Hot Topic

Volcanic Research Takes Scientists to Pristine Alaskan Wasteland

It's not every day that a scientist working in the wilderness gets to spend several days repairing a worn-out hut for backpackers.

But that's exactly what Sandia geologists John Eichelberger, Supervisor of Geochemistry Div. 6233, and Vicki McConnell (6233) did this summer during a three-week trek to the far northern reaches of Alaska, as part of their geological research inside a national park.

John led an expedition of a dozen scientists whose goal is to gain a better understanding of the Earth's crustal dynamics by drilling into the interior of the Novarupta Volcano, still warm from its 1912 eruption, which caused the collapse of Mt. Katmai several miles away and scattered ash as far as the East Coast of the US. John and Vicki's work is part of the US Continental Scientific Drilling Program, funded by DOE, the US Geological Survey (USGS), and the National Science Foundation.

Mt. St. Helens Small by Comparison

The Novarupta eruption was 100 times bigger than the May 18, 1980, eruption of Mt. St. Helens, notes John. It took four years for National Geographic Society expeditions to find the 1912 vent, which is located in a wasteland aptly named the Valley of 10,000 Smokes. To this day, fumaroles — vents belching steam — can be seen in the vicinity.

Weather conditions are tolerable for a few weeks in July, but even then, wind speeds can reach 100 mph, hurtling rocks through the air. A rainstorm this summer lasted 36 hours, and the temperature dropped from 70 to 35° F in the space of 24 hours, says Vicki. Snow begins to fall in August or September, after leaving the region in June.

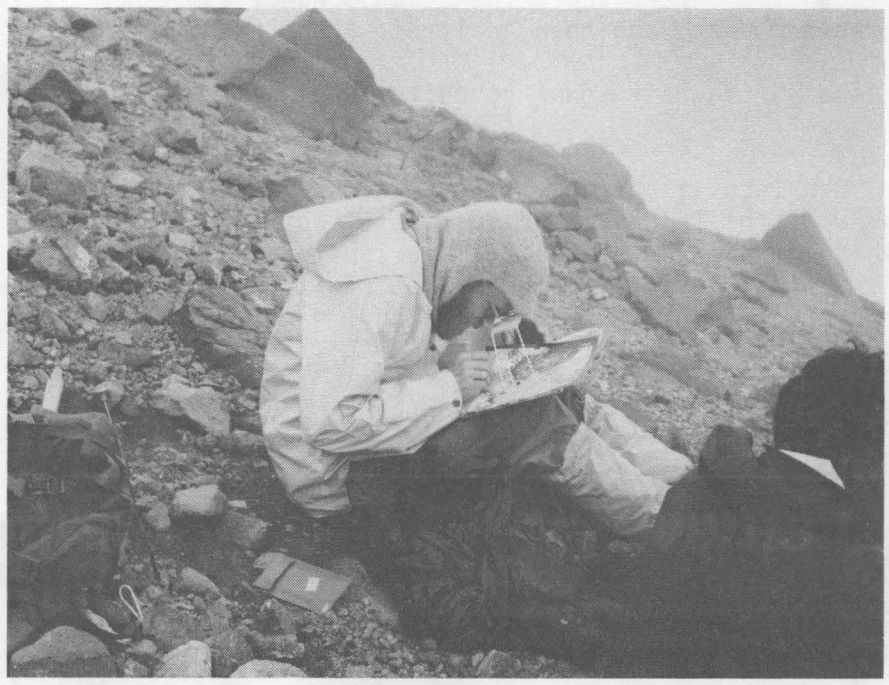
"Somewhere in between there, there's seven days of summer. And if you're lucky, you'll be there. It can be incredibly beautiful — there's a certain wild beauty there — but it can be incredibly bad. You have to learn to deal with the climate — it gives a whole new meaning to the concept of layered clothing," she adds.

Wilderness Shelter Gets Facelift

The expedition needed a safe shelter near Novarupta, which is 60 miles from the nearest town on the roadless Alaskan Peninsula. Unprotected campers have sometimes died of hypothermia or drowned trying to hike out through storm-swollen glacial streams, notes John. "The existing shelter leaked and was a real eyesore. It had reached the point where it needed to be repaired or removed, and the National Park Service had the resources to do neither," he says.

So the scientists, who included researchers from the USGS, the University of Alaska at Fairbanks, the University of New Mexico, and

(Continued on Page Four)



JOHN EICHELBERGER (6233) pinpoints a sample locality on an Aleutian range summit using aerial photographs. The photographs are so detailed that he can see boulders 1 foot in diameter through a special, double-lensed eyepiece. (Photo by Vicki McConnell, 6233)

New Distinguished Members of Technical Staff — See Page 6

LAB NEWS

VOL. 42, NO. 18 SANDIA NATIONAL LABORATORIES SEPTEMBER 7, 1990

Emphasis on Software Development

CCE to Focus on New Generation of Supercomputers

Massively parallel supercomputers that will be able to solve problems thousands of times faster than today's most powerful computers — and development of their software — will be the focus of Sandia, Livermore's new Center for Computational Engineering (CCE), says Bill Wilson, Manager of CCE Department 8210.

Dedicated on Aug. 28, the Center is sponsored by DOE and private industry. Computer scientists and researchers from industry, universities, and Sandia will work together to develop and apply computational technology to problems of national interest. Also, in response to the National Competitiveness Technology Transfer Act of 1989, the CCE will join with universities and American industry in translating that technology into a national competitive economic advantage.

Initially, Sandia will work with sponsors in four separate modules: global climate change, macromolecular design and environmental health, software engineering, and field data management.

To Hit Market Soon

Much of the cooperative work will involve the new generation of massively parallel supercomputers, expected to hit the market within the next year. "In fact, the next revolution in supercomputer technology will be the introduction of massively parallel computers," says Bill.

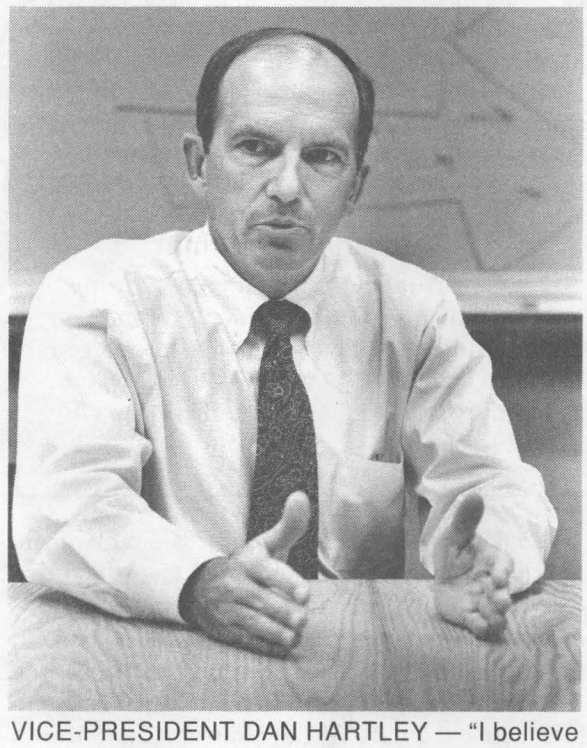
Today's supercomputers are inadequate for solving equations necessary to answer some detailed scientific questions. They cannot handle the

(Continued on Page Three)

Sandia's Changing Roles

New Vice-Presidency Leads Changes

Few things are certain about the future of the national laboratories in today's rapidly changing R&D environment. But one thing is certain — Sandia's Management Council (SMC) is serious about adapting to this changing environment.



VICE-PRESIDENT DAN HARTLEY — "I believe when we're done, all Sandia initiatives will be aligned toward a common focus. That's our goal."

On Aug. 16, Dan Hartley, Vice-President of Energy Programs 6000, was appointed Vice-President for Corporate Change Management. This executive-level change marks the beginning of a major push by SMC to adapt Sandia's culture to a changing world.

"Given recent world events — the dismantling of the Berlin wall, the realignment of Eastern Bloc countries, the Iraqi influence on US oil supplies — it is clear that we need to move ahead vigorously to design a Sandia future that meets the requirements of a new world environment," says Dan. "We must therefore alter the way we think and organize ourselves to conduct successful new programs."

"Once we create a positive corporate mindset about change, the process will be less difficult. It's really up to all of us."

SMC's appointment of Dan is a further statement of Sandia's commitment to fulfilling the initiatives outlined in Sandia's Strategic Plan 1990, which sets forth steps for achieving cultural change at the Labs.

"We're proud of our Strategic Plan," says Dan. "But we can't let it sit on a shelf somewhere while

(Continued on Page Five)

This & That

On Track With Dave – That friendly (I think) one-upmanship between scientists and engineers cropped up again recently when Dave Bickel, Supervisor of Track and Cables Div. 7535, was introduced as a scientist. "I'm an engineer," Dave said politely, and demonstrated the difference (at least to his satisfaction) a few minutes later when another speaker, a scientist, began showing a viewgraph. This chap wanted to point out something in a scene projected high onto a screen, but he didn't have a pointer. So he began jumping up to point his finger at a spot on the screen. Dave – ever the opportunist – calmly adjusted the viewgraph to bring the picture down on the screen where the other speaker could easily point to the desired part, and then declared, "He's a scientist; I'm an engineer."

(Any Sandia scientist can have equal space to rebut if the story is good enough.)

* * *

DMTS Honorees – Congratulations to the 64 Sandians who've been named Distinguished Members of Technical Staff; their photos and plaque citations are published in this issue. The DMTS designation, limited to about 10 percent of the nonsupervisory technical staff, is awarded for sustained outstanding performance or unique contributions to our technical missions.

