

Researchers Help Study Defects In Artificial Heart Valves

Typically, a human heart beats about 60 times per minute. In one day, that's more than 86,000 heart beats. And in a lifetime the heart valves, those tiny flaps that regulate the flow of blood,

may each open and close some three billion times. But sometimes these valves fail. That's why mechanical replacement valves — approximately 120,000 manufactured by the biomedical industry

each year — are made from durable carbon and other materials capable of withstanding such demanding environments.

Four Sandia/California materials researchers — Art Pontau, Mark Hildner, Dan Morse (all 8347), and Arlyn Antolak (8341) — are using a relatively new non-destructive inspection technique called ion microtomography (IMT) to study tiny flaws and cracks in mechanical heart valves. The research may help a small company, Carbon Implants of Austin, Texas, develop better, more durable artificial heart valves.

"Sandia's experience studying and developing durable and lightweight weapons materials can help US industry build better products," says Art, the project leader. "The heart valve project seemed like a natural for our materials expertise."

Narrow Proton Beam

The IMT technique, developed over the last few years by researchers at both Sandia/California and Lawrence Livermore National Laboratory, uses a highly focused proton beam to produce detailed images of small objects on a computer screen.

Similar to X-ray CAT (computer-aided tomography) scans used in medicine, IMT creates several two-dimensional density maps of a small specimen. Magnetic lenses focus the beam down to two microns, and the beam is swept back and forth through the specimen at varying angles.

Each two-dimensional "slice" reveals the spatial variations in electron density along a plane inside the specimen. When many of these slices are put together, a three-dimensional image is created,

(Continued on Page Three)



BIG MACHINE, SMALL BEAM — Dan Morse (left) and Mark Hildner (both 8347) examine test results at the Van de Graaff FN tandem accelerator located at Lawrence Livermore's multi-user tandem laboratory. The 10-foot-diameter accelerator and a series of magnetic lenses produce a 2-micron proton beam that is being used by Sandia researchers to develop stronger, more durable materials for artificial heart valves.

For Represented Employees

New Performance Management System Gears Up

Adding steps to a job performance evaluation process may be more time-consuming, but those who planned, and those who will be judged by, a new system for represented Sandia employees agree it is fairer and more valuable — to the Labs as well as employees.

The need for a new system grew out of dissatisfaction with the performance appraisal process, expressed in the 1991 *Sandians' Perspective* (Stanek survey), an opinion shared by managers and non-supervisory employees alike.

Implementation of the performance management system marks accomplishment of one of the four primary goals identified in Sandia's *Strategic Human Resources Plan*. The other three are

"Performance management has proved successful in industry... we decided it was time we adopted it for the Labs."

laboratories staffing, leadership and management development, and diversity.

"To get away from the 'report card' mentality of the existing performance appraisal system," says Tim Madden of Compensation and Job Evaluation Dept. 7550, "a team was put together to revise it. The team came up with a performance management system."

Jerry Esch, Manager of Customer Services Office 7101 and a member of the team, believes it is an important move. "Performance management has proved successful in industry, and after we considered various options, we decided it was time

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LAB NEWS

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MARCH 5, 1993

Livermore's Cray Moving to Albuquerque

California, New Mexico Sites Linked By Private, Encrypted Computer Networks

Pioneering new technologies to move large amounts of data at high speeds over long distances, Sandia has constructed two high-capacity, private, encrypted networks to link the Labs' California and New Mexico sites.

The links are a forerunner to the kind of "information highways" touted by President Clinton and others as vital to the nation's future needs for high-capacity transmission of computer data.

"This is not only exciting work for those of us who have been involved in the project for a long time, but we also see it as a microcosm of the entire country," says Dona Crawford, Director of Scientific Computing 1900.

Sandia is unique among national laboratories in having two widely separated laboratory sites, both requiring state-of-the-art high-performance computing. Two years ago, Sandia management decided to locate all its supercomputers at one site and link them with high-speed data networks rather than continue acquiring new high-performance computers for each site.

May Completion Date Targeted

The supercomputer consolidation project involves relocating Sandia's Cray YMP from Sandia/California to Sandia/New Mexico and installing all future Sandia supercomputers in

New Mexico.

The intersite network for consolidation has been built. Plans call for it to be fully operational in April. Meanwhile, modifications are being made to the local area networks at both California and New Mexico to allow them to interface with the intersite links.

This project has touched almost every component of central computing at both sites, says Pete Dean, Manager of Networking and Communications Dept. 1951 in California and project manager for the consolidation project. The last step in the project — the physical movement of the California Cray to Albuquerque — will be completed in May.

"We expect it to take about a month to disassemble the Cray and prepare it for shipment to Albuquerque," Pete says. "And it has been no small job making a place for it there. Adding the power source is a major job, because this computer

(Continued on Page Four)

DOE Technical Safety Appraisals Begin Soon — See Page Two

This & That

Note to Readers: As he mentioned in last issue's "This and That," LAB NEWS Editor Larry Perrine is recuperating from back surgery. But being one of those Sandians he likes to describe as "severely dedicated," he's already doing some work at home, on this column and other things. Best wishes to Larry from the LAB NEWS staff.

Century Mark - Sandians at last Friday's "Brown Bagging with Brass" might have wondered what was up. Instead of being met at the luncheon by just one VP host, as is usual, employees were met by four of the "brass" - Lee Bray (20), Bob Kestenbaum (200), Roger Hagengruber (5000), and Dan Hartley (6000). The guests discovered that they happened to be invited to the 100th of these munch-and-talk sessions, which started in 1990 at the urging of Public Relations Dept. 7161 Manager Rod Geer. To date, more than 2,200 randomly selected non-supervisory employees have participated. For you newcomers who may not be familiar with the program, it's a chance to visit informally with a Sandia VP and discuss whatever may be on your mind. If you haven't been invited yet, hang in there. You will be.

* * *

A Bunch of Clods - Several weeks ago, as I was looking for both a birthday card and Valentine's Day card for my lovely bride, it became evident that greeting-card writers think most men are a bunch of real clods. The verses on about half of the cards I examined started out something like this: "Honey, even though I don't tell you often enough or show you in ways you can understand, I hope you know how very much I love you . . ." I tell you, that kind of language makes us thoroughly modern, thoughtful, sensitive guys pretty darned mad!

Speaking of such things, I'll pass along some sound advice that I heard recently to you men who aren't yet as enlightened as I am: Never buy your wife or sweetheart any type of gift that plugs in!

* * *

Some You Wouldn't Believe - I mentioned several unusual country song titles in the Jan. 22 issue and got some in return from readers. One Sandian even sent me a newspaper clipping listing one writer's choices for the all-time worst titles. I wouldn't dare print some of them, but my favorite from that list is "I'll Marry You Tomorrow, but Let's Honeymoon Tonight." Dorothy Meister (1128) sent only one title, but what a gem! She recalls hearing a man-woman duet singing to one another, "You're the Reason Our Kids Are Ugly!"

* * *

A New Mr. October - Major League Baseball player Reggie Jackson was nicknamed Mr. October because he was often at his best that month, but we have a new Mr. October around here - LAB NEWS Writer John German. John was one of more than 450 Albuquerque-area volunteers, including many Sandians, who participated in the United Way "Day of Caring" on Sept. 1, 1992. Volunteers helped at various United Way agencies. John worked at La Mesa Community Day Care and Preschool, where a photographer found him supervising youngsters playing on a jungle gym. This photo and 11 others appear in the United Way's 1993 calendar, "Portraits of Caring." As you've probably guessed by now, John is featured on the October page. He also served as one of the center coordinators for Sandia's Employee Contribution Plan (ECP) campaign, which contributes to United Way. New Mexico-based Sandians pledged a record \$1.56 million during the 1992 ECP campaign. California Sandians gave a record \$171,000-plus in their 1992 fund-raising campaign. ●LP

For California, New Mexico

Technical Safety Appraisals Rescheduled

The DOE technical safety appraisals (TSAs) of Sandia originally scheduled to begin in December 1992 have been rescheduled. The new dates are May 17-26 for Sandia/California and June 14-25 for Sandia/New Mexico.

The appraisals will be conducted by representatives of DOE's Defense Programs (DP-67) Office of Inspections and DOE/AL's Safety Programs Division.

Pre-TSA activities include a tour of Sandia/New Mexico on March 25 and an informal pre-appraisal the week of April 19. The tour will include selected facilities from each technical area. The pre-appraisal in April will be devoted to such activities as introduction of the TSA team to key members of Sandia management and to the office space and library the team will be using.

To help Sandians prepare for the TSA, ES&H Program Management Center 7020 is maintaining contact with the involved DOE organizations and will help Sandia groups make sure they're current on relevant ES&H requirements. Preparation tools will be issued as the TSA dates draw near.

