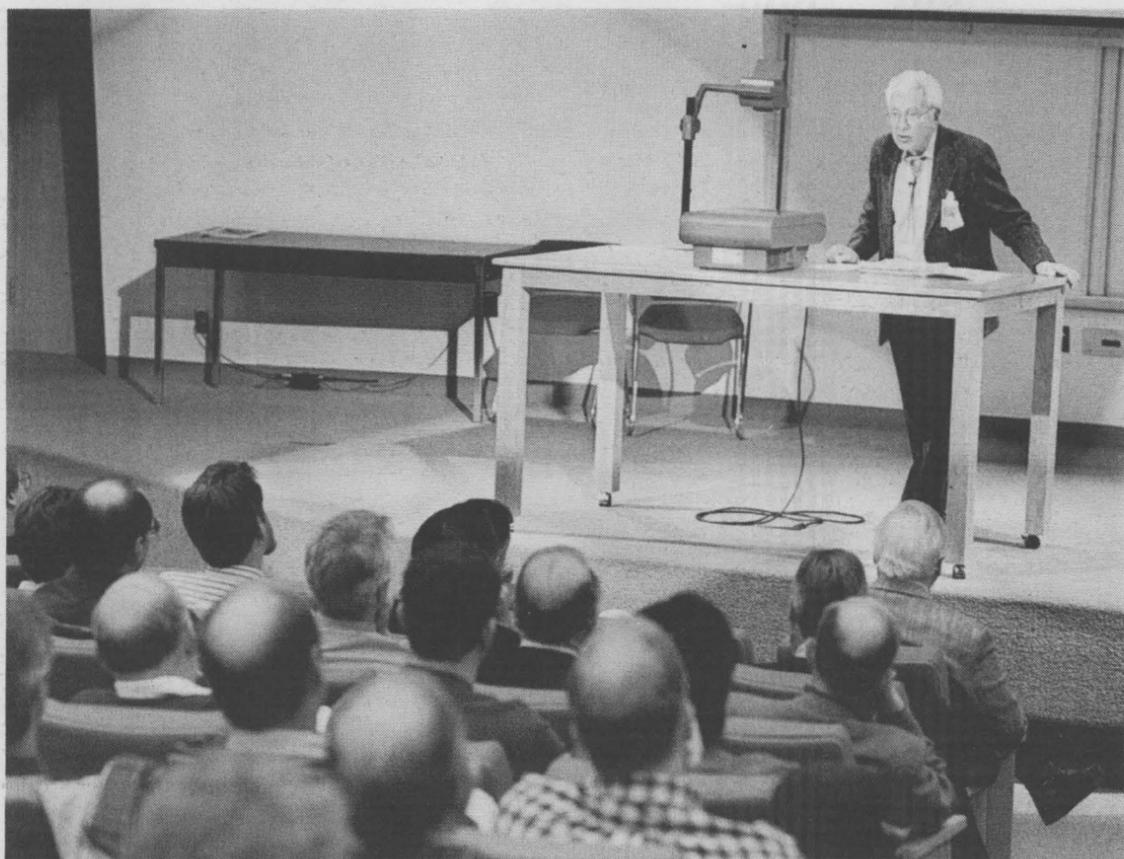
Smart solid-state sensors: "This work is uniformly very good, as it has demonstrated excellence in integration."

Advanced packaging: "This is an excellent program. It does what is needed to meet the mission. . . ."

Failure analysis: "This is a leading program that is producing fantastic results. SNL is really transferring capabilities to industry."

Microelectronics partnerships: "This is a very successful program to date."

Compound semiconductor science and technology review: "SNL has a unique and world-class laboratory impacting capability; a valuable national resource."



INCREDIBLE JOURNEY — Nobel laureate Murray Gell-Mann, originator of the term "quark" in a physics context, speaks to Sandians Jan. 9 about his intellectual journey from studying simple particles to grappling with complex systems. Gell-Mann, co-chairman of the Science Board at the Santa Fe Institute and a professor emeritus at California Institute of Technology, was hosted at Sandia by Gerry Yonas, VP of Division 9000.

Sandia News Briefs

Ten Sandians contribute to definitive new industrial electronics reference book

Ten Sandians are among the dozens of contributors to the just-published *Industrial Electronics Handbook*, published by CRC Press, Inc. The 2,000-page volume, billed as a major new reference book in the publisher's Electrical Engineering Handbook Series, features detailed coverage of core subjects and in-depth coverage of intelligent electronics and emerging technologies, including leading-edge applications in expert systems, fuzzy systems, soft computing, asynchronous transfer mode technology, and more. Sandia contributors are William Boyer (9321), J. Arlin Cooper (12331), Nadine Miner (9621), Carmen Pancarella (8920), Richard Pettit (1542), Tony Ricco (1315), David Ryerson (2664), Otis Solomon (1542), Samuel Stearns (ret.), and Timothy Strayer (8910). To order the book, available on 30-day approval, call CRC Press at 1-800-272-7737.

Steve Lambert named fellow of Geological Society of America

Steve Lambert of Geochemistry Dept. 6118 has been named a fellow of the Geological Society of America (GSA). Steve, who has been with Sandia for more than 20 years, has been involved in a wide range of waste management and other environmental projects. He was among the first Sandia scientists to provide technical support for DOE's Waste Isolation Pilot Project in Carlsbad. The GSA is one of the premier professional associations for earth scientists. With more than 15,000 fellows, members, and student associates, it serves earth scientists at all levels of expertise and from all sectors: academic, government, business, and industry.