* * *

Help Us Lighten Up – Like most company newspapers, the LAB NEWS tends to get a little "heavy" – with a steady diet of administrative news and work-related stories. That's natural and necessary to a large extent, but as space allows, we also like to print human-interest features about Sandians. Our Aug. 10 story about Ruth Bitsui (3511), who was among a group that visited Scandinavia to present a rodeo and wild-west show, is a recent example. Drop us a note at Division 3162 if you know Sandians whose personal travels, activities, or hobbies would make interesting reading.

* * *

Casual-Crowd News – Here's the word for the Sandia casual crowd: The first Friday of each month can be considered "Informal Friday." Today is the first Friday of the month, meaning that your next opportunity isn't until Oct. 5. You may want to mark your calendar.

As of now, I'm completely out of the fashion-consulting business forever. Think I'll explore something less controversial – religion or politics, maybe.

* * *

Seeing Stars and Stripes – Speaking of controversy, I saw a large, well-muscled fellow at a ball game recently who obviously isn't much on the idea of flag burning. He was wearing a T-shirt with a big American flag across the chest area. Below the flag was the message, "Try Burning This One!" •LP

Take Note

Twice a year, the Office of Senior Affairs and UNM Continuing Education sponsor classes that emphasize topics of interest to retirees, those about to retire, and family and friends who assist senior citizens. Session topics include Social Security, Medicare, health-insurance policies, health-maintenance organizations (HMOs), community-based services, nursing-home insurance, guardianship, wills, and funerals. The Saturday classes begin Sept. 15 and continue through Oct. 27. They meet from 10 a.m. to noon on the UNM North Campus. For information, contact the Medicare/Health Insurance Counseling Program on 764-6471 or 764-6474. To register, call UNM Continuing Education on 277-6542 and ask for Course No. 609. The fee is $10.

Retirement Seminar

Guy Trujillo of SunAmerica Securities, Inc., will present a seminar, "What You Should Know About Retiring Before You Retire," on Sept. 12 at the Coronado Club, Conquistador Rm., at 5 p.m. RSVP to Guy on 294-6655.

Duke City Business and Professional Women are sponsoring a Candidate Forum featuring First Congressional District and gubernatorial candidates on Saturday, Sept. 8, from 1 to 3:30 p.m. at the Immanuel Presbyterian Church Fellowship Hall (114 Carlisle SE). For more information, contact Duke City BPW Legislative Chair Berta Rodriguez (4000-1) on 296-6987.

LAB NEWS

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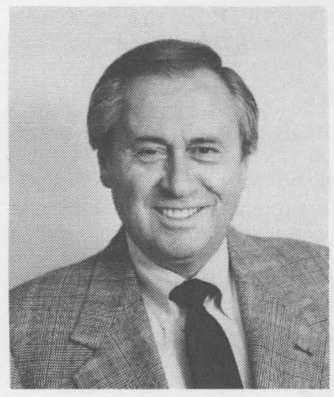
Collaboration with Labs

UNM President Next Community Focus Speaker

Richard Peck, the University of New Mexico's new president, will speak at the next Community Focus gathering Monday, Sept. 10, at noon in the Technology Transfer Center. Seating is on a first-come basis.

His talk, "Science Fiction: An English Professor at Sandia Labs," refers to two of Peck's interests — higher education and writing. He has written plays and novels, among them the novel, *Something for Joey*, which was selected for reprint by the Literary Guild and Doubleday Book Club.



RICHARD PECK

Peck has arrived in New Mexico at a time when the relationship between his school and Sandia is expanding. After just one week on the job in July, he presided at a joint UNM/Sandia news conference, where he announced the formation of the Materials Research and Development Laboratory and presented the eight Sandians chosen for the UNM/Sandia Distinguished Professorship Program. He said the two new programs indicate a "growing intensity" of collaboration between the two institutions that he wants to continue.

Fifteenth UNM President

Peck, who will be formally inaugurated in November as the fifteenth president of UNM, previously served as provost and vice-president for academic affairs at Arizona State University. At ASU, he also served as interim president from June 1989 to Jan. 1, 1990.

He has had a distinguished career as an administrator, educator, and writer. He served as dean of the College of Arts and Sciences and professor of English at the University of Alabama before moving to ASU. At Alabama, he was instrumental in adding minorities and women to the Arts and Sciences faculty and helped enhance external sources of funding for research activities.

Earlier, he served on the faculty at Temple University in Philadelphia for 17 years, including service as dean of Arts and Sciences.

Peck has gained recognition as a playwright and novelist. His 1973 novel, *Final Solution*, was nominated for the John W. Campbell Award as Best Science-Fiction Novel by the Science-Fiction Research Association. *Something for Joey*, his novel about Heisman Trophy winner John Cappalletti's relationship with his dying brother, was based on a television movie.

He has also won awards for his 10 plays, all of which have been produced. His three-act play, "The Cubs Are in Fourth Place and Fading," was a finalist in the American Playwrights Competition and won the C. Brooks Fry Award from among more than 300 entries. Peck is the author of various articles, travel and humor columns, book reviews, and numerous scholarly works.

The Community Focus series is coordinated by Community Relations Div. 3163. President Al Narath will host Peck during his visit. •

Wonder How They'd Like Green Chile?

Foxes gnawing insulation off cables in the Arctic were thwarted when explorers coated the cables with a sealant spiked with Tabasco sauce, a geographer reports in the journal *Nature*.

Wall Street Journal

(Continued from Page One)

Computational Engineering Center

amount of information required to calculate, for instance, the chemical properties of complex molecules, such as DNA (made of millions of paired proteins). The primary difference between parallel computers and conventional computers is that a parallel computer solves independent variables of an equation simultaneously rather than solving one part of a problem before going on to the next, as conventional computers do.

"Teraflop" machines (tera means trillion) will run more than a million million arithmetic operations per second.

The first commercially available massively parallel computers are expected to hit the market soon. Next year, Intel plans to announce its Touchstone machine, which is rated at 50 gigaflops (billions of floating-point operations), or the power of approximately 1000 Cray 1's. Intel is scheduled to follow that with a 200-gigaflop version by 1993.

Also in development are "teraflop" machines (tera means trillion), which will run more than a million million arithmetic operations per second. That is 20,000 times faster than the Cray 1. Eight companies, including Nippon Electric Co. of Japan, IBM, and Thinking Machines Corp. are in the race, targeting 1995 as the year of the teraflop.

TAKING PART in the Center for Computational Engineering (CCE) dedication Aug. 28 at Sandia, Livermore were, from left, Research VP Venky Narayanamurti (1000); Al Chernoff, Director of the DOE/AL Management Support Division; Kenneth Wilson, Nobel laureate and Ohio State University physics professor; Bill Wilson, Manager of CCE Dept. 8210; and David Nelson, Executive Director of the DOE Office of Energy Research.

Sandia's Role: Rewriting in Parallel Form

However, to use these massively parallel supercomputers, existing software must be rewritten in parallel form. And that will be Sandia's role. Sandia computer scientists Ray Cline and Bob Whiteside (both 8210) have already begun this work. This and similar work by colleagues in Mathematics and Computational Science Dept. 1420 have resulted in remarkable speed-ups for significant, realistic problems. Many of these experiments have been conducted on 1420's research computers, which have parallel architectures.

Each of the four separate modules will have its own funding and staff. A typical module research team will include three Sandians, three visiting university scientists or engineers, and several industry representatives. Proprietary information will be protected, but general information about technology development will be published in open literature.

The CCE is managed under Sandia's new matrix-management culture. It is in Ron Detry's Engineering Design Directorate (8200), while the program manager is Peter Mattern, Director of Combustion and Applied Research 8300.

The US has always led the world in computational technology, but that lead is being challenged, according to Bill Wilson. By pooling the talents of scientists from American industry, universities and national laboratories and having them work side by side, the CCE will transfer computational technology quickly, reducing the concept-to-design cycle and speeding product introduction.

The global climate module is developing algorithms to simulate global weather patterns. Studies of global climate change involve many variables, such as temperature, wind direction, cloud formation, and precipitation averaged over long periods. Such calculations today are based on a gridwork that divides the globe, and the many layers of atmosphere above it, into sections that are several hundred miles wide. But weather patterns can widely vary on this large a scale — the climate is very different in San Francisco than in Fresno. Today's computers can't handle the amount of information a smaller grid would generate. But the new parallel supercomputers will be able to do so.

"The goal is to write parallel computer codes to run the smaller-grid simulations to enable scientists to more accurately predict global climate change," says Joe Harris (8233).

The global climate module is a collaboration between Sandia, Lawrence Livermore National Lab, Yale, and Scientific Computing Associates to develop CHAMMP (Computer Hardware And Mathematical Modeling Program) and the Advanced Parallel Chemistry (APACHE) three-dimensional climate model, both funded by DOE.

Computer Pharmaceuticals

Another example of a potential application of computational technology comes from the macromolecular design module: drug development. Sandia researchers are currently applying first-principles, quantum-mechanical computations to help design new classes of pharmaceuticals. The goal is to change the process of drug development from one of discovery by laboratory experimentation to one of design by computer simulation.

Drugs consist of complex molecules that contain numerous atoms whose electrons are interacting with the electrons of other atoms. "The energy of interaction between the molecules and the electronic charge distribution are defined by a quantum mechanical wave function that is a solution to

(Continued on Page Nine)

Supervisory Appointment

CHARLOTTE ACKEN to Supervisor of Electronic Sensor Div. 8453.

Charlotte joined Sandia, Albuquerque in 1978 after teaching mathematics at the University of Arkansas for six years. Her first MTS assignment was on the Forward Look project, which involved safety, security, and survivability of the US nuclear weapons stockpile in Europe. Next, she joined the Integrated Circuit Department, where her work included computer-aided engineering and research on automatic test sequence generation for integrated circuits. In 1983, she transferred to Livermore to work in the Telemetry Systems Division. Most recently, she was assigned to the division she now heads.