In addition, several meetings to be scheduled for the New Mexico and California sites will present details of the TSA and the experience of Sandia organizations with DOE's formality-of-operations requirements such as will be involved in the TSA.

Each Sandia organization is responsible for making appropriate preparation for the TSA. Ideally, however, points out Bill Mairson of ES&H Program Management Center 7020, all organizations should be ready at any time for any ES&H appraisal, rather than have to get ready when an appraisal is announced.

The TSA team members will refer to the Tiger Team assessment of 1991, past TSAs, and written plans, standards, and audits that apply to Sandia sites. They will examine 11 "functional areas": organization, administration, radiation protection, nuclear criticality safety, engineering/technical support, emergency preparedness, safety assessment, quality verification, fire protection, and environmental and energetic materials safety.

DOE/AL is expected to focus on construction safety, firearms safety, and packaging and transportation.

Questions about the TSA in New Mexico should be directed to Bill Mairson (7026) on 848-0403; in California, to Cliff Yokomizo (5301) on 294-2949. ●

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AFRICAN-AMERICAN HISTORY MONTH - The Black Repertoire Dance Troupe from the University of California at Davis performed at Sandia/California recently during African-American History Month. Sponsored by the Black Outreach Committee at Sandia/California, the event also included models featuring African fashions. At another special event, Professor Melvin Ramey of the UC Davis civil engineering department spoke about business and industry's role in minority education.

(Continued from Page One)

Heart Valves

a computerized representation of the interior of the object.

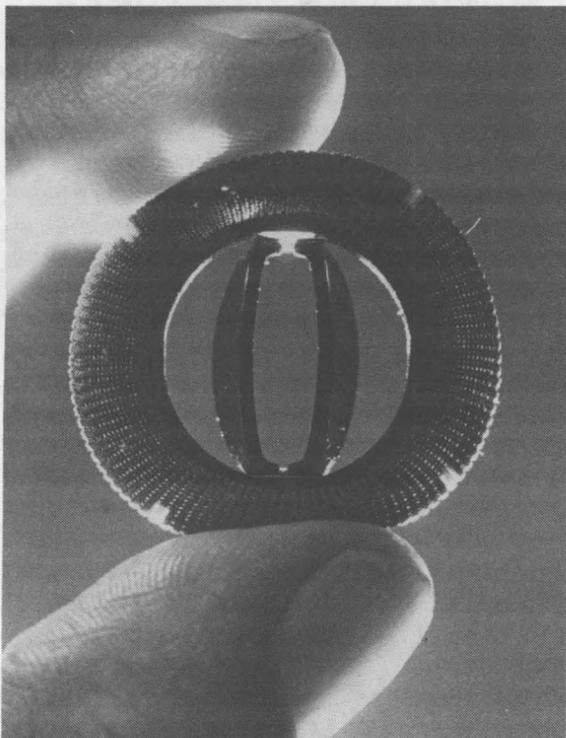
Images produced through IMT, however, are 1,000 times more detailed than CAT scans used to detect cancer, says Arlyn. The technique's high resolution allows researchers to "see" constituent features or flaws as small as one micron. (The diameter of a human hair is 100 microns.)

But the main advantage of IMT, he says, is that it is a non-destructive technique — you can analyze a specimen without physically slicing, damaging, or disassembling it. (See "IMT 'Sees' Even the Lighter Elements.") In the case of heart valves, any intrusive technique such as slicing would cause defects in surrounding materials and would render further analyses useless, he says.

Studying Tiny Flaws

Early last year, John Ely, Vice President of Carbon Implants, read about Sandia's work with IMT in an industry journal. He wondered if the technique could help his company study tiny flaws in the 1-mm-thick valves, which are made of carbon coated with a carbon-and-silicon-carbide alloy.

"Flaws reflect on the durability of the valves," Ely says. "These things open and close 38 million



SMALL MECHANICAL heart valves the size of quarters must be durable enough to open and close some 30 million times a year. More than 120,000 of the artificial valves are manufactured worldwide each year.

times a year. Through some fatigue process, a flaw might grow and cause structural weaknesses."

Until now, he says, there weren't any good, non-destructive methods for examining such flaws. The company tried examining the valves with ultrasonics, eddy currents, and X-rays. But these methods didn't provide the required spatial resolution.

In the case of X-ray tomography, says Dan, the spatial resolution is limited by the ability to make small intense X-ray beams. In addition, he says, lighter materials don't absorb X-rays very efficiently, so small flaws in carbon are difficult to "see" with X-ray tomography.

Beam Uncovers Clues

To determine the usefulness of IMT to the problem, the Sandia team is examining three samples sent by Carbon Implants — one without flaws and two with flaws. The actual IMT inspections are being conducted in a vacuum chamber at Lawrence Livermore's multi-user tandem ion accelerator under a joint agreement between the two labs.

IMT 'Sees' Even the Lighter Elements

Ion microtomography (IMT) — a technique that originally grew out of defense work aimed at studying weapon materials and components — now shows weapon promise for use in the industrial sector, says Art Pontau (8347).

The technique has already helped verify the uniformity and sphericity of the small spherical targets used in inertial confinement fusion research. And Sandia is helping the 3M Company study metal-matrix composites for manufacturers of airplane engines and turbine blades. "We are looking at the interaction between fibers and metals that surround them in the composites to see how they can be made stronger," says Art.

One reason IMT is particularly useful for inspecting small manufactured parts, he says, is its ability to "see" light elements such as carbon even in the presence of heavier ones (those with high electron densities). X-ray tomography, on

the other hand, is much less sensitive to lighter elements, often causing them to be obscured by their heavier counterparts.

In addition, he says, IMT shows promise in other fields besides manufacturing. The technique has been proposed as an inspection tool for examining tissue samples in the study of cancer and Alzheimer's disease and for analyzing safety coatings on uranium fuel pellets used in nuclear fission research.

Art says the technique also may have uses in microelectronics. IMT could be used, for example, to measure thin coatings on silicon chips for uniformity. Ultimately, it could be used to see features and detect flaws down to the hundred-nanometer scale (a nanometer is about twice the diameter of the largest atom.) "IMT may be used to look at a real cross-section of a circuit without slicing and damaging it," he says.

So far, the researchers have identified a few common types of flaws. For instance, under some pressure, the valves get delaminated — in other words, the silicon carbide coating pulls away from the carbon inner core. In addition, a flaw in one part of a sample may cause residual flaws elsewhere. Part of the problem is not only to detect flaws, but to find out what effect they have on the rest of the sample by examining what lies above and below the flaw, says Dan.

Ely says the Sandia work may eventually provide clues about how to improve the valves structurally, but he doubts the IMT technique could be used for large-scale inspection of manufactured parts. "This method is primarily a research tool, not a quality assurance tool," he says.

Door's Wide Open

Art says the heart valve project is mutually beneficial. Besides helping Carbon Implants develop better heart valves, the project is also helping the Sandia team experiment with IMT samples having unusual geometries.

For example, because the heart valve samples are larger-than-usual IMT samples, the proton beam won't penetrate the specimen at some angles. "Computer programs that analyze tomographic data normally assume that the sample can be viewed from every angle," says Mark. "Samples such as the heart valves present a problem, though, because the beam doesn't have enough energy to penetrate the sample at some angles, creating 'gaps' in the IMT data."

To solve the problem, the Sandia team is combining the measured IMT data with simulated data, which fills in the data gaps. "Using simulated data in conjunction with the measured data allows us to

get a more precise image," he says. "The technique will help refine future approaches to large-sample analyses."

Art says industrial uses for IMT have only been feasible in the last five years because of technical advances and cost reductions in supporting technologies, such as in the lenses that focus the ion beams, in computers and software for measuring and analyzing data, and in accelerators for producing stable ion beams.

The Sandia team and Carbon Implants are now exploring possibilities for a CRADA (cooperative research and development agreement) or a Small-Business Innovative Research (SBIR) proposal to develop and refine industrial applications for IMT.

The team is also considering using IMT for ongoing analyses of other large-scale samples. "We think IMT is relevant to a variety of US industries," says Art. "The door is wide open for exploration of the technique's industrial uses." •JG

 SANDIA CALIFORNIA NEWS

Congratulations

To Melanie (8100) and Glenn Arace, a son, Brandon Jeffrey, Feb. 12.

To Gayle (8531) and Ron (8532) Allen, a son, Taylor Vincent Barton, Feb. 16.



HEART VALVE team members include (clockwise from lower left) project leader Art Pontau, Mark Hildner, Dan Morse (all 8347), and Arlyn Antolak (8341).

(Continued from Page One)

Computer Link

uses about the same amount of electricity it would take to light and heat 200 average-size houses."