Juanita Sanchez named president of Roadrunner Food Bank

Juanita Sanchez of Community Involvement and Issues Management Dept. 12650 has been elected president of the Board of Directors of the Roadrunner Food Bank. The food bank is a private nonprofit organization that collects donated and surplus food from the public and from the food industry. Roadrunner in turn distributes more than two million pounds of food each year to approximately 200 agencies throughout New Mexico. Juanita joined the Board in March 1995.

City recognizes Sandia for wastewater practices

The City of Albuquerque Department of Public Works Wastewater Utility Division Industrial Pretreatment Program has presented Sandia a "Gold Pretreatment Award" in recognition of the Labs' 100 percent compliance in both reporting and process water discharge compliance. Annual awards were announced at a December City Council meeting.

KAFB modifies motorcycle regulations for base access

According to Kirtland Air Force Base safety officer Lt. Col. Mary Kay Hertog, the regulation that had required motorcyclists to wear an orange vest in order to be allowed access to the base has been modified. The relevant regulation now states: "All motorcycle operators and passengers will wear long-sleeved outer, upper garments or vests, and gloves when operating the vehicle. During daylight hours, outer garments or vests will be of a highly visible color, defined as bright (international) orange, red, yellow, green, or a combination (may include white) of these colors. During the hours of darkness, the garment or colored vest, as defined above, must possess reflective properties and/or have reflective materials added to front and back. Outer garments or vests will be visible at all times."

Send potential Sandia News Briefs to Lab News, Dept. 12640, MS 0165, fax 844-0645.

Wade Ishimoto commended for his participation in study of Saudi bomb attack

Wade Ishimoto, Manager of National Special Operations Program Dept. 5505, has received an Award of Excellence from the office of the Secretary of Defense for his contributions to the task force that examined facts and circumstances surrounding the June 1996 terrorist bombing at a US base in Saudi Arabia.

As a member of the Downing Assessment Task Force, named for task force director and retired US Army General Wayne Downing, Wade participated in studying the terrorist bomb attack on the Khobar Towers apartment complex at the US airbase at Dhahran. He also played a key role in the task force's assessment of the security, infrastructure, policies, and systems in place in Dhahran and other US Central Command facilities. The task force, as a result of its work, was able to recommend specific measures to prevent similar attacks or minimize casualties and damage.

In the Khobar Towers attack, a terrorist truck bomb sheared off the outer wall of Building 131, leaving a crater 85 feet across and 35 feet deep. The blast's shock wave blew in windows and pulverized reinforced concrete; the force of the explosion was powerful enough to shatter windows up to a half-mile away. Of the 100-plus officers and enlisted personnel housed at Building 131, 19 airmen were killed and more than 50 were hospitalized.

In a letter of commendation, Gen. Downing said Wade was "the consummate professional and an essential member of the task force."

"His tremendous experience [Downing's letter continues] in intelligence, physical security, force protection, and knowledge of the Middle East was simply invaluable to the completion of the [task force] mission. His insights into governments,

their officials, and policies brought a much-needed perspective to the entire assessment.

"Many of the US military officials were either personally acquainted with or knew Mr. Ishimoto by reputation. Because of the respect they held for him, the work of the task force was often expedited or made smoother.

"[Wade's] unique experience and understanding of the area was also put to excellent use in a Red Team effort which critically examined the task force report for accuracy and consistency. He directed and coordinated the effort to archive all report data, making the report an automated model for others to emulate. . . .

"Finally, Mr. Ishimoto's fine sense of humor and lack of ego often brought relief to otherwise tense situations during the many long and arduous hours under trying circumstances which surrounded the task force effort.

"His professionalism and dedication have contributed significantly to the report, which will further the national security interests of the United States."

Roger Hagenruber, VP of National Security Programs Division 5000, presented Wade the Award for Excellence on behalf of the office of the Secretary of Defense.

Congratulations

To Sherry (8210) and Ole Ingwerson, a son, Christian Alan, born Oct. 14, 1995, adopted Aug. 9, 1996.

To Judy Scarbrough and Steve Casalnuovo (1313), a son, Dominic Amedeo Casalnuovo, Nov. 18.

Dr. Martin Luther King, Jr. Recognition Celebration

Monday, Jan. 20
12 noon - 1 p.m.

Technology Transfer Center
(Bldg. 825)

Featured speaker: District Court
Judge Angela Jewell

Hosted by Sandia President
C. Paul Robinson

Feedback

Q: I thought it was great that we got to bring girls and boys to the recent "Bring Your Daughters to Work Day" and "Bring Your Sons to Work Day." I'd like to know why it seemed like there were many more events scheduled and announced for the sons than for the daughters. When I brought my daughter, we were looking for interesting events that were set up but we found very few. When the boys were here, I heard about all kinds of interesting things that had been set up. Maybe I just missed something?

A: Thank you for your question. Daughters' Day is a national event and has government support. Although there is no comparable national program for Sons' Day, Charlie Emery (VP-3000) and I discussed this and agreed we should host a comparable day in which parents could bring sons to Sandia. We organized the event and left it up to organizations to offer what they could for sons to see when they visited. We will continue to work to make these days better each year. I appreciate your interest in this program and hope you will bring your sons and daughters to Sandia again.

— Donald Carson (12600)

Sympathy

To Linda (5951) and Marty (5749) Konkel on the death of her father and his father-in-law, Harold Studly, in Tucson, Nov. 10.

To Paula Webb (5951) on the death of her father, Col. Jim Webb, in Albuquerque, Dec. 6.

SPACE TECHNOLOGY & APPLICATIONS INTERNATIONAL FORUM (STAIF '97)

January 26-30

Albuquerque Convention Center

This forum promotes international participation and provides timely exchange of information among technologists, program managers, industrialists, and academicians on technical and programmatic issues related to inexpensive access to space and space commercialization, exploration, and potential for performing scientific research and developing new technologies.