CHARLOTTE ACKEN

Charlotte has BS and MS degrees in mathematics from the University of Arkansas and an MS and PhD in electrical engineering from Oklahoma State University.

She is a member of IEEE and the Association for Computing Machinery (ACM). She serves on the ACM's advisory board for the Special Interest Group on Design Automation. Her board responsibilities include directing a scholarship program for high-school minority students planning careers in electrical engineering or computer science. For the past five years, Charlotte has also served on the organizing committee for the DOE Workshops on Computer-Aided Design.

Charlotte and her husband John live in Palo Alto. Their outside interests include contract bridge, reading, and hiking.

SANDIA LIVERMORE NEWS

Sympathy

To Rex Steele (8286) on the death of his mother in Pinckneyville, Ill., March 31.

To Carolyn Pura (8156) on the death of her father in Lodi, Calif., June 14.

To Rich Palmer (8354) on the death of his mother in Great Neck, N.Y., July 4.

To Ken Lee (8243) on the death of his half brother in Las Vegas, Nev., Aug. 6.

To John Brooks (8312) on the death of his father in Silverdale, Wash., Aug. 12.

Take Note

John Smugeresky (8312) has been named to The Metallurgy Society's board of directors for a three-year term as programming director. He'll join the TMS board at the organization's annual meeting in New Orleans next February.

(Continued from Page One)

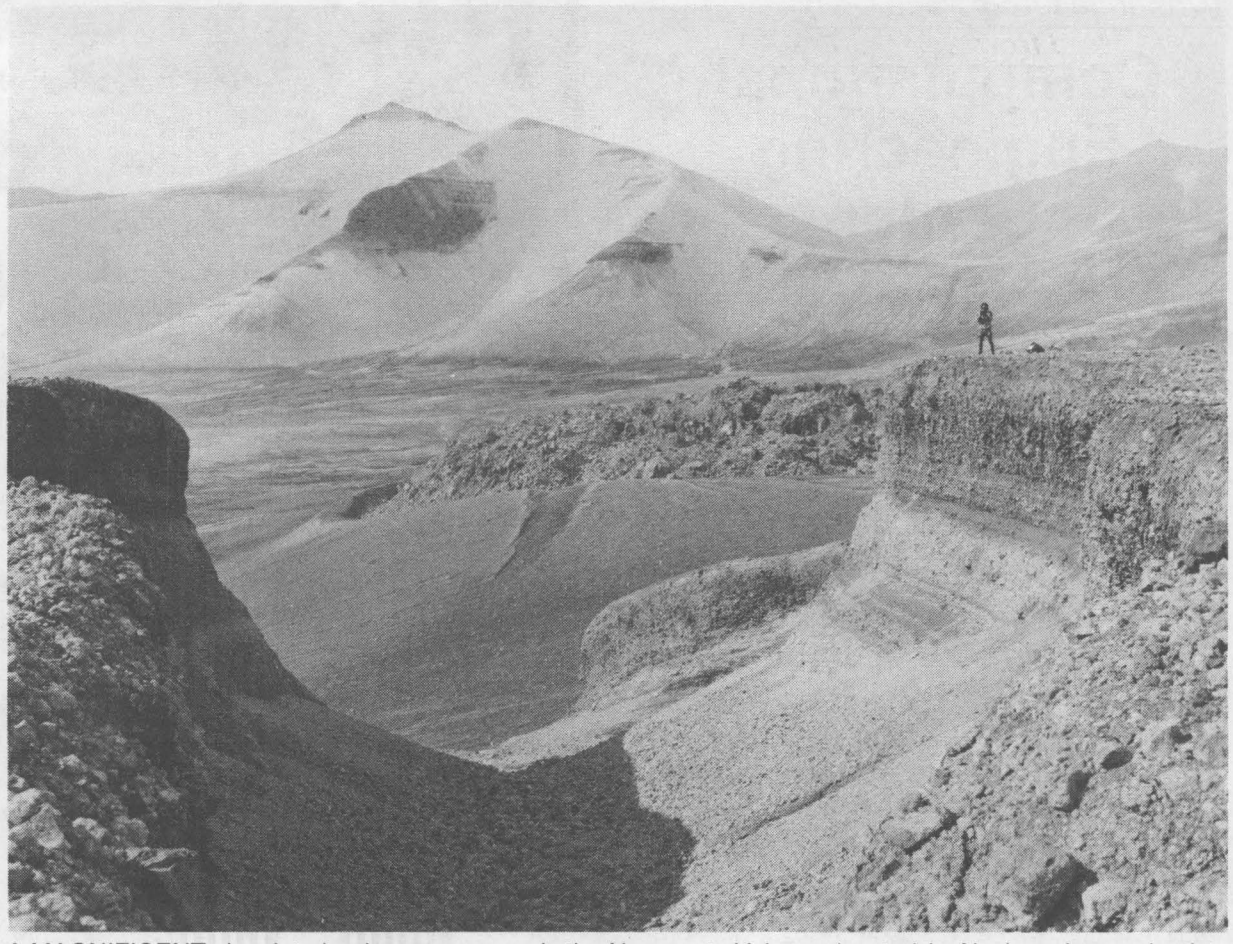
Alaskan Volcano Trek

Lawrence Livermore National Laboratory, set to work replacing the roof, installing shutters and a window, repairing bunks, installing a water catchment system, moving and repairing the outhouse, and hauling out 14 helicopter loads of trash.

As soon as repairs were far enough along to provide shelter for the full team, the scientific work began.

They completed an aeromagnetic survey of the volcanic vent, remeasured gravitational and magnetic fields at 17 geophysical stations, conducted extensive electrical surveys, and completed a network of benchmarks for measuring distance in order to see if the volcano is expanding or deflating and to pinpoint the location of magma in the Earth's interior. Results of the measurements are expected later this year.

Scientists also participated in filming by the Southern California Consortium of the volcano and the research activities for a college-level geology course to be broadcast nationally on public television.



A MAGNIFICENT, desolate landscape surrounds the Novarupta Volcano (center) in Alaska, where scientists hope to drill into the volcano's throat to learn more about the formation and evolution of the Earth's crust. (Photo by John Eichelberger, 6233)

Understanding Volcanism

Just as drilling on the ocean floor has led to the discovery that new crust is being formed along gigantic underwater rifts, drilling at carefully selected sites on dry land is expected to lead to new knowledge and understanding of the continents, says John.

"Volcanism is a process by which crust continues to form and evolve. We believe that a few carefully chosen holes can fill in the neglected areas of knowledge. We hope that key sites on the continents, especially previously unexplored areas of the Earth's crust, such as fault systems, igneous systems, and structures associated with mountain-building processes, will be explored in the subsurface through drilling," he adds.

Gravity measurements indicate the density of underground rock; magnetic data show where magmatic intrusions are located and whether the volcano is cooling, because very hot rock is less magnetic; electrical measurements of resistance and natural voltage between various points determine the presence of hot water deep within the volcano; and geochemical analysis of rock samples shows how gases are released from magma.

In addition to scientific goals, volcanoes are important for economic reasons as well — they produce ore deposits, are a source of geothermal energy, and represent a significant hazard to people and commerce when they explode. Results from the research will show how magma explodes as it approaches the Earth's surface, how ore deposits form in volcanoes, and how magma cools.

Spewed 30 Cubic Kilometers of Material

Novarupta is of special interest because it is a very large and very young volcano. The landscape it created is only 78 years old, making it relatively undisturbed since the time of the explosion. Novarupta is also relatively simple in that it only erupted once — giving off a single, colossal blast that lasted 60 hours and spewed 30 cubic kilometers of material from the Earth's interior. The volcano left a three-mile-wide hole and scattered ash a foot deep 100 miles away. Most volcanoes puff along for centuries, says John, making them more complex to interpret.

The research in Katmai National Park is now in its third year. John and Vicki, who have participated in the research from the start, hope drilling can begin at the volcano in 1992. But that will depend on the outcome of an environmental impact statement to ensure that the drilling will not threaten the natural environment. The National Park Service will make the final decision on whether to permit the drilling. Allan Sattler (DMTS, 6253) is responsible for the design and implementation of the drilling.

So far, scientists have already uncovered a couple of surprises during their research. One is that the volcano's vent may be smaller in diameter than originally presumed; this is all the more impressive in view of the volume of the eruption, notes John.

The other surprise is that the collapse of Mt. Katmai six miles away from the volcanic vent began only a few hours after the onset of the eruption. That is mind-boggling considering the high viscosity of the magma rumbling around beneath the surface, notes John. The most plausible explanation is that several magma chambers are interconnected beneath the surface, either by thin walls or magma-filled cracks; if one of them empties in an explosion, it draws in magma from neighboring chambers. The time of the collapse is evident from the intermingling of debris from Mt. Katmai with the initial layer of silica-rich magma that is known to have spewed out of the volcano the first day on the basis of eyewitness accounts. •LD

Sandia's Volcano Experts

John Eichelberger (6233) has lots of experience studying volcanoes.

He's currently the head scientist of an ongoing project he began developing in 1985 to study Alaska's Novarupta Volcano (see "Volcanic Research Takes Scientists to Pristine Alaskan Wasteland"). He is also one of a team of Sandians who significantly revised conventional theories of volcanism through their analysis of lava sampled by drilling beneath the 600-year-old Obsidian Dome Volcano in Long Valley, Calif.

Conventional wisdom held that the reason volcanoes usually erupt explosively at first and later ooze lava was that magma was stratified underground, with gaseous magma at the top and smoother-flowing, gas-poor magma at the bottom.

But studies by John, former Sandian Charles Carrigan, Hank Westrich (6233), Harlan Stockman (6233), and Ron Price (6315) revealed that the same type of magma had caused both the initial explosion of Obsidian Dome and the subsequent smoother-flowing lava, which built a dome on top of the volcano.