The newly established 1,100-mile link will allow Sandia researchers in California to use all of the Laboratories' supercomputer capabilities without the distance causing any reduction in the rate at which data can be processed.

Faster Than Standard Technology

Sandia's new Switched Multimegabit Data Service (SMDS) networks will use the DS3 (Digital Signal 3) transmission standard and new Asynchronous Transfer Mode (ATM) technology to transmit data over existing fiber-optic land lines at a rate of 44.736 megabits (a megabit is one million bits of information) per second — approximately 30 times as fast as the standard technology in use today (called DSL).

The standards used by the link are being developed for gigabit-rate wide-area networks (a gigabit is 1,000 megabits). These standards will scale to the gigabit network speeds required for future remote access to supercomputer and massively parallel computer resources.

After studying all options, Sandia decided to select the ATM mode, a new technology that usually involves switches to move packets of data at

"We're doing something that hasn't been done before."

high rates. The technology is capable of passing voice, data, and video efficiently.

"We decided we would embrace a technology just emerging," says Steve Gossage of Networking Dept. 1954, who has led the intersite networking part of the project. "Sandia's design review and performance testing demonstrated that ATM switching would provide high reliability, low delay, and high throughput."

Sandia selected the SMDS/ATM switches, developed by AT&T, because they met the stringent reliability and availability requirements of the supercomputer consolidation project as well as the

performance and growth needs, says Steve.

As a result, the Labs has made strong commitments to ATM technology spanning all application areas (wide-area networks, local area interconnections, and desktop computing), striving to establish a national leadership role within the DOE complex in communications and computing. ATM has been chosen as the enabling technology.

"In a very real sense, we're pioneering the use of this technology," says Steve.

And that's what is important to Sandia, says Dona. "Even though the term 'cutting edge' may be a little overworked, that's what this link really is. We're doing something that hasn't been done before, and the entire country will benefit from it."

Several things are unique about Sandia's situation. Responsibilities in weapons and other defense-related research require not only that the networks be high in capacity and reliability but that they also provide full privacy and encryption. The technology enables encryption using either of two encryption standards at the DS3 rate of nearly 45 megabits per second.

Networks Owned by Sandia

The networks are private in the sense that all switching, routing, and encryption equipment resides at two Sandia sites and is owned and operated by the Labs. Until now, the only ATM switches have been at facilities of the local Bell operating companies.

"A literature search indicates that this is the only installation of the switches in this country outside of the regional Bell operating companies," says Steve. "We have to control the function and operation of the switches and all access to them."

Sandia has worked closely with AT&T throughout the consolidation project, as well as with US West and Pacific Bell, the local carrier services for DS3 to the New Mexico and California labs.

The first private, encrypted DS3 trunk between AT&T prototype ATM switches was brought on line in June 1992, linking workstations at Sandia's California and New Mexico locations.

In October 1992, the second pair of switches became operational over a diverse route of approximately 1,600 miles. Bit error rates were measured at one in a trillion. The network provided through-

put, for both audio and video, that was essentially indistinguishable from the local fiber-optic-distributed link where it was also tested.

Sandia networking engineers say the interconnection of the two Sandia sites has demonstrated a number of unique first implementations of the Asynchronous Transfer Mode and Switched Multimegabit Data Service technologies: the first use of National Security Agency-approved KG95 encryptors on a long-haul DS3 circuit linking SMDS switches; the first implementation of the Digital Encryption Standard on SMDS switches; and the most extensive DS3 demonstration of SMDS in any private trial of the SMDS/ATM technology.

•KFrazier(7161)/HK

Take Note

Kirtland Air Force Base is celebrating Women's History Month, "Discover A New World — Women's History," with special events throughout March. Sandians are invited to attend the following "Lunch and Learn" events:

On Monday, March 8, guest speaker Lynn Lucchetti (Brigadier General Select, USAF) will talk about "Breaking the Glass Ceiling" at the Enlisted Club. Time is 11 a.m. to 1 p.m. Reservations are required. Call 846-5433.

On Tuesday, March 16, at the Officers Club Del Norte Room, a panel of notable women in the legal profession will discuss a variety of women's issues involving the law: divorce, credit, single parenting, estate planning, trusts, wills, family advocacy, and more. Time is 11 a.m. to 1 p.m. Reservations are required. Call 846-5433.

A formal luncheon hosted by Col. Gary Vycital (Vice Commander, 377th Air Base Wing) will be held Tuesday, March 30, from 11 a.m. to 1 p.m. at the Officers Club Ballroom. Guest speaker Julie Claymore (Indian Health Service, Division of Substance Abuse, Public Health Service) will talk about "Women as Warriors." A non-refundable ticket must be purchased in advance. Call 846-5433 for information.

Retiring and not shown in LAB NEWS photos: Woody Woodall (1273) and Raymond Clark (1248).

The Feb. 19 "Milepost" page included an incorrect spelling of a name. The correct name is Winn Erdman (6215).

Employee Death

Leo Brady of NTS (Nevada Test Site) Staff Dept. 9331 died Feb. 22 after a long illness.

He was 60 years old.

Leo was a member of the technical staff and had been at Sandia since 1958.

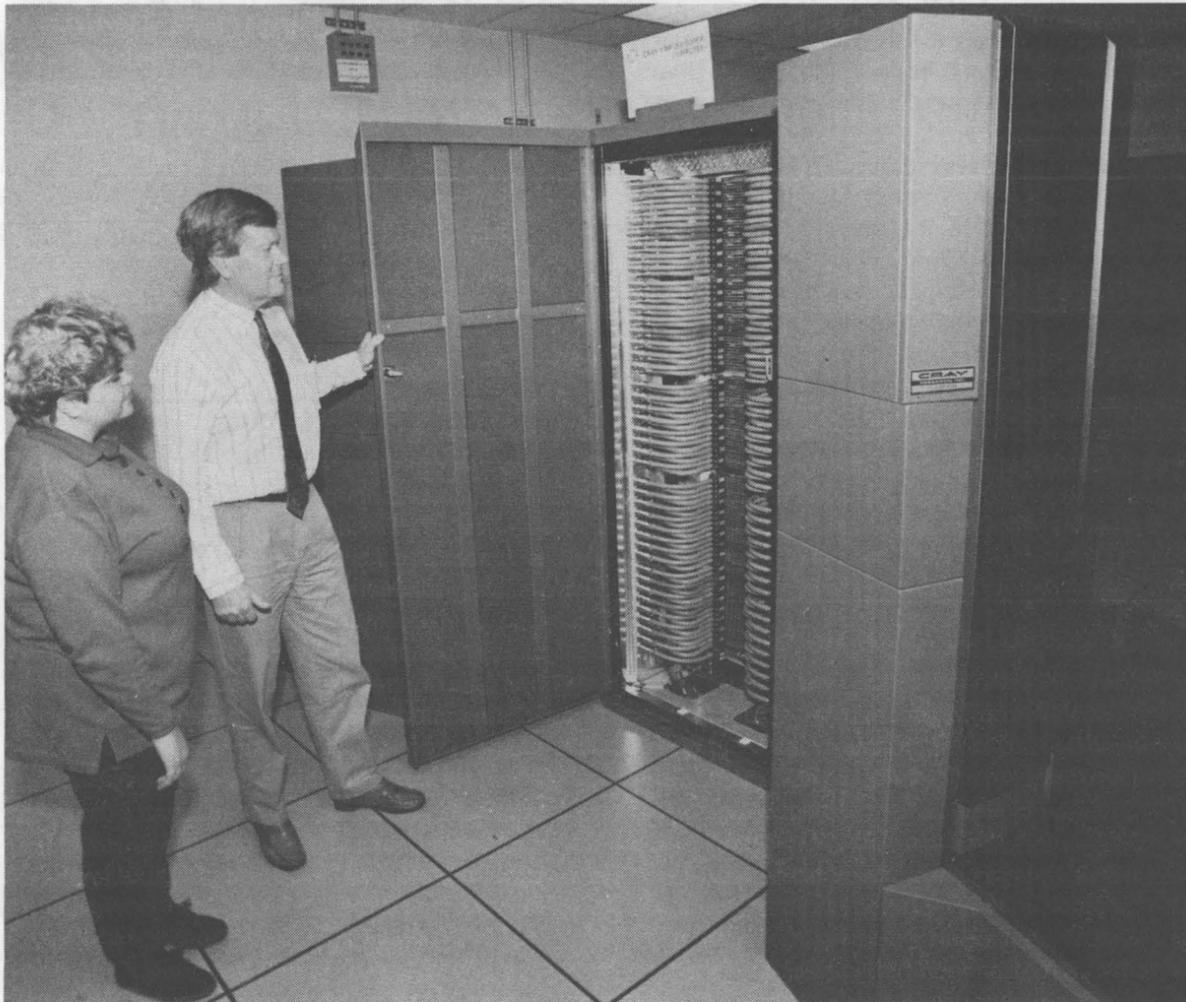
He is survived by his wife, two daughters, and three sons.