STAIF '97 hosts six conferences:

- 1st conference on future space science and earth science missions
- 1st conference on synergistic power and propulsion systems technology
- 1st conference on applications of thermophysics in microgravity
- 2nd conference on commercial development in space
- 2nd conference on next-generation launch systems
- 14th symposium on space nuclear power and propulsion

Exhibitors and attendees contact:

Institute for Space & Nuclear Power Studies
University of New Mexico
Farris Engineering Center, Room 239
Albuquerque, NM 87131-1431
505-277-0446/4950, fax 277-2814
Complete program at <http://www-chne.unm.edu/isnps/isnps.htm>

Mileposts

January 1997



Pat Gildea
40 8411



Tracey Lamee
15 8522



Ike Davis
30 8533



Marion Martin
15 8421



Chuck Sage
35 8210



Craig DeShields
20 8513



Steve Ikebe
15 2265



Larry Borello
30 2265



Wen Hsu
15 8112



Diane Veca
25 8930



Jane Ann Lamph
15 12120



Leo Mara
20 8411



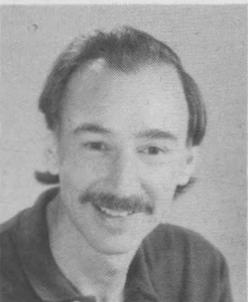
Nick Wittmayer
30 8815



John Korellis
15 8746



Rick Stulen
20 8250



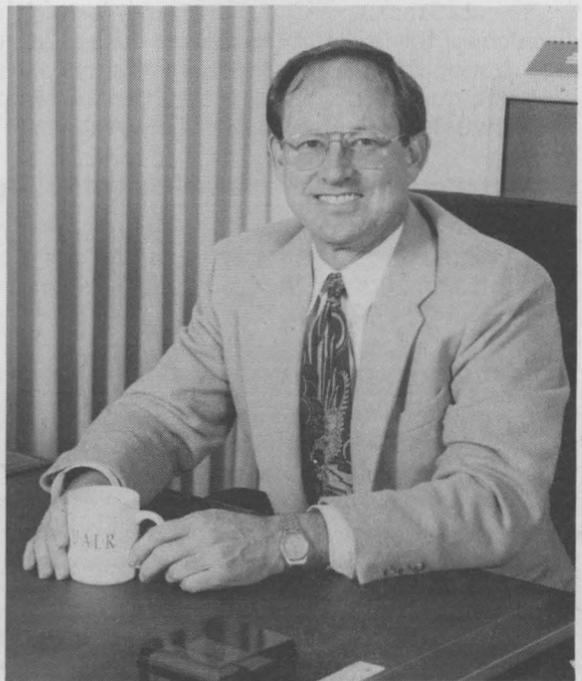
Gerry Giovacchini
25 8346



Edward Talbot
20 2221



Pat Falcone
15 8114



Tom Hunter
30 8000

360° assessment process implemented at Sandia

By Bill Murphy

Lab News Staff

If you want to know where you are, you can look at the ground beneath your feet.

If you want to know where you've been and where you're going, you have to look all around you. That's the underlying premise to Sandia's new 360° assessment program for managers.

The 360° assessment process, explains Jo Ann Romero, takes up where the "upward feedback" process for managers leaves off.

Jo Ann, Manager of Business and Leadership Development Dept. 3526, says that unlike the upward feedback process, in which managers got feedback on their performances from the workers who report to them, the 360° assessment solicits input from your manager, your peers, yourself (yes, in the 360° assessment you fill out an evaluation form on yourself), and from direct-reports, that is, those who report to you.

"The process" says Jo Ann, "brings to the surface a manager's real strengths and real gaps in competency. The 360° data help managers focus on areas for additional professional development, experience, or training."

The 360° assessment process, agrees Human Resources Center 3500 Director Don Blanton, "is an excellent way for managers to receive feedback on their strengths as well as areas that need improvement.

"As managers, we've all got plenty of room for improvement, and by taking this systematic

approach to competency assessment, we can make more productive use of our time and focus development plans in areas needing the most attention."

The key word in implementing the process is "competence." As Jo Ann explains, the genesis of this new assessment tool goes back to 1994, when the Labs leadership identified a set of managerial competencies they thought would be critical for the future based on the Labs' strategic plans.

"Since that time, we've set about to really integrate and make available tools and processes to enhance the competency level of our managers," she says.

The 360° assessment, she says, gives managers a balanced view of their performance, something that was not necessarily true in the upward feedback process.

The 360° assessment is part of a larger process called "Targeted Development," in which a manager or aspiring manager can tailor an individualized development program.

The individualized program, though, is only as effective as a manager's awareness of his or her strengths and weaknesses, Jo Ann says.

Targeted Development, she explains, is a systematic, four-step process: 1) Using the 360-assessment as a tool, evaluate your strengths against competencies; 2) Working with the Business and Leadership Development team, create an individualized development plan; 3) Implement your development plan; and 4) Redo the 360° assessment in 12 to 18 months to reevaluate and measure your progress.

Labs' 360° assessment: How it works

Business and Leadership Development Dept. 3526 offers several sessions each month designed to help participants review and analyze their individual assessment data.

About a month before a given session, the participant — and this can be any manager-or-above Sandian — receives a set of forms to be filled out by those in the 360° sphere of influence (peers, self, direct reports, and managers). The completed forms are returned confidentially to Novations, Inc., which evaluates them and prepares a report detailing how the individual measures up in the managerial competency areas identified by Sandia. The Novations analysis and results of an individual's assessment are returned to the participant in a sealed envelope during the workshop session. At that time, participants discuss how to use the information to help them plan — or target — their own development strategies. Department 3526 offers a range of courses and other training and development options that address the competencies measured by the 360° assessment. For information, call Gail Szenasi at 245-9300 in New Mexico or Carol Crown at 294-1564 in California.