They concluded that most magmas are gas-rich and can lose gas freely, but that dense, gas-tight rock inside some volcanoes makes it difficult for the gas to escape. Gas pressure inside the magma blows the magma apart and creates a funnel-shaped opening hundreds of feet wide at the surface. As rubble from the initial explosion falls back into the funnel, it creates a porous layer of material that puts pressure on the magma but allows trapped gases to escape, relieving the explosive pressure.

Some volcanoes never have an explosive phase because they are underlain by porous rock, allowing the lava to lose its gas and flow more smoothly from the beginning.

John has worked on Sandia's Magma Energy Project during drilling in Hawaii, Oregon, and California. He has also selected targets for earth penetrator tests in the volcanic formations of Sandia's Tonopah Test Range.

John is an accomplished photographer. His panoramic shots of the remote Novarupta Volcano and the surrounding wasteland are of professional quality and have been published in magazines and newspapers.

Congratulations

To Sheri (1846) and LeeRoy Martinez, a daughter, Lydia Maria, July 19.

To Linda (3155) and Doug Gillis, a daughter, Hannah, Aug. 7.

To Mary Monson (3151) and Robert Francis Ward, a son, Robert Francis, Aug. 11.

To Becky and Bruce (3155) Fetzer, a daughter, Jennifer Marie, Aug. 20.

To Lisa and Tim (1141) Drummond, a daughter, Nina Jae, Aug. 22.

To Lori Soutar and Gregory Sjaardema (1521), married in Albuquerque, Aug. 25.

To Kathleen and Ed (2142) Cole, a daughter, Caitlin Elizabeth, Aug. 26.

(Continued from Page One)

Change Leadership

nothing happens. It is our plan for the future, and my job is to see that it is formally implemented. Corporate Change Management is the muscle behind the Strategic Plan."

Aligning Labs Initiatives

Dan says his job is to manage the implementation effort, not to solve every problem or judge every issue. The purpose of Corporate Change Management is to define the process that leads to solutions, to ensure that resources are available for making changes, and to see that changes in Sandia's corporate culture take place.

All continuing initiatives at the Labs, including ES&H, Quality, project management, and empowerment, will fit into this change process, says Dan, even though some of these initiatives may now seem to be conflicting. These and all future initiatives will follow an overall change process that ensures their success and mutual fit into the organization.

"Change is difficult," he says. "Right now, so much is happening that it's hard to get our collective hands around it. It's my job to organize the chaos. I believe when we're done, all Sandia initiatives will be aligned toward a common focus. That's our goal."

To expedite the change process, Dan will manage a team of Organization Effectiveness (OE) specialists. A group of Sandians serving as OE consultants will work with private consultants who specialize in managing complex organizational change. John Ledwith (3523) will be responsible for both the internal and external OE specialists.

"The objective is to create a network of people that permeates the Labs — including Livermore — who are committed to making changes."

"It's important that these specialists leave behind their expertise," says John. "That way we can make future changes ourselves."

"Because OE consultants John Ledwith, Elveta Bishop [3150], and Paul Shoemaker [114] did some fine work in assisting the SMC to develop the Strategic Plan, we'll use them again to help manage the change process," says Dan.

The private consultants are Dean Anderson and Linda Ackerman Anderson of Being First, Inc., a firm responsible for major change initiatives in organizations such as AT&T, TRW, and US West. Being First's role is to help Sandia implement the change process while teaching Sandians how to manage significant and accelerated change themselves.

ORGANIZATION EFFECTIVENESS specialists Linda Ackerman Anderson and Dean Anderson will help the Labs implement the change process while teaching Sandians how to manage the change process themselves.

"We are impressed with the resources, the quality of people, and the level of enthusiasm being put behind the Sandia effort," says Linda. "I think this effort will be successful."

Sandia in the '90s

The intended result of this change effort is an energized laboratory with a more flexible culture and structure that is prepared to tackle, in Al Narath's Vision Day words, the "insurmountable opportunities" of today's rapidly changing R&D environment.

"Communications will improve, leadership will be more productive, and Sandia will take advantage of lessons learned by successful businesses that have dealt with real-world competition," predicts Dan. "Sandia will ultimately be quicker on its feet, more alert and aggressive, and recognized for its contributions in current and new program areas."

Plans are under way to organize a steering group of people involved in major Sandia initiatives. They will advise Dan on change strategies during the "realignment" process.

Eventually, Dan hopes to create a team of "change ambassadors" that reaches all levels and locations at the Labs. These ambassadors will reflect Change Management's concerns in each organization, raise real issues, and assist in the change process. The details of Change Management's current plans will be addressed at October's Large Staff Meeting.

"The objective is to create a network of people that permeates the Labs — including Livermore — who are committed to making changes," says Dan. "Once we create a positive corporate mindset about change, the process will be less difficult. It's really up to all of us."

Creating this mindset requires that all employees become involved in the effort, because changes will affect every Sandian. Dan says he welcomes constructive ideas for change at Sandia.

"Mail is always valuable," he says. "There are a lot of good ideas out there. We can capitalize on everyone's energies. Give me your suggestions about how to do things better to help us fulfill our Strategic Plan objectives."

Dan's new assignment is temporary. During the next several months, he will continue to serve as CEEEC (Committee on Energy, Environment, and Economic Competitiveness) Activity Manager, maintaining his involvement with the Labs' energy, environment, and strategic issues. His principal task, however, will be Change Management. (Dan's mail should be sent to Corporate Change Management, Organization 5.) Virgil Dugan (6200) will serve as Acting Vice President of Organization 6000. •JG

Bringing New Hires Up to Speed

Technical Core Curriculum Assists New Employees

New employees at Sandia can get their careers off to a flying start by taking a selection of courses from the Technical Core curriculum, courses designed to help employees adjust to Sandia's technical environment and bring them up to speed with current Labs initiatives.

The Continuing Professional Development (CPD) committee established the Technical Core curriculum to supplement the Labs' INTEC program. This curriculum introduces subjects considered basic to new technical employees, including Sandia's engineering system, business philosophies, and relationships with its business partners.

Details about the Technical Core curriculum will be provided at the Orientation for New Staff (ONS) program on Oct. 29, 30, and 31, during which new technical employees will be encouraged to participate in the program. (Dates and schedules for the courses are listed in the current INTEC catalog.)

Most new employees have been trained informally by word of mouth in the past, says George Urish (2830), a member of CPD responsible for the curriculum. Core courses formalize that training so that new hires more thoroughly understand the technical environment at Sandia.

Core curriculum courses include An Engineering Guide to Nuclear Weapon Development, Production, and Stockpile; Weapon Definition System; Manufacturing Capabilities; Developing QA Programs for Research & Development; Statistical Techniques for Improving Weapon Quality Processes; Human Factors Engineering; and Engineering Economy.

"These courses give new technical employees a chance to understand quickly how we conduct technical business today, with increased emphasis on quality and cost concerns," says George. "We want everyone to be in a position to contribute as soon as possible."

The CPD has traditionally supported continued professional development of Sandia employees through the INTEC program. Two years ago Dennis Hayes (400), then chairman of the CPD, along with other members of the Continuing Technical Education and Training Division, conceptualized a series of specialized curricula to support various disciplines at Sandia.

One of these curricula, the Technical Core curriculum, was designed specifically to assist new employees. It was implemented a year ago with the help of CPD chairman Dick Schwoebel (2500), Jim Ney (7230), George Merren (7320), Barbara Nielson (3522), George Urish, and others.

Core Courses Support Lab Initiatives

The core program is designed to bring new employees quickly up to speed with Sandia initiatives. Courses in quality assurance and engineering economics in particular address current focuses on quality and cost.

"What we're really after is to help ensure the success of the new Lab initiatives as well as improve the understanding of our mainstream business — nuclear weapon engineering," says George. "We are dealing with a new environment and a different set of customer requirements. We have to be a lot more competitive and innovative in our thinking."

Some technical core courses pertain to nontechnical employees as well, and many do enroll, says Barbara Nielson of Continuing Technical Education and Training Div. 3522. The program's two quality assurance courses, for example, provide information about how to obtain quality results and meet industry standards by identifying work habits and attitudes that enhance quality.

"We want everyone to be in a position to contribute as soon as possible."

To achieve the goals of the Technical Core curriculum, managers and supervisors are encouraged to guide employees toward the program and counsel them about courses pertinent to their careers. New employees should select courses that pertain to their field or interests.

"A lot will depend on the assignment of the individual — where he or she is located, the particular organizational responsibilities, and a lot will depend on personal interests," says George. •JG

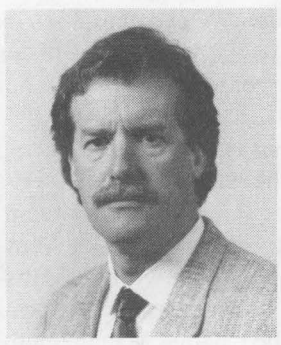
Laboratories Resources

Distinguished Members of Technical Staff — 64 More Sandians Honored

Sixty-four new names have been added to the list of Sandia's Distinguished Members of Technical Staff. In all, 313 Sandians have been appointed to the DMTS level.

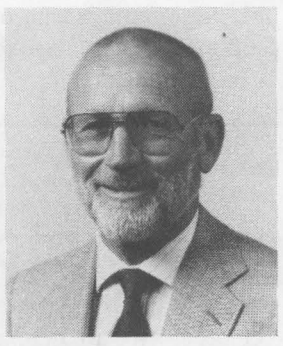
The DMTS program recognizes employees for technical excellence. DMTSs are regarded as seasoned experts in their specialties and are, therefore, considered Laboratories resources. All nonsupervisory Senior Members of Technical Staff with five or more years of Sandia experience are eligible. The total number of awards is limited to approximately 10 percent of the technical staff member population in each vice-presidency.