Retiree Deaths

Walter Cordek (76).....	Dec. 26
George Cunningham (93).....	Dec. 27
Winifred DeWitt (86).....	Jan. 1
Paul Kerley (78).....	Jan. 3
Reynel Garcia (72).....	Jan. 10
James Van Meter (63).....	Jan. 13
Sverre Johannesen (86).....	Jan. 16
Jack Bolen (69).....	Jan. 19
Elauterio Torres (95).....	Jan. 23
James Rowe (84).....	Jan. 28
Ralph Holland (76).....	Jan. 31

Sympathy

To Fred (1955) and Judith (200) Jones on the death of his brother and her brother-in-law in Albuquerque, Feb. 15.



MOVING A SUPERCOMPUTER is not a light task, either in bulk or complexity. Networking and Communications Dept. 1951 Manager Pete Dean and California site Cray Coordinator Diane Gomes of Operations Team 1951-1 look the Cray over as they plan its move from California to New Mexico.

(Continued from Page One)

Performance Management

we adopted it for the Labs," he says.

The new system differs from the old one in that it is designed for planning and review involving both the employee and manager. Previously, there was only a review done by the manager.

"Previously, the manager simply sat down alone and reviewed the job done by the employee during the past year," Tim says. "The new system provides for both to sit down together, talk about the employee's job, and set some goals for the upcoming year.

"At the end of that year, they sit down again, go over the plan, and decide how the employee's work stacks up against the goals. If, after this discussion, the employee disagrees with the manager's evaluation, the disagreement can be noted by the employee, and steps can be taken to try to resolve it," Tim says.

The team that designed the system was formed in January 1992. It comprised 20 members: nine represented employees, nine managers, and two

"People need feedback if they are to work on things that lead to better job performance."

project leaders. The represented employees delegation comprised three members each from the International Guards Union of America (IGUA), the Metal Trades Council (MTC), and the Office and Professional Employees International Union (OPEIU).

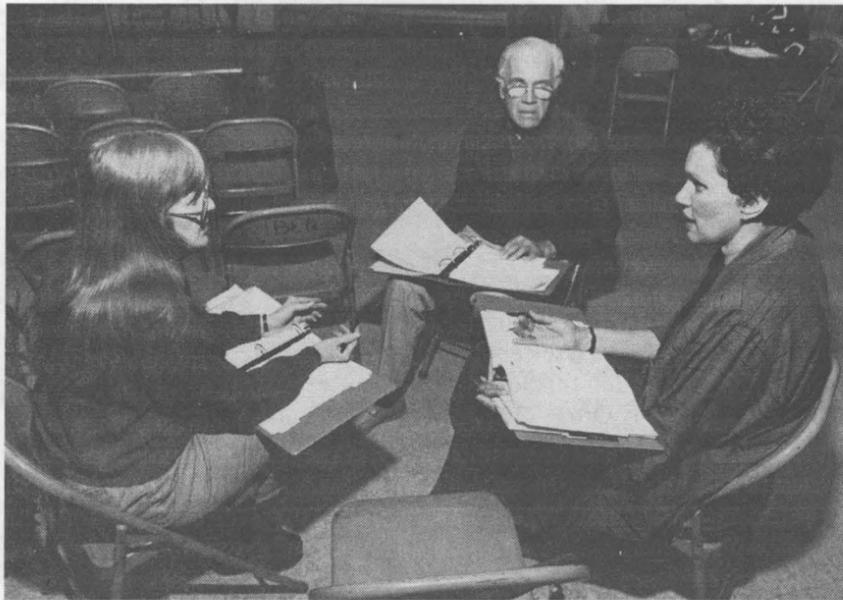
The members approached their task as if it had open-ended possibilities, says Tim, even discussing whether any performance system at all is necessary. But they agreed that employees almost universally wanted feedback on their job performance.

Everyone Needs Feedback

"It's an issue of quality," he says. "No matter how good employees are, people need feedback if they are to work on things that lead to better job performance. They also need to know what's expected of them — goals — and guidelines for reaching those goals."

The new performance management process has four objectives:

- Encouragement of open, two-way communi-



LOTS OF SANDIANS helped plan the Labs' new performance management system for evaluating employees' job performance. Here, during a meeting earlier this year, Connie Jackson (left), Betty Fleming (both 4302), and Bill Umstead (7435) discuss provisions of the plan. Bill represented International Guards Union of America views and Betty and Connie brought management associates' perspective to this particular meeting.

cation about performance between represented employees and their managers.

- Clear understanding by employees of their specific job responsibilities and their managers' expectations of their performance of those responsibilities.

- Encouragement of employees to improve job knowledge, skills, and abilities.

- Provision of a basis for promotion, career planning, or other individual development options sought by employees.

Training for the new system began March 1 and will continue through May. Each 3½-hour class is limited to 15 participants, will include a mix of both represented employees and managers, and will be team-taught by a represented employee and a manager. Each center will coordinate training for its own employees and managers.

System Will Cover Entire Labs

Tim says that during and after the training period, feedback will be sought and improvements made, looking toward a full implementation of the part of the system that covers represented employees and their managers in November.

Meanwhile, even before this first step to bring the entire Labs into the performance management system is fully in place, implementation is well under way on step two, which will cover vice presidents and directors, and work begins this summer on step three, the final step, which will bring managers and staff into the system.

The results from the step-two planning activities were introduced in mid-January at training ses-

sions that drew more than 80 percent of the vice presidents and directors who will be covered by that part of the process. It will be fully implemented when each of these individuals sits down with his or her boss early this summer to define outcomes and approaches for the upcoming performance year.

Teams charged with designing the manager-staff program will be established this summer, and they are expected to introduce their plan in December or January. ●HK

New Performance System Designed by Diverse Team

Team members who worked on designing the performance management system were:

Project Leaders — Terri Giron-Gordon (7442) and Mark James (7550).

International Guards Union of America — Michael Benavidez, Carol Bonney, Lorri Castillo, Harold Garcia, Shane Murray, and Joseph Torres (all 7435).

Metal Trades Council — Gerry Gallegos (7817), Gary Graham (2482), David Leyva (2402), Fidel Perez (2402), Joseph Perez (7614), and Reynold Tamashiro (5718).

Office and Professional Employees International Union — Tim Ashby (21), Jerry Esch (7101), Bill McLendon, Mary Ann Mitchell-Carr (both 7141), Dave Palmer (7221), and Wayne Potter (122).

Medical Corner

Drugs, Alcohol, and High-Risk Kids

By Arlene Price, 7035

Most teenagers will have some experience with alcohol and other drugs; most will experiment, then either stop or continue to use casually without significant problems. Though many will "grow out of" drug or alcohol use, some will use them regularly and will suffer varying degrees of physical, emotional, and social problems.

Because there is no certain way to predict which teenagers will develop serious problems, all use should be considered dangerous.

Parents have many questions and concerns about alcohol and drugs and about the effects of these substances on their children's health. Young people today must make more and harder decisions about alcohol and drugs than any previous generation. Parents, too, must learn to cope with a world in which alcohol and drugs are readily available to their children.

The best way to prevent drug and alcohol problems is for parents to be aware of the factors that contribute to a child's becoming high-risk. Learning to recognize signs of potential problems is also important.

What are some of the signs that you as parents can look for to help you recognize whether your son or daughter may have a problem? To find out, plan to attend "High-Risk Kids for Alcohol and Drugs," presented at Sandia March 17 (see box for more information).

'High-Risk Kids' Upcoming

"High-Risk Kids for Alcohol and Drugs" will be presented March 17 from noon to 12:45 p.m. in the Tech Transfer Center (Bldg. 825). Sponsored by Employee Assistance Program and Preventive Medicine Dept. 7035, the program will be presented by Nancy Davidson, a psychologist in private practice. The purpose is to help parents recognize attitudes and behavior commonly associated with high risk so they will be better able to help their children avoid trouble with alcohol or drugs.

Feedback, Coaching Important Features Of Individual Growth

"I'm very pleased to see the introduction of this performance management system for represented employees. I'm especially pleased that it is a product of teamwork between managers and represented employees.

"All Sandians have a stake in seeing this new system succeed and improve as we learn more about it in the future.

"Aligning our individual efforts with organizational missions and goals, and with Sandia's, is one of the ways we can become a more effective institution. Getting timely feedback and coaching is one of the ways we can become more effective individuals."

Glen Cheney
VP, Internal Programs Div. 7000

Sandia News Briefs

New Document Brings Labs Information Systems to Your Fingertips

A new document titled "What's Cooking" is now available on your fax machine through Sandia Line. The 10-page document describes all 17 Laboratory Information System (LIS) applications available to employees through Sandia's electronic information network and tells how employees can access them. Included are the Just-In-Time order system, electronic Sandia Directory entry system, ES&H training information, financial information, personnel information, etc.