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

MISCELLANEOUS

ROWING MACHINE, Precor Model M6.2, w/electronic module & elevation adjustment, used very little, w/owners manual, will bring to you, \$65 OBO. Zaorski, 281-9194.

PIANO, Baldwin Acrosonic Classic, dark oak finish; camera, EXA Thayer Dresden reflex action, '46 collector item, \$95. Montoya, 896-4252.

ROUND GRAY GRAVEL, 3/4"-1", you load it's yours, first come first served, free. Vigil, 271-1328.

SNOW TIRES, studded, 215/65/R15, only 4K miles, 2 @ \$35 ea. Sleaf, 281-4103.

REFRIGERATOR, Hotpoint 18-cu. ft., gold, top freezer w/icemaker, \$175; kitchen table, metal/Formica, 5 chairs, fair condition, \$50. Homan, 292-5234.

FOUR MOTOR SPORTS WHEELS (MSW), 17-in., late model Vette, used slightly, five spoke, very nice looking, \$980. Von Loh, 877-4140.

AUTO 12CD PANASONIC CHANGER, 120W bridgeable amplifier, Panasonic auto-reverse tape deck, w/CD control & 24-channel preset, \$225 OBO. Wright, 856-6923.

DP WEIGHT BENCH WITH WEIGHTS, \$100; twin bed, \$50; 15-gal. aquarium, filter, \$75. Briggs, 821-4880.

'69 GULBRANSEN PIANO, \$900 OBO; Brothers typewriter AX-36, \$40; wood desk & chair, \$40. Barnes, 265-2836.

ONE-ON-ONE TONY LITTLE STEPPER, like new, originally \$210, asking \$150 OBO; rowing machine, \$50. Daniels, 898-4181.

COMPUTER, Atari 1040ST, w/printer, joystick, software: financial, Pascal, Basic, WP, DTP, games; complete pkg., \$50. Filuk, 281-0078.

BABY CRIB W/MATTRESS, changing table, four-drawer chest, all Child Craft, honey oak, excellent condition, \$400. Marks, 286-2076.

WEDDING DRESS (Mori Lee), & veil, perfect condition, both \$150. Harrison, 899-0193.

VIOLIN, student's full-sized model, made in Germany, very good condition, w/carrying case, \$300. Mayes, 821-0698.

QUEEN BEDROOM SUITE, "Fine Oaks," lighted headboard w/mirrors, matching pier & armoire, 2 yrs. old, \$500. Wilde, 281-7027.

BIG 4-WHEELER TIRES, Goodyear Wranglers, P235/75R15, some life left, rims included, \$175 OBO. Semonick, 883-4212.

COUCH/HIDE-A-BED, blue multi, \$100; shuffleboard table, \$100; loveseat, \$30; 292 CID engine, \$350; 8086 computer & disks, \$25. Guerin, 877-2726.

HUMIDIFIER, Sunbeam Deluxe Ultrasonic Cool Spray, 2-gallon capacity, excellent condition, \$40 OBO. Kesti, 821-9208.

WOMAN'S SOLOMAN SKI BOOTS, size 330 (shoe size 9), \$35. Buck, 1-505-438-3873 or 844-5488.

DP ROW MACHINE, good condition, \$40 OBO. Atencio, 867-3786, evenings.

SWINGSSET, w/glider & see-saw, 2 swings, \$75 OBO; child's computer, laptop model, w/extra cartridge, \$45 OBO. Coleman, 299-8321.

THIRTY MOVING BOXES, large, \$2; small, \$1; snow thrower, Sears, 6-sp., \$300. Schneider, 237-2742.

WAGNER AIRLESS SPRAYER KIT, used once, & 3-quart air spray bottles, \$50; large wood stove, \$250. Hayes, 299-1200.

WANG COMPUTER 386, 16MB RAM, Windows 3.1 + more, VGA monitor, external modem, \$300. Harrison, 821-9099.

PENDLETON BLANKET, new, never used, queen, 80" x 90", retail \$130, asking \$80. Locher, 256-3406.

TOSHIBA 100CS NOTEBOOK COMPUTER, factory warranty, 75MHz Pentium, 8MB RAM, 504MB HD, leather carry case, \$1,150. Gaylor, 271-8722.

LOOM, Harrisville model T/6 448, 36-in. 4-harness, 6-treadle w/pedals, many accessories, like new, \$750. Rand, 299-1048.

SUPER TOTAL NUTRITION CENTER, \$500; Takka pasta maker, \$80. Fisher, 293-2864.

REFRIGERATOR, '93 Whirlpool, 18-cu. ft., almond, \$250 OBO; stack washer/dryer, '91 GE, almond, \$300 OBO; we're moving. Watson, 298-2374.

WOMAN'S WHITE LEATHER COAT, w/white fox fur collar, medium size, must see to appreciate, \$300. Pierce, 268-6057.

QUEEN-SIZE WATERBED MATTRESS/FOUNDATION, SoftSide mattress fits standard bed frames & uses queen-size sheets, excellent condition, \$200. Waggoner, 293-4755.

PEAVEY BASS CABINET, 1' x 15" speaker & 2' x 8" speakers, 700-watt max, Black Widow speakers, \$150 OBO. Cerutti, 296-1771.

VACUUM CLEANER, canister-style, cost \$600, asking \$100; bookcase, \$30; floor lamp, \$8. Forster, 293-7231.

CRIB MATTRESS, toddler bed, Little Tikes car, \$15 ea.; bed side railing, \$10. Forster, 293-7231.

CERAMIC TILE, 4" x 4", white, 375 sq. ft., \$375; wall unit, solid oak, \$300. Garcia, 864-2477.