The program began in March 1983; more DMTSs were named in December 1983, May 1985, March 1987, and March 1989. Each DMTS receives an inscribed plaque (citations appear on these pages with each photo), a pin, and a $2500 lump-sum award.



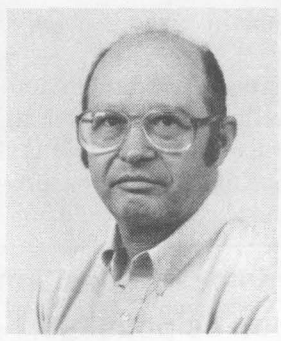
John Gronager (400)

For his sustained and outstanding technical contributions to the national nuclear weapon program, including contributions in the areas of reactor safety research and Phase 1 and 2 weapon design.



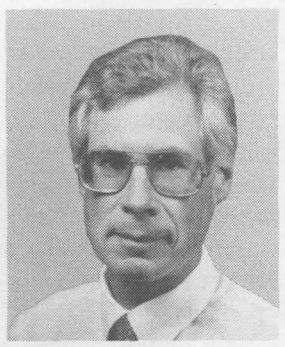
Eric Jones (1143)

For his sustained outstanding research contributions at Sandia National Laboratories.



Bruno Morosin (1150)

For his sustained outstanding technical excellence at Sandia National Laboratories.

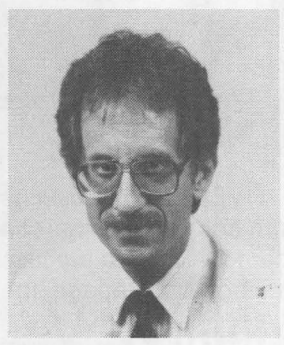


Thomas Sanford (1231)

For his outstanding contributions to Sandia's weapon-effects simulation program. His research into the generation and transport of high-voltage, high-current, short-pulse electron beams developed a fundamental understanding of the physical processes controlling the behavior and performance of intense bremsstrahlung sources. His research has been instrumental in establishing and sustaining Sandia's reputation for excellence in aboveground radiation-effects testing.

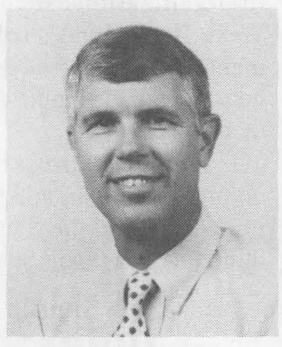
Robert Thompson (1420)

For his exceptional contributions to the command and control of nuclear weapons.



Kenneth Gillen (1812)

For his outstanding experimental and theoretical contributions in the area of polymer degradation.

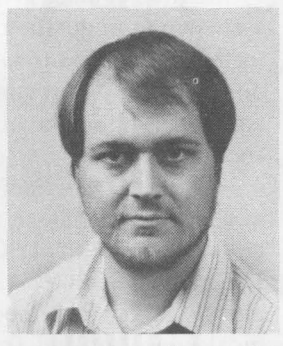


Thomas Headley (1822)

For his outstanding contributions to the understanding of processing-microstructure-property relationships in materials through transmission electron microscopy.

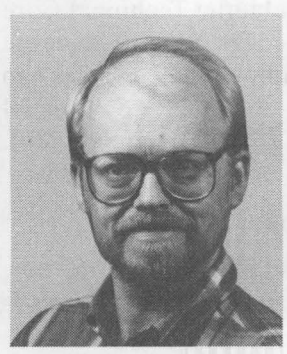
Jeff Brinker (1846)

For his internationally recognized accomplishments in the science and engineering development of sol-gel processing.



Edward Powell (2113)

For his major contributions to the advancement of Sandia's computer-aided IC design environment. These contributions include development of a standard cell compiler, an automated IC layout environment, and numerous userware programs to enhance the productivity of others.

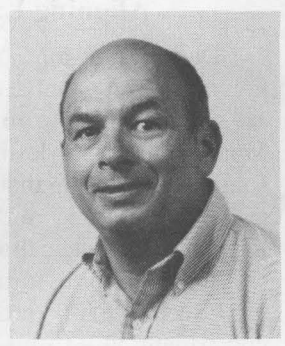


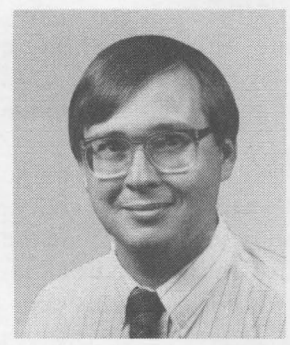
Joseph Hass (2116)

For his outstanding contributions to the SA33OO microprocessor family, a Sandia radiation-hardened emulation of the National Semiconductor 32CO16 microprocessor family. He was a primary contributor in the selection and implementation of the SA33OO family, especially the SA33OO itself. His design skills and use of computer-aided design tools are exemplary, and his knowledge of the complete integrated-circuit process from conception to delivery is excellent.

James Sweet (2134)

For his development of sensors, methodology, and instrumentation to quantify microelectronics packaging performance, and for development of thermophysical properties measurement technology.



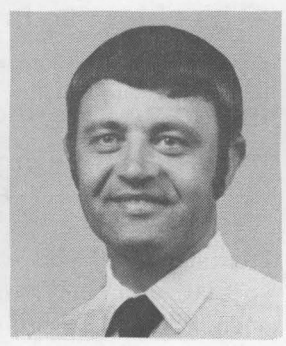


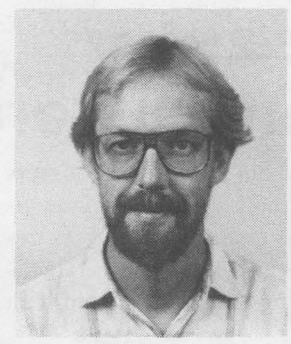
Daniel Fleetwood (2147)

For his contributions to the field of radiation effects on electronic materials and devices. His studies have significantly enhanced the understanding of physical mechanisms that govern the response of CMOS devices to ionizing radiation, and he has applied his work toward the definition of practical, cost-effective test methods to ensure the radiation hardness of integrated circuits in defense and space applications.

Bryan Burns (2345)

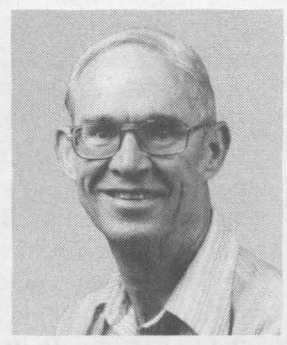
For his contributions to signal-processing and digital-circuit design for imaging radars. His technical knowledge, creativity, and insight have made major contributions to the state of the art in synthetic-aperture radar.





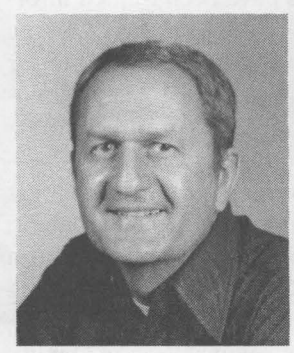
Richard Knudson (2345)

For his contributions to microwave design for radars. His technical knowledge, insight, and sustained effort have made major contributions in compact, radiation-hard, and producible microwave circuits.



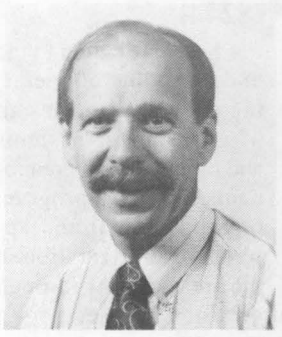
Ed Leeman (2361)

For his sustained contributions to the conception, development, testing, and analysis of major pulsed-power subassemblies for use in the Sandia Military Application program. His creativity and innovation in firing-set and explosive-transducer technology have been invaluable to the Laboratories' mission.



Norbert Siska (2364)

For his sustained contributions to firing-set and test-equipment design, and for his ability to provide effective leadership in establishing and maintaining effective product-development teams.

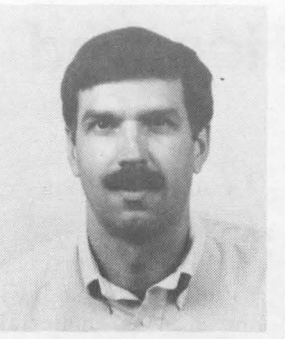


William Kass (2533)

For his sustained high level of judgment, initiative, and technical competence displayed during many major project leadership roles in a number of different technology areas.

Frank Dean (5153)

For his long-term contributions to hostile-environments testing and safeguards research, leading to a nuclear weapon stockpile and nuclear reactors that are more resistant to enemy countermeasures or diversions. His technical expertise, clarity of thought, and project management ability are greatly appreciated.



Norman Warpinski (6253)

For his long-term and continuing outstanding contributions to Sandia's Enhanced Gas Recovery Program, including his pioneering work on fundamental mechanisms of hydraulic fracturing and his technical direction of the stimulation research conducted as part of the Multiwell Experiment.

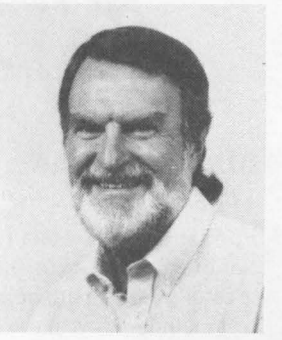
Richard Jankowski (2534)

For his consistent contributions to the manufacturing development of a variety of mechanical and electrical weapon components, especially quartz crystal components. His contributions have been instrumental in the development and production of components that support Sandia's nuclear weapon development mission.

Andrew Cox (5166)

For his outstanding technical and project management contributions to Sandia systems development programs, including contributions in the areas of exploratory development, Phase 1 and 2 system design, and weapon-system advanced development.