To obtain a fax copy of "What's Cooking," dial Sandia Line (845-6789), press 9, enter quick-dial code 1220#, and follow instructions. Other LIS documents available on Sandia Line include the LIS password request form (quick-dial code 1221#) and a list of classes about LIS applications (code 1223#). "What's Cooking" was created by employees in Laboratory Information Systems Center 7300. For more information, Sandia/New Mexico employees should contact Bev Ortiz (7325) on 845-8596. Sandia/California employees should contact Shirley Dalrymple (1951) on 294-2018.

Sandians Help Edit, Author Special Journal on Rad-hard Detectors

Several Sandians in Materials and Process Sciences Center 1800 contributed to the January issue of *Radiation Physics and Chemistry*, titled "Radiation-Tolerant Plastic Scintillators and Detectors." The special issue is devoted to a new generation of polymer-based particle detectors, to be used in high-energy physics facilities, that are resistant to discoloration after exposure to low doses of radiation.

Roger Clough (1811) and Kurtis Johnson of Florida State University guest-edited the special issue, which contains 48 papers on materials for the new detectors. Three articles were authored by Sandians: one by Paul Cahill (1811); another by Shield Wallace (1811), Mike Sinclair (1845), Kenneth Gillen (1812), and Roger; and a third by Kenneth, Shield, and Roger.

Send potential Sandia News Briefs to LAB NEWS, Dept. 7162.

feed back

Q: Earlier this fiscal year, Workgroup Computing Dept. 7327 indicated that the yearly fee for Voice Message would be \$120 (without "the light"). If this system is used by 75 percent of the Labs phones, a yearly assessment of \$720,000 would be realized. The alternative to Labs-wide voice message is individual telephone answering machines. Based on an approximate cost of \$50 each (with "the light"), the initial cost to the Labs would be \$300,000. If the machines remained serviceable for five years, the total savings would be \$3.3 million, or \$660,000 a year.

While the Sandia voice message has options above those offered by an individual answering machine, those options are costly and may not be used by the majority of subscribers. I would therefore suggest that Sandia reevaluate the cost effectiveness of the voice-message system, not in terms of options available, but, rather, in terms of what options customers really use (and are willing to pay for).

A: The Sandia/New Mexico Voice Information System currently serves 2,200 customers and processes about 80,000 messages a month for them. Our interconnected voice messaging system will provide significant communication and productivity enhancements for the Labs when compared to stand-alone answering machines. Figures indicate that the majority of customers are reaping the benefit of the system's advanced features. The current yearly fee (\$120) that you cite provides for recoveries required with the current customer base. Once the new telephone switch is implemented (sometime this year), service will be available to the remainder of the Labs and cost per customer is likely to decrease.

The "light" offered to customers at \$30 (a visual indicator installed on the telephone set that glows to indicate that a call was made to that number) is a one-time purchase for those customers who want it and is unnecessary for any who have a digital telephone. Sandia's 800-number access to voice information offers Sandians the ability to keep in touch with the office while on travel, and removes a significant number of phone calls from vouchers.

Sandia Line runs on the same system and gives callers 140 information destinations from which they can receive information by voice or fax, 24 hours a day. Services are now being implemented to allow callers to interact with corporate host computer data by telephone.

Sandia Line currently processes 3,000 to 5,000 monthly calls from Sandians, retirees, and contractors. It is estimated that at least three FTEs are available for other work while Sandia Line processes routine inquiries. Other savings are realized by offering "on-demand" documents, rather than bulk printing and distribution. A number of new Sandia Line services under design promise even more corporate savings, plus increased service for callers.

A videotape made on Information Day outlines some of these services and is available for viewing by calling 845-8078.

And there is a final overriding fact: DOE orders require that Sandia eliminate individual answering machines, and Sandia will not be in compliance with those orders until voice information services can be offered to all Sandians and the existing machines are removed.

Melissa Murphy (7300)

Q: Recently I waited almost 15 minutes to get through the Mardix booth at Gate 6; 15 to 30 other people also were waiting in line. Is this the way to reward people who want to work late on their own time?

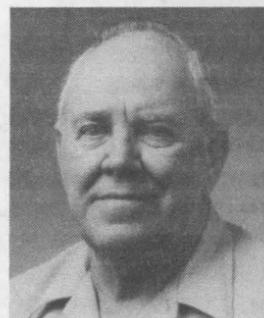
A: The evening you experienced a delay in getting through the Mardix booth at Gate 6 was the first evening of an already-planned earlier shutdown schedule for gates. Due to the large number of new Mardix booth operations that went into effect at the same time, the processing of people through the booths did not go as well as expected or desired. We regret this inconvenience to you and others who were forced to wait in line.

The delays were worked out, and by the third day of the new schedule, the delays were down to an acceptable level. For a number of other reasons, it was decided to return the closing time of Gate 6 to the prior schedule until technical and operational problems can be worked out to further improve the process.

When the schedule ultimately is changed to the earlier closing time, we hope to implement the change with a minimal effect on users. In addition, we will ensure that advance notices are given and that there are customer representatives on hand at the gate during the first two days of the new schedule to answer questions and handle any problems that may arise.

J.D. Martin (7400)

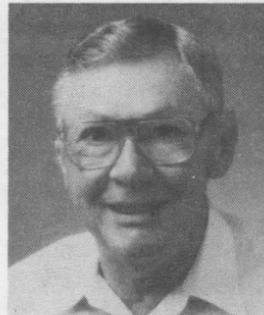
Recent Retirees



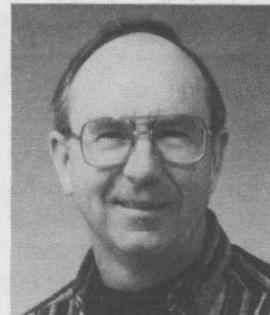
Charlie Thomson
7812



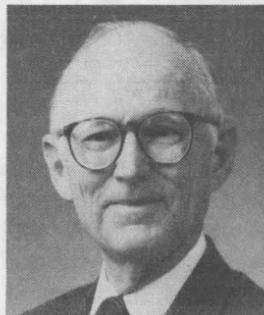
Richard Knutson
2411 34



Harold Rarrick
2701



Larry Seamons
7013 30



Jim Mogford
5003



Bob Austin
2000 35

Open House

The Legal organization is holding an open house in honor of **Mary Ann Lindsay** (200) on her last day at Sandia in the Coronado Club Zia Room on Friday, March 12, from 5 to 7 p.m. Refreshments will be served. Friends and acquaintances are invited.

Welcome

Albuquerque — Christopher Aas (7724), Eugina Baca (21), Mark Harrington (6907), Paula Ledoux (21), Merle Meltzer (7222), Brian Ritchey (7722), Dorthalea Sheppard (21), Kathy Silva (611), Karla Simoes (182). *Other New Mexico* — Josephine Roybal (21).

Earnings Factors December 1992

Long-Term Savings Plan for Management Employees (LTSPME)	Earnings Factors
AT&T Shares	1.0889
Government Obligations	1.0091
Equity Portfolio	1.0138
Guaranteed Interest Fund	1.0064
South Africa Restricted Fund	1.0112

Long-Term Savings and Security Plan (LTSSP)

AT&T Shares	1.0891
Guaranteed Interest Fund	1.0064
South Africa Restricted Fund	1.0113
Equity Portfolio	1.0138
Employer Stock Fund	1.0886



Fun & Games

Bowling — To join SANDOE Bowling Association, contact Dora Gunckel (6400). Membership entitles you to bowl in the SANDOE fun tournaments (No Tap, No Tap/Scotch Doubles, Best Ball, Four-Game Mixer, or Team Event) at a reduced rate. Members are also eligible for Bowler-of-the-Month awards presented at the end of the season. There are four winners each month, two men and two women, both scratch and handicap series. Your series can be bowled in any sanctioned league (you do not have to be associated with a league sponsored by Sandia).

Sandia and DOE employees and their spouses are eligible to join.

The tentative tournament schedule: March 13-14, Best Ball, Holiday Bowl; and April 10-11, Four-Game No-Tap. All tournaments are scheduled to begin at 1 p.m.

SANDOE Bowling Association officers for the 1992/1993 season are: Julia Norwood (7400), president; Lil Radtke (7437), vice president; Dora Gunckel (6400), secretary/treasurer; Sally Frew (7524), women's representative; Fred Gunckel (2643), men's representative; and Reyes Chavez

(2412), tournament director.

November Bowlers-of-the-Month include: Scratch — Fidel Perez (2402), 658; and Dora Gunckel, 551; Handicap — Jerry Long, 608 and 671; and Lea Long, 508 and 646.