ROUND OAK TABLE, 48-in., w/24-in. leaf, 4 chairs, rocker, swivel w/casters, good condition, \$350. DeWerff, 298-1029.

CHAINSAWS: McCulloch Pro-Mac 55, 16-in. bar, \$80; McCulloch, 10-10, 16-in. bar, \$80; Homelite 330, 20-in. bar, \$125. Wright, 296-3850.

SLEEPER SOFA, queen-size, used very little, very good condition, floral print design, \$150. Dobbs, 899-1665.

CAMPER SHELL, 5.5'W x 6.5'L x 2'H, 8 windows, \$89 firm. Gelt, 291-1422.

TREADMILL, Sears Lifestyler 1900, inclines, electronic monitor, \$140. Smith, 281-9360.

PUZZLE, 500 pieces, by Nathan of France of Mt. Saint Michael, complete, 36cm. x 49.8cm, \$7.50. Wagner, 823-9323.

MARANTZ SOUND SYSTEM, in cabinet, amplifier (needs work), tuner, CD, dual tape, auto reverse, w/remote, two 130-watt speakers, \$250 OBO. Bronkema, 291-1323.

BASKETBALL POLE, Porter, in-ground type, 7'6" to 10", brand new, in box, no backboard or goal, \$60 OBO. Brown, 823-9155.

TV, 26-in., Sylvania console model, \$200 OBO. Roginski, 296-6494.

QUEEN SOFA SLEEPER, good condition, \$200; rowing machine, \$20; small dog carrier, \$25; humidifier, \$30. Watkins, 292-5721.

MAN'S SKI BOOTS, Lang, like new, size 6-1/2, Prolite Dynafit; man's size 8 Z-Flo; \$30 per pair. Shannon, 275-9478.

FUTON, queen-size, gray-wash wood stain, w/mattress & cover, seldom used, \$225. Nielson, 292-6188.

BRASS TWIN BED, head & foot boards, mattresses, \$100; oak rectangular coffee table, three glass top inserts, \$50. Mulder, 298-7853.

MACINTOSH CLASSIC II, modem, additional external hard drive, internet ready, make offer. Pryor, 294-6980.

DRAWER SET, storage under a king-size waterbed, rosewood-stained, \$25 OBO. Sturtevant, 275-0170.

CHIPPER SHREDDER, \$125; post auger, \$1,000; Amiga computer & related, \$400; all OBO. Bailey, 281-4766 or 229-2990.

BIRKENSTOCK CLOSED-TOE SHOES, size 36; Overland sheepskin vest, size small; both brand new, \$50 ea. Ayers, 888-8922.

VIOLIN, Peter Steinhaus, #1, like new, appraised FMV by Robertson Violin Shop, \$450. Halbgewachs, 268-1584.

BUNK BEDS, w/mattresses & bookcase headboards, medium dark finish, \$175. Strong, 828-0550.

486 COMPUTER, 50MHz, 8M RAM (expandable), tower, 2 floppy/1 hard drive, Windows 95, \$525. Norwood, 292-0072.

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 (nr camp@sandia.gov). Questions? Call Nancy at 844-7522. Because of space constraints, ads will be printed on a first-come basis.

Ad Rules

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

PING-ZING-2's, excellent condition, red dot, 3 through SW, \$450. Delgado, 344-2971.

486 Computer DX66, 8 MB RAM, 340 MB Western digital drive, 256K cache, 1MB VESA video card, no monitor, \$400. Jones, 884-3872, ask for Spring.

WHITE WOODEN SLATTED DOORS, eight, 30" x 78", \$10 ea. Rodriguez, 883-9396.

HALF ROTTWEILER/HALF LAB PUPPIES, absolutely adorable, look like pure black bear cubs, 8 wks., tails docked, \$65. Frazier, 345-7189.

CANON AE-1, black, \$125; FD/SSC 80-200 F4 zoom, \$125; auto bellows, slide duplicate 35, boxed, \$200. Brooks, 275-0056.

LARGE OAK COFFEE TABLE, \$75; entertainment center, \$200; desk/diner combination, \$60; 2 swivel chairs, \$10 ea.; shelf unit, \$12. Treadwell, 884-4221.

SOUTHWESTERN WALL-MOUNTED SHELF for knick-knacks, 36W x 7D x 13H, wood, light stain, carved squash blossom, never used, \$50. Clausen, 856-4018.

SCHWINN EXERCISE BIKE, \$60; woman's golf shoes, size 8M, worn twice, \$6; square dance skirts, \$6 ea. Wing, 898-0062.

SNOWMOBILE/MOTORCYCLE WINTER SUIT, bibs/jacket, medium, silver w/Yamaha logo, fiberfill insulation, \$50 OBO. Phelan, 869-6094.

TRANSPORTATION

'89 HONDA ACCORD LXI, sun roof, loaded, excellent, \$6,900 OBO. Sanchez, 293-7246.

'90 BUICK PARK AVENUE, 54K miles, excellent condition, 1 family owned, loaded, \$9,200. Jacobus, 271-1796.

'87 CHEV. SUBURBAN, loaded, 2WD, 3/4-ton, 454, towing pkg., very clean, service records, 109K miles, \$6,800. Schafer, 298-4934.

'84 SAAB 900S HATCHBACK, 5-sp., cruise, power everything, sunroof, AM/FM, AC, good condition, \$2,500. Edmonds, 792-4614.

'89 FORD AEROSTAR XL VAN, 5-sp., standard shift, most options, good condition, dependable & clean, \$2,800. Sorenson, 298-1593.

'23 T-BUCKET HOT ROD 350ci, auto BM, vette IRS, 4-wheel discs, brass radiator, brass headlights, black top, \$13,000. Marchi, 299-1488.