Billy Thorne (6253)



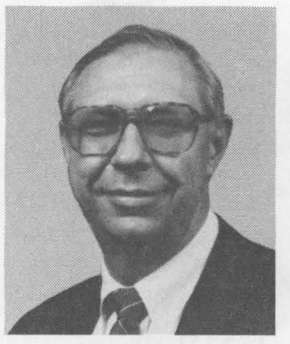
For his important and sustained contributions to the development of numerical models for the description of complex problems in shock-wave propagation, energy recovery, and weapon design.

John Willis (2552)

For his outstanding and sustained contributions in the area of component design, development, and production. His individual contributions and technical understanding have led to major improvements in the manufacturability and reliability of weapon-system components for the DOE complex.

Robert Setchell (5166)

For his sustained and significant technical contributions to Sandia research and development programs, including contributions in the areas of combustion sciences, explosives characterization, testing technologies, instrumentation development, optics, and weapon-system advanced development.



Bernard Zak (6321)

For his development of atmospheric constituent measurement and tracer techniques, and for applying them to problems of national interest.

Edward Graeber, Jr. (5214)

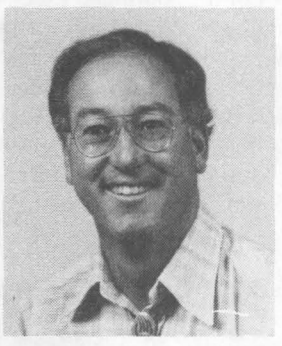
For his sustained outstanding technical contribution to the Laboratories. His ingenuity, resourcefulness, and unique ability to discover simple solutions to complex problems have proven invaluable in the successful completion of a wide array of Sandia programs.

Barry Butcher (6345)

For his continued exemplary service, most recently related to WIPP. In his work evaluating engineering modifications, in data collection and interpretation for backfill selection and estimation of waste/backfill properties, and on the WIPP room-scale model, he continues to demonstrate technical and personnel skills of the highest order.

Charles Hall (2553)

For his outstanding and sustained leadership in the development, characterization, and selection of ceramic capacitors for Sandia subsystems. His individual contributions have resulted in major improvements in the reliability of weapon-system components for the DOE complex.

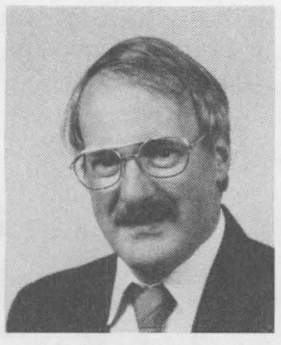


Steven Scott (5221)

For his outstanding contributions in improving the physical security systems for safeguarding nuclear weapons and nuclear reactors in support of the defense of our country.

Raymond Ostensen (6425)

For his national leadership in the areas of fast-reactor safety, fossil-fuel research, fuel-air explosives, and reactor containment integrity.



John Brainard (2564)

For his contributions to the understanding of high-voltage breakdowns, high-voltage reliability, and ion source development for neutron tubes and lightning arrestor connectors. His leadership skills and technical insight into complex phenomena continue to support significant contributions to the Laboratories' component development activities.

Allan Benjamin (6001)

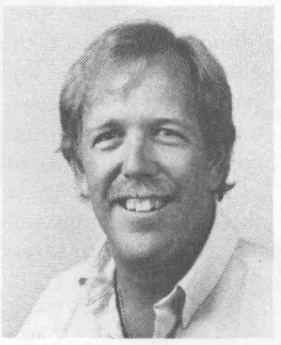
For his significant contributions to the advancement of nuclear power plant risk assessment and for innovative approaches to accident progression analysis for severe accidents.

Berry Estes (6453)

For his sustained outstanding contributions to Sandia's Technical Area V research reactor facilities, with responsibility for safety documentation, operator training and certification, emergency planning, criticality safety, and experiment and facility reviews. His technical expertise has been a key factor in the exemplary safety record associated with operation of the reactors.

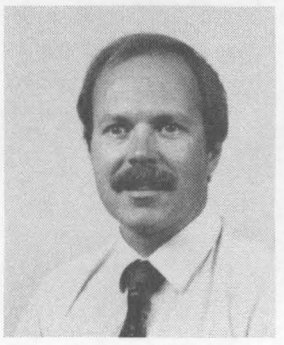
Douglas Brown (2636)

For his outstanding contributions to Sandia's distributed computing environment, which have led to improved efficiency, dependability, and availability of computational resources. His ingenuity, creativity, and technical abilities have made and continue to make major contributions to the universal migration of computational capabilities to the work area.



Thomas Bickel (6220)

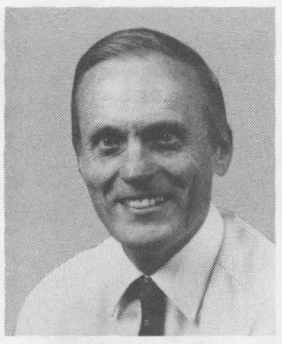
For his sustained and outstanding contributions to Sandia's advanced energy technology programs, especially in the areas of fossil-fuels chemistry, geophysical research, and superconductor development.



Steven Wright (6516)

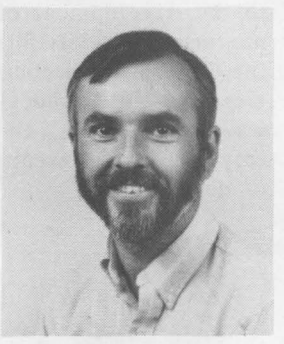
For his outstanding innovation in the design and conduct of reactor fuel safety experiments and in the development of advanced reactor fuels for space power applications.

DMTSs Honored



Leonard Beavis (7471)

For his exceptional contributions to Sandia in the areas of materials and process development for vacuum applications, and for worldwide acceptance of him as an authority in vacuum science and technology.

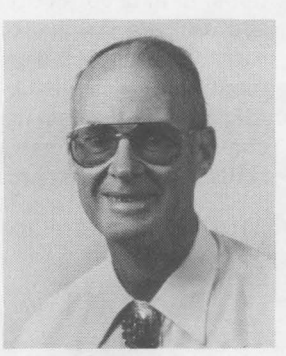


Michael Keenan (7472)

For his contributions to Sandia's mission in the area of plating-bath control methodology, and for developing a predictive capability for encapsulant cure rates and producing a model for predicting the behavior of moisture in sealed electronic packages.

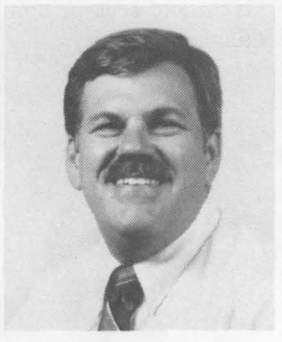
John Weber (7533)

For his sustained contributions to explosives applications and safety.



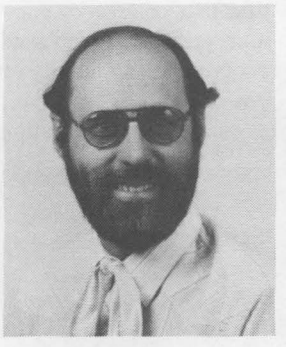
Roger Zimmerman (7541)

For his sustained contributions to the success of Sandia programs ranging from G-Tunnel rock characterization at NTS to missile payload deployment shock testing, all of which demonstrated a deep commitment to excellence in experimental mechanics.



Thomas Carne (7543)

For his important technical contributions to many diverse Sandia programs. His expertise and technical leadership have enhanced the reputation of modal testing both at Sandia and nationally.



Bruce Hansche (7551)

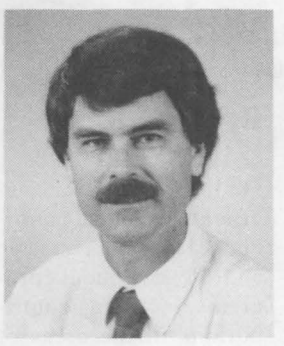
For his leadership and technical excellence in the development and application of nondestructive testing technology.

James Solberg (7555)

For his extraordinary expertise, leadership, and service in electromagnetic testing.

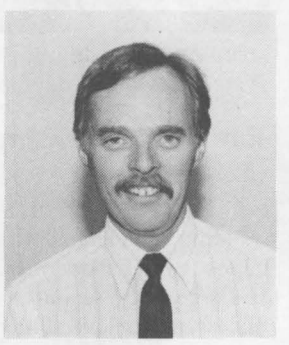
Jerry Hanks (7824)

For his leadership, innovation, and national reputation in computer science in the areas of office automation, system performance analysis and tuning, and complex network development.



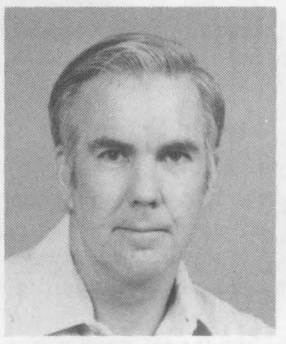
William Delameter (8132)

For his significant contributions in diverse engineering activities, including analytical and experimental mechanics, heliostat and diagnostic technology development, and weapon-system development.



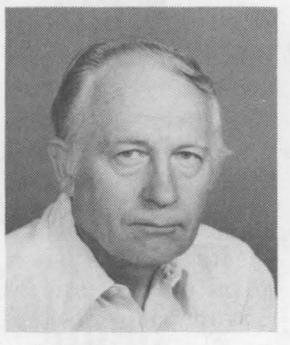
Douglas Henson (8154)

For his exceptional technical contributions and leadership in Sandia, Livermore weapon development programs.



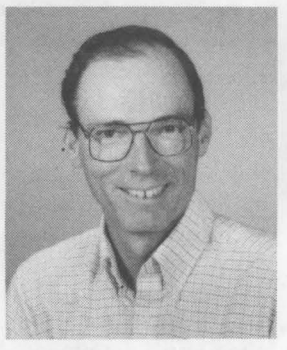
Alvin Baker (8171)

For his continued exceptional contributions in improved use control features, innovative systems-level component packaging, and evaluation and optimization of the Barstow Solar Pilot Plant.