Golf — The SERP Open Golf Tournament at Arroyo Del Oso Golf Course is being held March 27, not March 20 as indicated in the *SERP Newsletter*. If you have questions, contact Mark Retter (5713) on 293-4754.

UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS

Deadline: Friday noon before week of publication unless changed by holiday. Mail to Dept. 7162.

Ad Rules

1. Limit 20 words, including last name and home phone (the LAB NEWS will edit longer ads).
2. Include organization and full name with each ad submission.
3. Submit each ad in writing. No phone-ins.
4. Use 8 1/2 by 11-inch paper.
5. Use separate sheet for each ad category.
6. Type or print ads legibly; use only accepted abbreviations.
7. One ad per category per issue.
8. No more than two insertions of same "for sale" or "wanted" item.
9. No "for rent" ads except for employees on temporary assignment.
10. No commercial ads.
11. For active and retired Sandians and DOE employees.
12. Housing listed for sale is available for occupancy without regard to race, creed, color, or national origin.
13. "Work wanted" ads limited to student-aged children of employees.

MISCELLANEOUS

MICROWAVE, Toshiba, 1.6 cu. ft., w/1.2-KW variable power, timer, excellent condition, \$75. Horton, 883-7504, leave message.

ANTIC & ANALOG MAGAZINES, 60 back issues, for Atari 800 & 1200 computers, good Atari program references, free. Dunn, 298-6278.

FLUKE 8021B MULTIMETER, w/carry case & probes, \$85; Whirlpool air conditioner, 5000-BTU cooling, fits windows 25" to 38", \$80. Tafuya-Porras, 281-9610.

KENMORE REFRIGERATOR, 21.6 cu. ft., ice & water dispenser, almond, 2 yrs. old. Archibeque, 256-1356.

TERRY TRAILER, 22-ft., 2-dr., dual batteries, propane tanks, sleeps 4, full bath, AC, appliances, immaculate, \$9,300. Brigham, 292-4399.

CAMERA, Canon AE-1, 28mm Canon lens, 80-200mm Sigma lens, flash & leather case included, \$290 complete. Garcia, 293-2810.

ELECTRIC RANGE & VENT HOOD, both in good working condition, avocado color, \$100 OBO. Jogi, 275-0610.

COMPUTER EQUIPMENT, Compaq SLT/40, 40MB hard disk, 1.44MB floppy, 2400-Baud int. modem, 1.5MB memory, new battery, 2 power supplies/chargers, \$525. Perkins, 296-4467.

SEWING MACHINE, Pfaff straight stitch rotary in console cabinet, \$100 OBO; Mason & Kerr canning jars, quart-sized, \$3/dozen. Robinson, 865-7787.

KENMORE WASHER, Model 70, \$100 OBO. Wright, 891-1998.

BUNK BED, blue, tubular steel frame, double on bottom, twin on top, without mattress, \$90; strollers (2), \$25 & \$35. Warren, 294-5250.

GARAGE SALE, March 6 & 7, 10 a.m. to 4 p.m., furniture, bikes, beds, dishes, more, 8205 Cutler NE. Marchi, 291-9681.

PET ACCESS DOOR (for sliding patio door), \$50; 12-gun cabinet, walnut, large storage area; airline ticket, one-way to Eugene, Oregon, \$125. Walker, 821-5938.

AUSTRALIAN SHEPHERD PUPPY, AKC-registered, red Merle female, \$200. Babb, 865-6842.

SKIS, Blizzard Thermo V20, 205cm, w/Geze G90 bindings, like new, \$150 OBO. Miller, 281-4397.

STEEL, heavy steel table, 30-ft. mast, 4-ft. break, SS/Al tanks, posthole digger, shredder, scaffolding, antique tools, etc. Brainard, 1-252-0602.

ANTIQUE OAK TABLE & four oak chairs, \$350; leather chair w/foot stool, \$75. Olbin, 275-2681.

CAMPER SHELL, came off '77 Ford pickup, long wide bed, \$100; solid core door, 36-in., pre-hung, \$50. Russel, 294-0229.

BROTHER KNITTING MACHINE, w/knit leader, \$100. Petterson, 299-0164.

PINBALL MACHINE, \$300; Donkey Kong Jr. machine, \$300; both for \$500. Lackey, 869-9333.

BEDROOM FURNITURE, end tables, student desk. Sanchez, 292-3852.

SKI BOOTS: women's Heierling, size 7; men's Nordica, sizes 10 & 11; both excellent condition, \$25 per pair. Durkee, 255-4211.

MOTHERBOARD, 386SX (16Mhz), w/2MB 80ns memory, \$200 OBO. Ulibarri, 266-1405.

REFRIGERATOR, side-by-side, Kenmore, \$300; electronic typewriter, Panasonic, long carriage, one-line LCD display, \$250; microwave cart, \$20. Coalson, 298-0061.

SPEAKERS, two 12-in. "woofer" units, both for \$15. Meikle, 299-4640.

PRINTER, Epson FX-100, see it work, \$95. Dietzel, 294-4702.

BAND SAW, Black & Decker, drill powered with 3/8 B&D drill, 3 wood blades, metal cutting blade, \$50 OBO. Rainhart, 821-3690.

TELEVISION: 25-in. RCA Colortrak 2000, monitor/receiver table model, w/2 remote controls, \$275 OBO. Edmund, 268-1881.

WHEELS (4), '90 GM factory aluminum alloy rims, 6-hole, 16-in., w/tires, \$400 OBO. Watkins, 294-6808.

SKI BOOTS, white Roces, size 7-1/2, excellent condition, \$40. Ryerson, 299-5479.

CRIB, Jenny Lind style, w/Sealy mattress, excellent condition, \$85. Sikora, 899-1914.

COFFEE TABLE, glass & fruitwood, octagon, wicker bottom, like new, \$50. Romero, 857-0466.

MINOLTA-MOUNT LENSES, 28mm, 55mm, 75-205mm, 300mm, 2X extender, closeup, PC flash, cases, cable releases, T-mount adapter. Whitham, 266-9313.

OAK BAR STOOLS, Windsor style, swivel base, \$150. Sheehan, 821-3607.

DRESSERS (2), for young children, 3 drawers, \$20 & \$30. Ruby, 299-0767.

SEARS COLOR TV, '77 model, 19-in., good picture, vertical needs fixing, \$50 OBO; L'il Bell youth's bike helmet, never used, \$12. Kawka, 299-1216.

DOG, Golden Lab/Chow cross, spayed, 3 yrs. old, good with small kids, up-to-date on shots, free to loving home. Stefoin, 296-2791, leave message.

HANDMADE DOLL, Red Riding Hood/Grandma/Wolf, three-in-one, a unique collectible. Carter, 275-8376.

COMPUTER, Amiga 2000, color monitor, 1MB RAM, 50MB hard drive, 1 yr. old, professional software & games, \$1,000 OBO. Castillo, 897-4560.

CAMERA, Chinon CP-9AF, multi-program single lens reflex, auto focus, 28-70mm zoom lens, f 3.5-4.5, \$250. Breeding, 260-0820.

YAMAHA PIANO, black satin finish, 3 yrs. old, excellent condition, sells new \$6,300, asking \$3,800. Barr, 822-0671.

WATERBED, queen-size, w/headboard & comforter set, \$200; drum machine, Model DR 110, w/manuals, \$75; both OBO. Schultz, 275-9349.

ELECTRIC STOVE & VENT, Whirlpool, green, \$75; tires (4), Uniroyal Tiger Paw, P205/75R15, \$50; wood entry door, 36-in., \$40; storm door, 36-in., \$10. Koepf, 294-7136.

GIBSON FREEZER, needs work, best offer; innersprings. Riley, 869-2119.

DISHWASHER, Kitchenaid, built-in, almond color, \$300 OBO. Geitgey, 821-5827.

COFFEE TABLE, cherrywood, glass top, 3' x 3', beautiful, \$50. Marquez, 344-8455.

ROWING MACHINE, Vitamaster MA-500, good condition, \$45. Barnard, 292-5648, after 6 p.m.

TODDLER BED, red, w/Simmons mattress, \$80; Fisher Price monitor; sturdy push toy for beginning walkers. Cieslak, 294-2383.

LANDSCAPING TIMBERS, treated, used, \$1/ea. Smith, 293-0216.

LIFE SCIENCE LIBRARY, 25 vol., \$10; Young People's Science Encyclopedia, 20 vol., \$10; bulletin board, cork, 46" x 46", \$15. Newcom, 293-5180.

CAMERA, Nikon FG, 35mm, w/50mm f/1.8 lens, immaculate condition, \$185. Raines, 275-5854.