'88 NISSAN STANZA WAGON, 5-sp., low miles, good condition, excellent gas mileage, great family car, \$5,900. Schkade, 292-5126.

'63 FORD STATION WAGON, 352 engine (new), new transmission, \$1,500 OBO. Rodriguez, 246-9285.

'88 PLYMOUTH VOYAGER SE, \$5,000. Adams, 823-1845.

'76 FIAT 28X, hard-top convertible, good transportation. Guinn, 898-9339.

'87 VW JETTA, 59K miles, AC, tape/stereo, 4-dr., great student car, \$3,500 OBO. Trolinger, 265-1615.

'96 VW GOLF-GL, FWD, 2.0L fuel-injected, PS, AC, AT, dual airbags, AM/FM stereo cassette, 6-disc. CD player, 8,800 miles, \$12,000.

'90 FORD F-250 XLT, 460 V8, 5-sp., reg. cab, long bed, PS, PB, real nice truck, \$8,500. Maxam, 343-9409.

'93 FORD TAURUS WAGON GL, ABS brakes, dual airbags, looks & runs great, high highway miles, \$6,700. Hart, 292-5110 or 291-8774.

'89 AUDI 100, loaded, PS, AM/FM cassette, new tires, very good condition, maintenance records, \$6,495. Harrison, 897-0658.

'91 ISUZU STYLUS XS, 4-dr., AC, stereo, 5-sp., great commuter car, make offer. Blackburn, 821-8931.

'68 CHEV. NOVA, new interior, needs body work, low mileage, \$1,500; '66 Chrysler Imperial, very good condition, \$3,000. Parry, 888-1129.

'80 PLYMOUTH CHAMP, 120K miles, good around town, 4-sp., overdrive, great mechanical condition, \$500. Zimmerman, 298-2443.

'87 MAZDA B2000, new tires, camper shell, AC, tint, sliding glass windows, very well maintained, \$3,500. Garcia, 343-8207.

'90 NISSAN PICKUP TRUCK, parting out. Chavez, 861-0712, ask for Kevin.

'94 FORD F150 SUPERCAB XLT, 4x4, camper shell, 54K miles, beautiful must see. Stewart, 281-7906.

'89 FORD F150 EXTENDED CAB, V8, 5-sp., new seats, AC, PS, hitch, runs great, \$6,000. Pacheco, 292-0490.

'89 AEROSTAR, 35K original miles, V6, AT, AC, new tint, 7/8 passenger, like-new condition, used-van price, \$7,700. Limon, 892-6285.

'88 HONDA ACCORD LX, 4-dr., 5-sp., tints, AC, PW, PS, cruise, 121K miles, silver, good condition, \$4,650. Biffle, 293-0330.

'95 NISSAN MAXIMA GLE, loaded, CD, leather, sunroof, V6, security system, excellent condition, low mileage. Kinchen, 352-9745.

'93 TOYOTA PICKUP DX, extended cab, red, AT, AC, AM/FM, bedliner, anti-theft, tilt, tint, low mileage, excellent condition, take over payments. Sanchez, 873-2058.

'87 MERKUR XR4ti, turbo, 125-mph, 200-hp, 5-sp., moonroof, AC, heated seats/mirrors, Alpine & more, \$4,500 OBO. Barlow, 1-505-820-6845.

'90 NISSAN SENTRA, 4-dr., AT, AC, AM/FM cassette, good reliable, wholesale priced, \$2,950 OBO. Garcia, 293-3937.

'84 JETTA, 4-dr., stick, 1 owner, running, used daily, needs some work, NADA \$2,025, asking \$1,000. Payne, 291-0124.

'92 HONDA ACCORD LX WAGON, 58K miles, white, excellent condition, original owner, 5-sp., cruise, \$10,500. Esherrick, 299-8393.

'90 FORD MUSTANG LX, 4-cyl., 47K miles, AC, cruise, PW, PL, AM/FM cassette, \$3,600 OBO. Campanozzi, 856-0366.

'81 TOYOTA CELICA GT, AT, AC, good condition inside & out, 105K miles, \$1,695. Barthelmes, 286-1491.

RECREATIONAL

MOUNTAIN BIKE, Marin, Pine Mountain, 16-sp., Rock Shoxs, Avocet 45 odometer, tuffies in tires, \$900. Rivers, 864-2335.

SKI TICKETS for Northern California, 2@ \$25 ea., Kirkwood (Lake Tahoe area), 2 @ \$25 ea. Northstar Sierra (Lake Tahoe area), 6 @ \$20 ea., Bear Valley Ski Area. Giersch, 505-299-9512.

TIMESHARE, beautiful houseboat, on Lake Powell, every year, entire week including Memorial Day, \$3,000. Owens, 836-7802.

'85 TRAVEL TRAILER, 22 ft., self contained, air, electric hitch, excellent condition, \$4,850. Babcock, 299-3121.

'85 HONDA MAGNA 700cc, 16K miles, black, new tires, excellent condition, garaged, \$3,500. Amundson, 866-1300.

'84 JAMBOREE MOTORHOME, Class C, 23 ft., 460 Ford, 56K miles, all goodies, all work, \$10,600. Stephenson, 299-3914.

'95 CHAPPARAL BOAT, w/trailer, 18-1/2" open bow, 180-hp Merc-Cruiser, V6 4.3L engine, like new, \$13,500. Paton, 899-0588.

LAKE POWELL HOUSEBOAT OWNERSHIP SHARE, luxury, 65' x 16', week of June 22 + spring/fall, \$12,000. Davis, 828-0298.

REAL ESTATE

2-BDR. HOME FOR RENT, Ridgecrest area, hardwood floors, 1-car garage, alarm, washer/dryer, automatic sprinklers, \$825/mo. Harding, 268-1332.