Verlan Gabrielson (8237)

For his sustained contributions in the areas of scientific visualization and structural- and thermal-analysis computer codes, including many innovations in the use of color and animation of computer graphics.

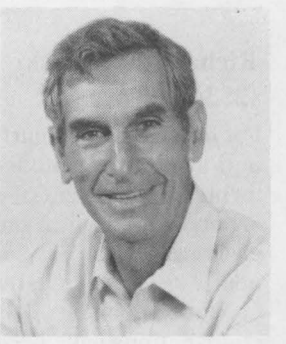


John Keilman (8241)

For his sustained profound influence on the design, analysis, and safety of gas transfer systems, achieved through continued application of outstanding technical skills and uncompromising dedication to safety and reliability.

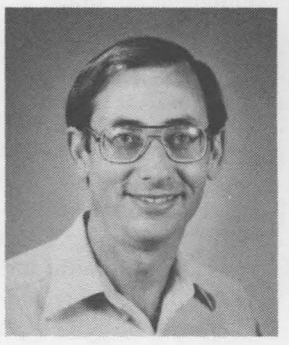
Brad Meyer (8244)

For his contribution to the understanding of operating principles and design of gas transfer systems and other weapon components through a program of fundamental and applied experimentation in the areas of flow through porous media and molecular diffusion in gases.



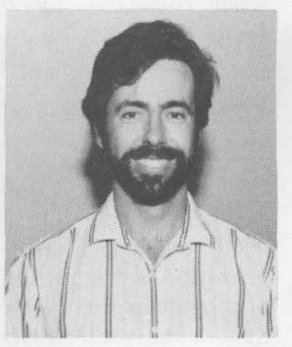
William Wall (8286)

For his contribution to the conduct of operations and excellent safety record of the Tritium Research Laboratory, where he has served as lead technical staff member since 1972, and for his contribution to operational safety at other DOE sites as a leading national authority in tritium handling.



David Ottesen (8313)

For his sustained outstanding contributions to the full range of Sandia programs. His energetic and creative development and use of applied spectroscopic methods have allowed him to be a major contributor to a full range of weapon and energy programs.



Murray Daw (8341)

For his significant contribution to the BES/Material Science Program by the development of the embedded atom method.

Wen Hsu (8347)

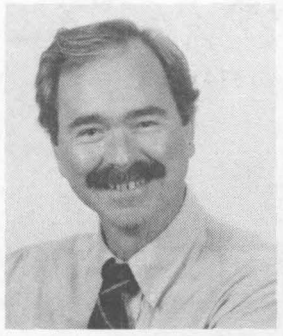
For his significant contribution to the magnetic fusion energy program and innovative diamond growth via plasma processing.

Frank Tully (8353)

For his significant contributions to our fundamental understanding of the rates and mechanisms of chemical reactions crucial to combustion. His work clearly illustrates the importance of basic research to the solution of practical combustion problems.

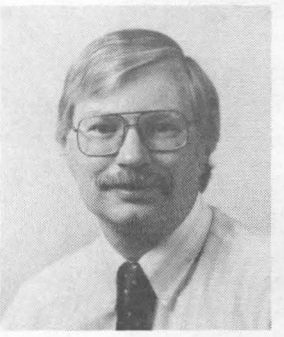
Robert Cattolica (8354)

For his significant contributions in developing and applying modern optical diagnostics to important problems in combustion science and rarefied gas dynamics.



John Kraabel (8432)

For his leadership and significant technical contributions to nuclear weapons and advanced development programs. As the lead systems engineer on the Video Imaging Projectile project, he has been instrumental in adapting the test results to artillery accuracy improvement studies.



Keith Almquist (9011)

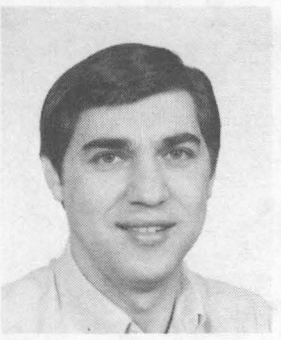
For his years of valuable contributions to systems studies at Sandia in support of all aspects of the weapon program. His leadership and performance serve as a model for all.

John Taylor (9241)

For his leadership in arms control analysis and contributions to the analysis of nuclear materials cutoff, turn-in, and warhead dismantlement; for providing direction for radiation detection, on-site inspection, and rapidly deployable perimeter/portal monitoring systems; and for direct support of the DOE/Office of Arms Control and the START delegation in Geneva.

Karl Wally (8446)

For his leadership and technical contributions to energy and weapon programs.

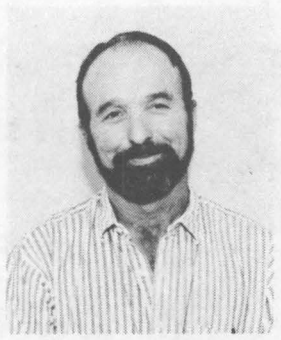


Farrell Perdreauville (9122)

For his long and valued contributions to Sandia's exploratory systems development programs across a broad technical front.

Frank Biggs (9312)

For his many valuable contributions in nuclear weapon-effects testing. These include x-ray cross-section compilations, the first high-altitude weapon output measurements, successful efforts to improve underground-test computation, and his endeavors as Technical Director on underground nuclear tests.



William Peila (8454)

For his contributions and leadership in planning and implementing instrumentation systems for weapon development programs.

Bruce Bulmer (9142)

For his significant contributions in reentry vehicle penaid [penetration aid], countermeasure, and discrimination technologies in support of the US strategic defense program.

(Continued from Page Three)

Computational Engineering Center

Schrödinger's equation," notes Bob Whiteside (8210), head of the macromolecular design module, "which includes detailed computations of the interaction of every electron with every other electron."

Currently, such quantum-mechanical computations are applied to systems with a few dozens of atoms. However, even small biological molecules can have thousands of atoms. For a molecule containing just 1000 atoms, each surrounded by 50 electrons, the number of calculations needed to describe their interactions can't be done by today's computers in any reasonable amount of time.

Again, codes written for the massively parallel supercomputers would be able to run those calculations, thereby giving scientists accurate models of whole molecular systems. The algorithm Sandia has written for this particular problem is called the Fast Multipole Method.

Minutes Instead of Years

"Right now, it would take 11 years to run a calculation for a molecule containing 1000 atoms; using the Fast Multipole Method, that same calculation would take only about 36 minutes," says Juan Meza (8233), head of the Software Engineering module. Scientists will be able to simulate on a computer how a newly designed drug will react in the human body and know before the drug is ever tested whether it has real potential. To reach that point now takes months of experimentation.

For many types of small molecular systems, these theoretical computations are now more reliable than experimentation. "When there is a difference between theoretical computations and experimental measurement, it's the experimentalist — not the theoretician — who goes back to check the work," says Bob Whiteside. "What we want to do is make this the method of choice for very large molecules, like DNA, which are immensely more complex. But nevertheless, Schrödinger's equation applies. And we're going to solve that equation."

Before the Aug. 28 CCE dedication, Kenneth Wilson, Nobel laureate and physics professor at Ohio State University, gave a seminar about computation in the future. Long a champion of supercomputer technology, Prof. Wilson was a driving force behind the National Science Foundation's national supercomputer centers, which were inaugurated in 1985. •LD

But Who Does the Counting?

Innkeepers in Vermont are putting money where mosquito mouths are. Stung by declining patronage, which they attribute to an unjust reputation, 20 small hotels are offering to take $1 off the bill for every mosquito bite a customer gets.

Joseph Pereira, *Wall Street Journal*

Take Note

The New Mexico Chapter of Tau Beta Pi (national engineering honor society) will host the 1990 national convention in Albuquerque in October. This will be the 85th convention of Tau Beta Pi, and help is needed with organizing and coordinating activities for an expected 400 members. Alumni members who are interested in assisting the local chapter are encouraged to contact Sherisse Smelser on 873-0407 or 761-2420.

Recent Retirees

Charles Wells (7818) 40

Don Cox (6462) 35

Fun & Games

Golf — The Annual Purchasing (3700) Golf Outing was held at Tijeras Arroyo Golf Course on Sunday, Aug. 26. The 18-hole tournament was followed by a potluck dinner and swim party, where awards were presented to the following winners: Fred Moore, individual low gross; Beverly and Mike Quinlan (7852), team participation low gross; Bob Zaeh (3700) and Jay Tidmore (3724), second team participation low gross; Billie (3741) and Herman Garcia, buyer's award; Charlie Burks (5110), choke award; Chuck Madole (3716), outrageous outfit award; Jon Bedingfield (3733), shortest drive with a baseball bat; Neil Hall, longest putt; Joe Kerr (3741), Reuben Davalos, and Carol Hall, putting awards; Bob Wood (3712) and Rick Romero (3726), closest to the pin; and Nina Coe (3718) and Dan Salmen (3732), farthest from the pin. Tournament directors were Teri Carpenter (3731), Maria Feliz (3733), and Brian Behling (3732).

* * *

More Golf — The Sandia Women's Golf Association Nine-Hole Championship Tournament will be held Sept. 15 at Puerto Del Sol Golf Course and Sept. 16 at UNM North. Call Karen Varga on 293-9432 for details. The Annual Awards Banquet will be held Sept. 26. Contact Janice Montoya on 836-3859 for information. The final 18-hole tournament will be Sept. 23 at Tijeras Arroyo Golf Course and will be a scramble format. Call Maria Feliz on 281-4505 for details. For information regarding the tournament schedule and SWGA information, contact Teri Carpenter on 256-0614.