AMPLIFIER, for bass guitar or keyboard, 100 watts, 15-in. speaker, mint condition, \$195 OBO. Sleaf, 281-4103.

MAPLE BASE CABINET & HUTCH TOP, Ethan Allen, perfect condition, \$250; student desk, metal, two drawers, \$20. Maloney, 828-9610.

GOLF EQUIPMENT: Tommy Armour 845 irons SW-3, Dunlop 1, 3, & 5 metal woods, Master deluxe golf bag, all excellent condition, \$500/all. Jaramillo, 864-8153.

BEDROOM SET (white): double bed, including mattress & box spring, \$250; double dresser w/mirror, \$150; 4-drawer bureau, \$100. West, 296-1483.

LIVING ROOM FURNITURE: sofa, 84-in., tufted back, off white, w/matching upholstered chair, \$400. Foust, 296-1483.

COCKATIEL, Lutino, male, named "Kirby," 1 yr. old, mimics tunes, SPBE banned, papers, cage, supplies, receipts on request, \$130. Gallegos, 899-9004.

PROFESSIONAL KEYBOARD, Yamaha SY77, hundreds of voices, 16-track sequencer, effects, more, original list \$2,995, asking \$1,690 OBO. Rowland, 281-5795.

FLUTE, DeFord, excellent condition, \$350 OBO. Farmer, 857-0503.

'74 ASPEN TRAVEL TRAILER, 18' tandem axle, sleeps six, excellent condition, \$3,000. Zamora, 294-3737.

TRANSPORTATION

'65 MALIBU S.S. CONVERTIBLE 327, AT, red w/white top, black interior, see to appreciate, \$7,000. Haines, 744-5145.

'91 D-150 RAM PICKUP, 36K miles, AC, AM/FM stereo, 4-cyl. engine, \$7,200. Marquez, 828-1774.

'82 MUSTANG L, looks & runs great, new transmission, rebuilt engine, great first car, \$3,500 OBO. Moreno, 294-4268, after 5 p.m.

'90 CHRYSLER GRAND VOYAGER SE VAN, AT, PS, PB, cruise, tilt, rear heater/AC, AM/FM cassette, \$13,500. Caton, 281-9420, between 6 & 9 p.m.

'80 CUTLASS SUPREME BROUGHAM, immaculate, low mileage, original owner, AC, AT, V8, meticulously maintained, garaged, \$3,000. Bisbee, 293-0356.

'91 TOYOTA COROLLA DX, 26K miles, 4-dr., AT, AC, PS, stereo w/cassette, 4 speakers, burgundy w/gray interior, \$8,500 OBO. Gallegos, 899-1013.

'81 HONDA ACCORD, 4-dr. sedan, 5-sp., AC, silver/burgundy, high miles, very dependable, fuel economy, new tires, \$1,250. Conway, 271-0770.

'86 FORD F-250 SUPERCAB XLT, 4-WD, 63K miles, excellent condition, w/loaded matching '86 Northland 10-1/2 ft. S.L. camper, \$13,500. Simmons, 292-5201.

VW BUGS: '66 white, '71 red, \$975 ea. Scheer, 865-6457.

'89 SUBARU DL, 4-dr., AT, AC, new front brakes, great reliable & efficient car, below book, \$4,850. Rowland, 281-5795.

'69 CHEVY TRUCK, 3/4-ton, 4-sp., with 8-1/2-ft. overhead camper, \$1,375 OBO. Henfling, 869-4119.

'89 SUBARU WAGON, 46K miles, AT, AC, records, new tires, \$5,400. Shunty, 265-1620.

'79 CAMARO, AC, PS, PB, AT, AM/FM, T-tops, rebuilt transmission, new radiator, clean, original owner, \$2,100. Russell, 294-0229.

'77 MERCEDES BENZ 300D, AT, PW, PL, stereo, very clean, maintenance records, good condition, must see, \$4,800. Chavez, 294-7933.

'92 TOYOTA PICKUP, base model w/bumper, flaps, 7.5K miles, like new, \$6,500 OBO. Turner, 281-4264.

'88 YZ 125 MOTORCYCLE, pro circuit pipe, new fork seals, more, \$800 OBO. Miller, 281-4397.

BICYCLES (3), free to charitable organization. Riley, 869-2119.

BICYCLES: Huffy & Murray brands, 10-sp., one like new, one in great shape w/child seat, \$50 ea. Sikora, 899-1914.

'85 NISSAN 300ZX, low miles, T-tops, maroon, 5-sp., excellent condition, \$6,900 OBO. Romero, 857-0466.

'91 ISUZU TROOPER, 4-dr., 5-sp., AC, AM/FM cassette, 19K miles, excellent condition, \$15,500 OBO. Brown, 281-4744.

BICYCLE, Schwinn, 10-sp., \$50 OBO. Geitgey, 821-5827.

'92 BOUNDER MOTORHOME, 32-ft., diesel, 10.6 mpg, basement model, 2 TVs, VCR, 2 AC units, generator, below book. Hall, 892-7819.

'82 JEEP WAGONEER, sun roof, leather seats, PS, PW, top rack, \$3,900. Blewer, 268-9019.

'78 DODGE MOTORHOME, 21-ft., class A, self-contained, sleeps 6, generator, roof AC, microwave, 73K miles, \$5,500 OBO. Moya, 877-0832.

'76 MERCEDES 300, diesel, yellow, AC, sunroof, 125K miles, very good condition, \$3,000. Barger, 296-0676.

MOUNTAIN BIKE, Yakota Terminator, Shimano LX components, 19" Cromoly frame, gray/pink, excellent condition, new \$600, sell for \$200. Richards, 296-2272.

'74 DATSUN B210, call for details, \$400. Estill, 883-1531.

'86 NISSAN PULSAR NX, 73K miles, AC, sunroof, tint, AM/FM radio, 5-sp., excellent condition, runs great, \$3,900. Buchholtz, 828-9875.

'90 YAMAHA XT600, dual sport, great street or dirt bike, excellent condition, 900 miles, \$2,000. Rohde, 821-6746.

'70 FORD MAVERICK, looks bad, but mechanically sound, needs battery, hood, & front bumper, you move it, \$150. Carpenter, 294-1372.

'86 DODGE RAM CONVERSION MAXI VAN, 55K miles, dual AC, AT, stereo cassette, seats 7, plus cargo area, \$6,100. Loubriel, 268-1341.

REAL ESTATE

3-BDR. HOME, 1-3/4 baths, 1-car garage, fireplace, updates, sprinklers, pitched roof, 1,714 sq. ft., Carlisle & Candelaria, assumable, \$82,500. Muirhead, 281-2925.

4-BDR. HOME, tri-level, NE heights, 2,150 sq. ft., good schools, near shopping, new roof & paint, side-drive RV space, backyard access, \$120,000. Walker, 821-5938.

4-BDR. TOWNHOUSE, 1,350 sq. ft., 1-3/4 bath, landscaped, adobe accents, private SW area. Lopez, 299-1847.

WANTED

PORTABLE CRIB, for occasional overnight grandchild. Nowlen, 296-8680.

PORTABLE RECORD PLAYER, or small unit, in good condition. Graham, 836-2752.

MANUALS, for Heathkit digital thermometer, Model ID-1390B, & digital barometer, Model ID-1990. Niper, 299-6290.

TRANSPORTATION for a dining table & 4 chairs, to Costa Mesa, Calif. Kent, 881-1888.

EXTENSION TUBE, PN-11, for Nikon 35mm camera. Raines, 275-5854.

COMPUTER SOFTWARE/HARDWARE: CP/M for personal use; IBM-compatible for donation to church school. Barnette, 292-5186.

HOUSE CLEANER, weekly, honest & dependable, references required, Sandia Heights area. Schroeder, 296-1011.

LOST & FOUND

FOUND: Pocket knife, on Feb. 15, in Bldg. 856 men's room. Sikora, 4-3767.

LOST: Man's turquoise & gold ring, large, lost near Bldg. 800 or Coronado Club, reward offered. Holovka, 281-5518.

LOST: Headwrap/scarf, on Feb. 4, wine color, knitted, between Bldg. 880 and parking lot east of Bldg. 887. Street, 4-5986.

LOST: Woman's gold Pulsar watch, west of Bldg. 800. Green, 4-6880.

FOUND: Keys, at Goodwill drop box. Clancy, 266-0190.

SHARE-A-RIDE

CARPOOL offered/wanted from South Highway 217, Tijeras/Edgewood area. Heald, 281-7885.