CONDO, 1 mile from ski resort, Durango, Colorado, oak & ceramic tile cabinets, fireplace, motivated, \$38,000. Painter, 510-443-3015.

4-BDR. MOSSMAN HOME, 2-1/2 baths, 2,110 sq. ft., LR, formal dining, Sandia High district, \$166,000. Reed, 897-7489.

4 BDR. HOME, North Valley Haven, 3,000 sq. ft., 2 baths, 2 fireplaces, 1/2 acre w/water, 900 Solar NW, \$248,900. Orman, 344-5446.

4-BDR. ENGINEER'S DREAM, 2,600 sq. ft., close to KAFB, updated, w/hidden library door, \$190,000. Spires, 275-3655.

LAND in Lomas de Placitas, 1.97 acres, awesome views of mountains & mesas, \$44,900. Jean, 833-2165.

3-BDR. HOME, 1-3/4 baths, NE area, excellent location to base, excellent home, \$115,000. Gabaldon, 292-7340.

2-BDR. CONDO, Pagosa Springs, Colo., resort area, furniture, linen, dishes etc. included, \$68,000. Stauder, 898-0597.

WANTED

FOCUS ON THE FAMILY VIDEO SERIES, *The Story Keepers* and *Adventures in Odyssey*, any & all episodes. Weed, 823-2396.

WOMAN'S GOLF CLUBS, bag putter, etc., must be reasonable. Sarkis, 266-2790.

MUSIC STAND, (collapsible), for budding mid-school trumpet player. Jung, 856-1181.

ROOMMATE to share NE Heights home, M/F, nonsmoker, must like cats, \$250/month, available 2/1. Lange, 299-4613.

VINTAGE CLOTHING & JEWELRY, good condition. Levin, 266-6186.

ROOMMATE, nonsmoker, \$350 month + share utilities, near SNL. Fischer, 293-3256.

WIDE-ANGLE LENS for 33mm SLR Pentax. Underhill, 294-5774.

BLUES HARP looking for garage band for jams, fame & fortune. Bartberger, 856-0583.

ALTO SAX, good condition, for third-year student. Gauthier, 268-1215, leave message.

HOUSEMATE, nonsmoker, male preferred, nice residential area, mountain views, \$350/month + utilities, separate private apartment. Smith, 298-7365 or 292-1976.

BALLET SKIS, 135-140cm, any condition. Ganter, 265-5007.

TRIP MEMBERS for 1/2 of a 7-week, July-August, back river canoe trip (Northwest Territories). Scofield, 266-1245.

LOST & FOUND

LOST: US West pager, around Area I. Gonzales, 873-5879, leave message.

Dependent change reminder notice

The following reminder comes from Health and Work/Family Benefits Dept. 3343:

Your health care coverage election (single, two-person, or family) remains in effect until the end of each plan year unless you have a "qualified change in family status" (see description below). Any change made to your health care coverage election must be on account of and consistent with the qualified change in family status. The Internal Revenue Service (IRS) has certain rather restrictive guidelines that the Pre-Tax Premium Plan must comply with to retain its pre-tax status. For consistency and simplicity, the Benefits Department will apply the guidelines for enrolling dependents to both pre- and after-tax participants. For future reference, these rules will also be stated in the Triple Option Plan Summary Plan Description to be distributed by March.

Please notify the Sandia Benefits Office as soon as you gain an eligible dependent. All Class I (for medical and/or Dental Deluxe) and Class II (for medical only) dependents must be enrolled with the Benefits Office within 31 days of their eligibility or birth, or upon a "qualified change in family status." As described in the Open Enrollment materials, if you fail to enroll your dependent within 31 days, you will have to wait until the next Open Enrollment period to enroll the dependent for coverage effective the following calendar year. Coverage for Class II dependents will be effective the first

of the month following the date the enrollment form and payroll deduction card are received by the Benefits Office.

Please notify the Sandia Benefits Office as soon as any dependent loses eligibility. All Class I and Class II dependents must be disenrolled with the Benefits Office within 31 days of the "qualified change in family status" causing ineligibility. **If you are enrolled in the Pre-Tax Premium Plan** (for either medical and/or Dental Deluxe [Class I dependents only] premiums) and the Benefits Office is not notified within the 31-day time period, the IRS rules require that you pay the appropriate premium for that dependent for the remainder of the calendar year even though your dependent's coverage will end on the last day of the month in which the dependent became ineligible. **If you are not enrolled in the Pre-Tax Premium Plan** and the Benefits Office is not notified within the 31-day time period, Sandia will retroactively terminate coverage and refund any applicable premiums paid by you. Failure to disenroll in a timely manner could raise questions about fraudulent use of the Plan(s), which is subject to disciplinary action. You may also disenroll a dependent without a "qualified change in family status" if you are not enrolled in the Pre-Tax Premium Plan. Retirees are not eligible for the Pre-Tax Premium Plan.

Qualified change in family status

A qualified change in family status includes:

- loss of a dependent through death, divorce, or his/her loss of eligibility
- gain of a dependent through marriage, birth, adoption, addition of a stepchild, or addition of a disabled dependent
- loss of your or your spouse's full- or part-time job (including reduction of part-time hours). Note: Loss of a job includes retirement or taking an unpaid Leave of Absence
- gain of a full- or part-time job for you or your spouse (including an increase of part-time hours).

Prescription Drug Program information

The Prescription Drug Program (PDP) is administered by Caremark and consists of a Mail-Order Program to obtain maintenance prescriptions, and retail network and non-network pharmacies to obtain short-term prescriptions. Participants enrolled in the Triple Option or Two Option Plan are automatically enrolled in the PDP. In addition to the current pharmacies already in the Sandia-specific Caremark retail network, the following pharmacies have been added to the network in New Mexico:

Albuquerque

Best Buy Drugs
299-4496
UNM Student Health Center Pharmacy
277-6306

Aztec

Hoopes Pharmacy
334-6261

Carlsbad

Southwest Medical Pharmacy
887-6611

Clayton

Rick's Pharmacy
374-9107

Farmington

Mesa Horizon
325-5023

Grants

Trust Pharmacy
287-3913

Las Cruces

Furr's Solo Pharmacy #806
526-5591
Las Cruces Rexall Drugs
524-2863
Medical Center Pharmacy
522-2122
Southwestern Pharmacy Services
522-7870

Roswell

Nash Pharmacy
622-2221
Primm Drug
1-800-377-9881

Revco and Rite-Aid have also been added to the network on a nationwide basis. For a listing of retail network pharmacies, call Sandia Line at (505) 845-6789 (1-800-417-2634 then 845-6789 if outside Albuquerque) and press "9" for quick dial codes, "1281" for a fax to internal destinations, or "1283" for an external mailing.

If you have any questions concerning the PDP, call Caremark at 1-800-833-4914.

Coronado Club

Jan. 16, 23, 30 — Thursday bingo night. Card sales and buffet start at 5 p.m., early birds' bingo at 6:45 p.m.

Jan. 17 — Kids bingo. Buffet 5-8 p.m.; bingo 7-9 p.m.

Jan. 19 — Sunday brunch buffet, 10 a.m.-1 p.m. \$7.95 all-you-can-eat buffet. Music by Swingshift, 1-4 p.m.

Jan. 24 — "German Night" dinner/dance. \$8.95 all-you-can-eat buffet, 6-9 p.m. Music by Die Polka Schlingles, 7-11 p.m.

Jan. 26 — Super Bowl buffet, 1-5 p.m.; bingo 1-3 p.m.; game 3-6 p.m.

Feb 2 — Sunday brunch buffet, 10 a.m.-1 p.m. \$7.95 all-you-can-eat buffet. Kids 3-12, \$1, under 3 free. Music by Bob Weiler, 1-4 p.m.

Feb 7 — "Western Night" dinner/dance. \$7.95 all-you-can-eat buffet; steak or shrimp, \$8.95, 6-9 p.m. Music by Isleta Poorboys, 7-11 p.m.

Take Note

Retiring and not seen in *Lab News* pictures: Ruth Beck (10232), 19 years; Carmel Chavez (7524), 30 years; Eloy Giron (7617), 30 years; Leo Graham (12830), 32 years; Charles Gwyn (1302), 28 years; Lee Kefauver (5512), 32 years; Ashok Kaushal (12830), 15 years; Gary Miller (9112), 27 years; Shirley Ramirez (7617), 30 years; Josie Shapiro (10251), 20 years; and Thomas Howard (1341), 35 years.

Welcome

New Mexico — Jorge Hernandez (14307)

Computational molecular biology conference attracts O. J. Simpson trial contributors

The first annual international conference on computational molecular biology will be held at the Eldorado Hotel in Santa Fe, Jan. 20-23.

Among the expected 200 participants are Nobel laureate Rich Roberts and Turing Award winner Richard Karp.

If that weren't enough distinction, "Interestingly, some of the scientists involved in this conference are so famous in their fields that they were tapped to testify at the O.J. Simpson criminal trial," says Sandia scientist Sorin Istrail (9223), one of the conference organizers.

Among conference attendees, statisticians Bruce Weir (North Carolina State) and Terry Speed (University of California at Berkeley) directly testified at the O.J. Simpson trial, says Sorin. Invited speaker Daniel Botstein, a professor of genetics at Stanford University, is credited with developing a widely used method of blood testing called RFLP used in the trial. And Eric Lander, an MIT biology professor, pioneered mathematical methods of forensic analysis that led to the use of DNA as identification tags as unique as fingerprints. Lander will deliver the meeting's most prestigious talk, the Stanislaw Ulam Memorial Computational Biology Address.

Biologists and computer scientists will discuss advances in the ability of computers to discover aspects of the human genome — the three billion bases of DNA that encode our genes — and to help solve many other fundamental questions of biology, such as the shape into which a just-born protein folds before it acts.

Folded proteins form almost all of the human body — from genes to blood, bone, muscle, and hair. Proteins also form viruses that attack the body. To predict how to build

desirable proteins is of extreme interest to the world's pharmaceutical industry, which could then design from scratch the drugs, hormones, and other protein-based materials needed in medicine.

Finding a gene or designing a protein by laboratory experiments alone is a complex process that can take years or even decades.

Rich Roberts, director of pharmaceutical research at New England Biolabs, will speak on Jan. 20 on the hunt for new restriction enzymes — the enzymes that cut genes. Roberts won the Nobel Prize in biology in 1984.

Richard Karp, University of Washington, won the Turing Award in 1984. The award is provided by the Association for Computing Machinery and is sometimes referred to as the "Nobel Prize of computing."

Other speakers include chemistry professor Martin Karplus from Harvard University and biology professor Jonathan Alan King from the Massachusetts Institute of Technology.

The conference is organized by Michael Waterman, one of the most influential pioneers of computational biology, with co-organizers Sorin Istrail and Pavel Pevzner. Waterman and Pevzner are Professors of Mathematics and Biology at USC.

Bill Hart (9223) will share the conference award for "Best Paper by a Young Scientist" with Alberto Caprara from the University of Bologna in Italy.

Sandia contributed three of the 43 papers to be delivered. One hundred seventeen were submitted. "The competition was fierce," says Sorin.

The meeting is supported by the Sloan Foundation and DOE.