Coronado Club Activities

Isleta Poorboys Tonight; St. Paddy's Day Coming Up

BASIC PLEASURES — Combine the toe-tapping music of the Poorboys from Isleta and some tempting dishes from the Club kitchen staff, and you've got yourself a satisfying evening. That's what the Club is offering tonight, March 5. The 'Boys will play from 7 to 11 p.m. (don't forget your best dancing boots), and dinner will be served from 6 to 9 p.m. On the menu: t-bone steak (\$11.95) and your choice of Cajun-style or grilled catfish for \$10.95. Or, as so many do, you can go for the all-you-can-eat buffet, which features baron of beef, baked ham, and roast turkey breast, for \$6.95. Reservations recommended — call 265-6791.

FAMILY BRUNCH — The first Sunday Brunch this month is a family occasion. Children from 4 to 12 years old can eat for only \$1 (toddlers 3 and under are free, as always), and their

names will be put into a hat for a drawing of a free video. Brunch starts at 10 a.m. and continues until 2 p.m. At 1 p.m., when the tea dance kicks off, the Starlighters take the stage and play until 4 p.m. Reservations required for these events (265-6791).

MORE FAMILY FUN — Next Friday, March 12, is Kids' Bingo. Any child playing bingo will get a free hot dog and soft drink. There's also a buffet, served from 5 to 9 p.m. The kids can start the evening with a movie (shown from 5 to 7 p.m.) and then get in on the bingo fun at 7 p.m. Cost is \$2.50 for a bingo packet.

REGULAR THURSDAY BINGO is dependable fun. Every Thursday, the buffet line opens at 5:30 p.m. (that's when card sales start, too). Any Club member showing a membership card gets \$1

off a bingo package and 10 percent off the buffet price. Early Bird bingo starts at 6:45. Bring the gang you work with for a special bingo party — call Sal or Chris on 265-6791 to get the details. One more thing: Anybody wearing green on March 18 will find they get some extra goodies.

CORNED BEEF, CABBAGE, AND CEILI — If you're not familiar with those Irish favorites (warning: only two are edible), come to the Club on St. Paddy's day, March 17. For only \$1/members and \$2/guests, you can enjoy corned beef and cabbage, Irish potatoes, and Irish stew (well, the chile in the stew is green). Irish drink specials will also be available — sip one while you enjoy the folk dancing of the Silver Shamrock Ceili Dancers. Music will be by the Irish band Three Leaf Shamrock, led by John Russell and his "Irish accordion."

Take Note

Hogares, a United Way agency that helps teens in trouble, is recruiting foster families for a new program called Pathways: Professional Adolescent Treatment Homes. These homes are similar to traditional foster homes because families open their homes for the substitute care of a teenager. Pathways homes are special because foster parents are the treatment providers, earn a salary, and are supported by individualized services and a caring staff on a 24-hour basis. Training is provided and begins in April. For more information, please call Hogares on 345-8471.

Visitors can learn more about recycling and other earth-saving habits they can incorporate into their lives in a new exhibition at the New

Mexico Museum of Natural History and Science in Albuquerque. "Why Waste a Good Planet?" is a traveling exhibition from the Discovery Place in Charlotte, N.C., that recreates the elements of a typical American home. It uses eye-catching signs that focus on energy conservation, handling and reducing solid wastes, managing toxic and hazardous substances, water conservation, air quality, and other issues. The exhibit centers on a small house that visitors pass through, beginning with the garage and continuing through the living room, bathroom, and kitchen. The exhibition is on display through May 9. The museum is open from 9 a.m. to 5 p.m. every day of the year. For information, contact the Museum on 841-8837.

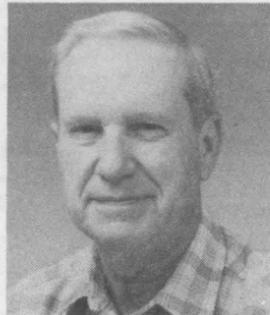
Fun & Games

Senior Olympics — The 1993 Albuquerque Senior Olympics begins March 25 with a dance competition and continues through May 15, ending with a track meet. Senior Olympics involves athletic competition in 23 sports and 75 individual events, including events for everyone from the physically fit to the frail elderly. The 1993 Albuquerque Senior Olympic Rule Book is available for purchase through the Health and Fitness Office at Bear Canyon Senior Center for \$1. The Albuquerque Senior Olympics is open to all seniors residing in Albuquerque/Bernalillo County who are 55 or older by March 25, 1993. Each participant must complete a Senior Olympic registration form, turn the registration form in by the deadline, and pay any fees due. Registration deadline is 5 p.m. March 15. Late registrations will not be accepted. Registration forms may be obtained at all six Albuquerque Senior Centers, the FHP Administration Office, and FHP medical centers. For more information, call 291-6277.

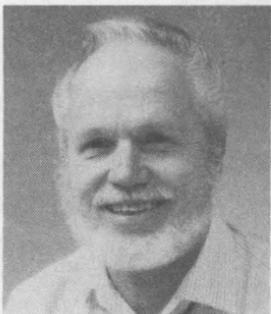
Recent Retirees



David Judd
1957 40



Don Amos
1422 30



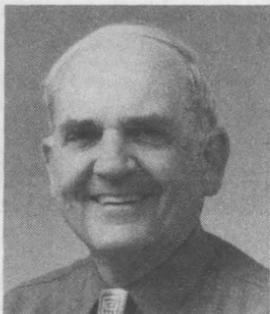
George Ingram
5932 35



Bob Tomlinson
2732 35



Mike Zapach
336 32



Howard Gerwin
335 35

Sandia Calendar

The LAB NEWS gathers Sandia Calendar items from various sources, often several weeks in advance of publication. Events could be postponed or even canceled after the LAB NEWS deadline, so readers should confirm times and dates of interest whenever possible.

Preferred Processes: Software Development Presentation — Software Management Program Quality Improvement Team presents information about preferred processes being developed at Sandia and defined software development processes; 1 p.m. Friday, March 12, Tech Transfer Center (Bldg. 825); software project leaders and software developers encouraged to attend. Contact: Michael Blackledge (326) on 5-8307 or 4-8750.

Sandia Human Studies Board (HSB) Meeting — Review board for Sandia research/contracts involving human volunteers or human data, records, pathological specimens, or diagnostic specimens; Medical Center (Bldg. 831) conference room; attendance limited to HSB members and investigators presenting research. Contact: Linda Erickson (7031) on 5-9171.

Mail or fax potential items to Sandia Calendar, Dept. 7162, Fax 844-0645.

Congratulations

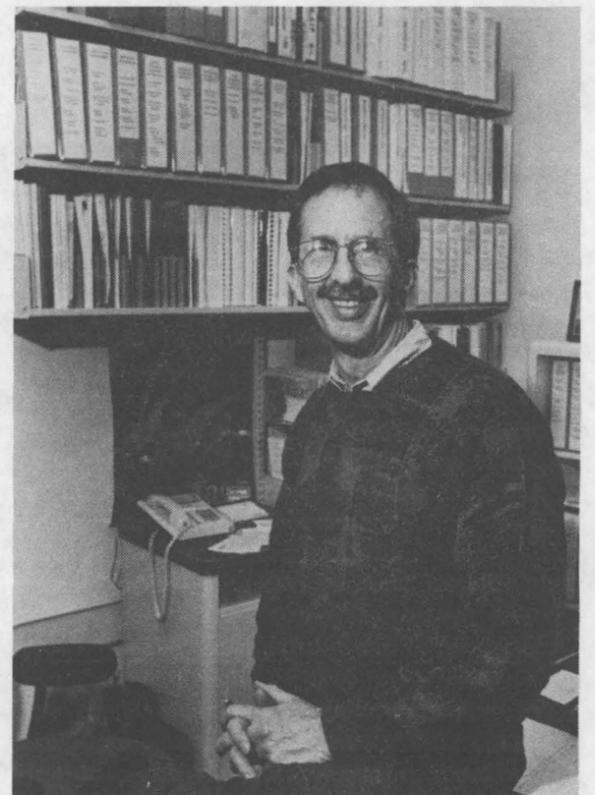
To Debbie and Andy (5147) Rogulich, a daughter, Kimberly Marie, Jan. 12.

To Tracy and Darrel (1832) Frear, a son, Cody Christian, Jan. 30.

To Lori and John (1248) Aurand, a son, Joshua Ahlquist, Feb. 4.

To Brenda and James (2483) Pankey, a son, Daniel Ryan, Feb. 11.

To Ellen Lemen (9611) and Allen Ballweg, married in Albuquerque, Feb. 14.



CARL PETERSON, Manager of Defense and Space Programs Dept. 1501, has been elected a fellow of the American Institute of Aeronautics and Astronautics. He is one of 36 AIAA members elected a fellow this year. AIAA President Robert Fuhrman says all of those elected "are people of distinction who have made notable and valuable contributions to the arts, sciences, or technology of aeronautics or astronautics." Carl and other newly elected fellows will be recognized at the AIAA's annual meeting May 4-6 in Arlington, Va.