* * *

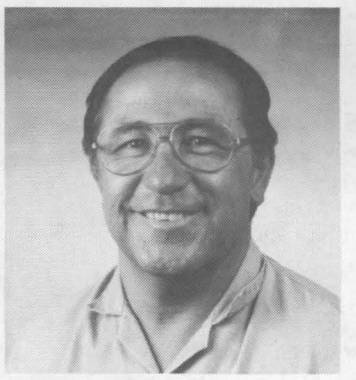
Horseshoes— Sandia's 31st Annual Horseshoe-Pitching Tournament will be held Sept. 29 at the Los Altos Courts at 9 a.m. Entry deadline is 8:55 a.m. that day. For information and entry forms call Bob Schuch (ret.) on 344-4622 or Leo Bressan (ret.) on 268-5367.

MILEPOSTS

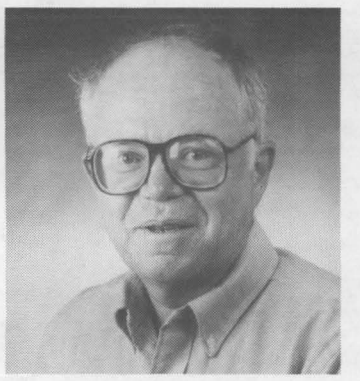
LAB NEWS

September 1990

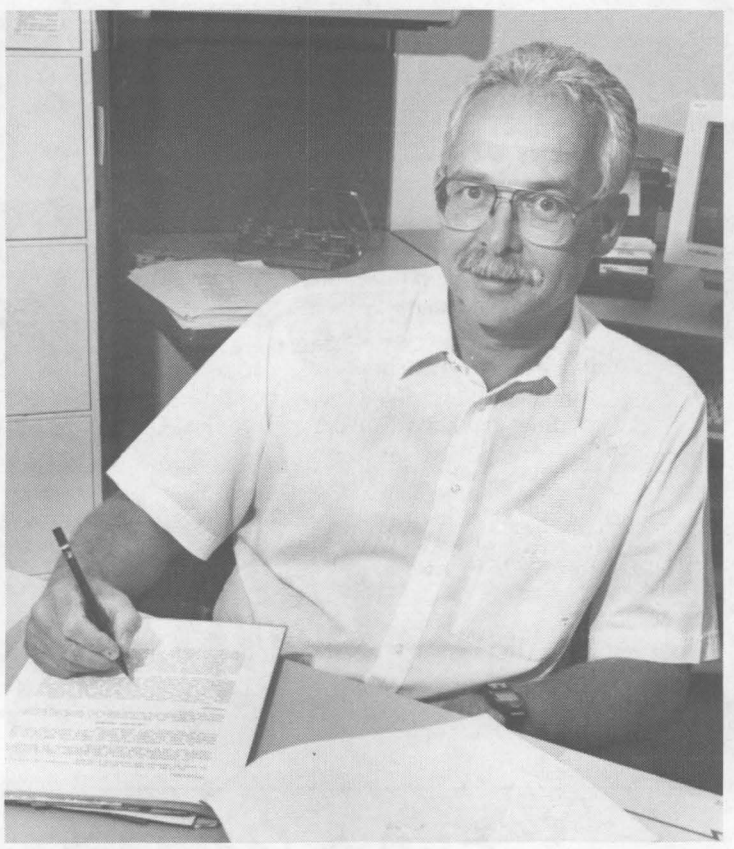
Arthur Ahr
(2800A) 30



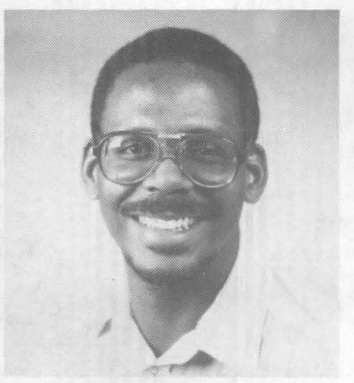
Lawrence Chavez
(7852) 20



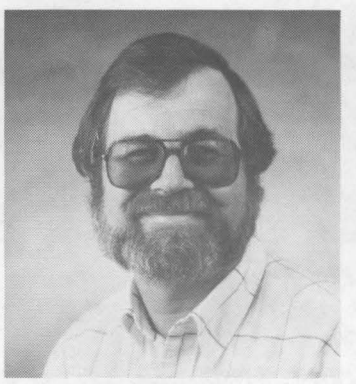
Eugene McGuire
(DMTS, 1271) 25



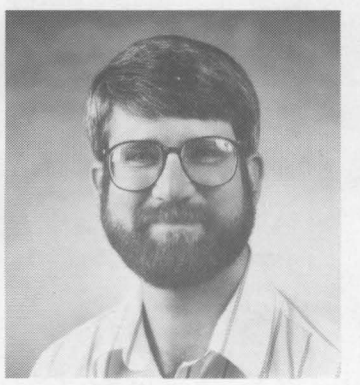
Don Davis
(2131) 25



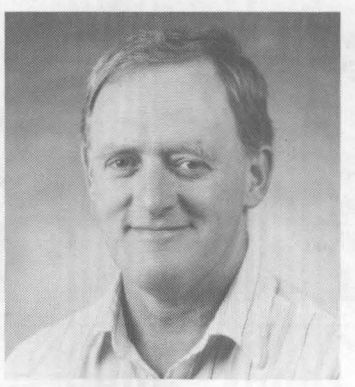
Michael Carson
(7815) 15



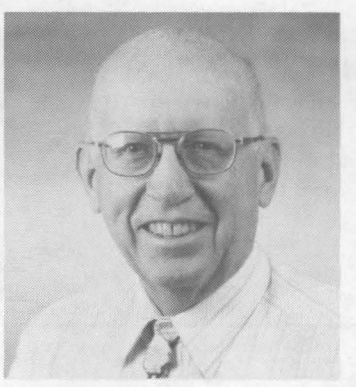
Lawrence Buxton
(2633) 20



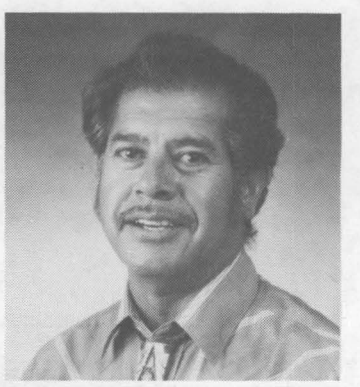
Lyndon Pierson
(2617) 15



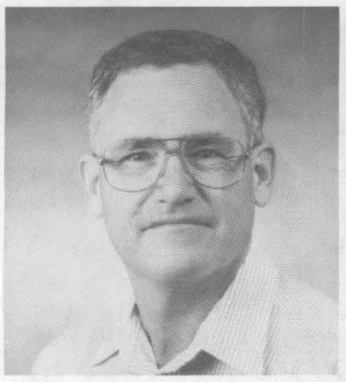
Carl Pennington
(2543) 25



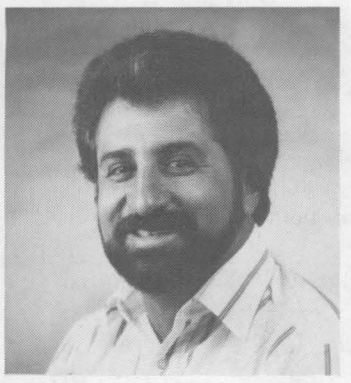
Irwin Janney
(7483) 35



Luciano Molina
(7815) 20

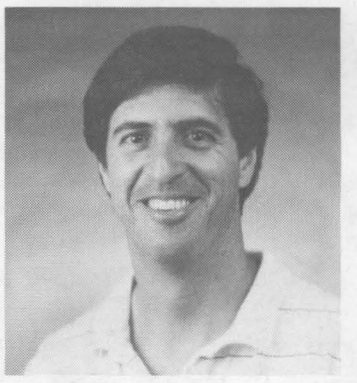


Bob Benham
(DMTS, 7533) 25

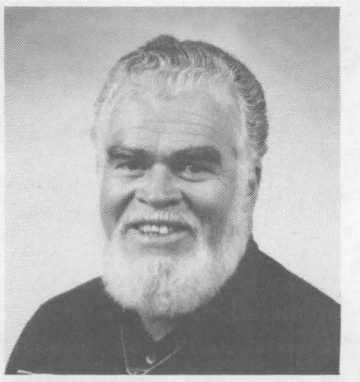


Paul Gabaldon
(5133) 15

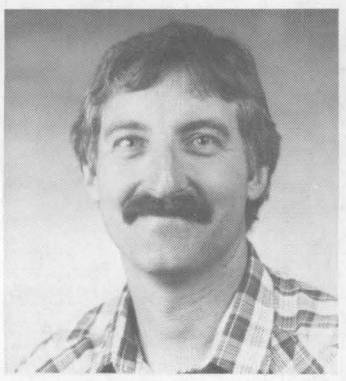
Marlyn Sterk
(9141) 25



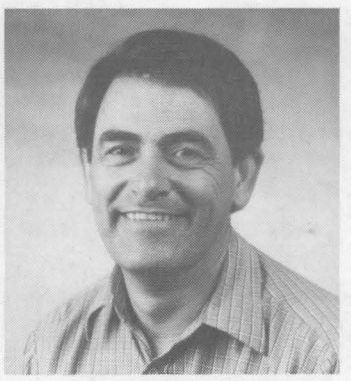
Luis Martinez
(1415) 15



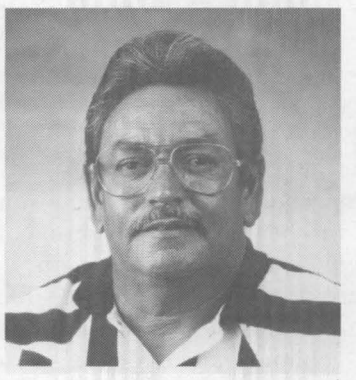
Abedon Ortiz
(7812) 20



William Vonderheide
(7485) 15

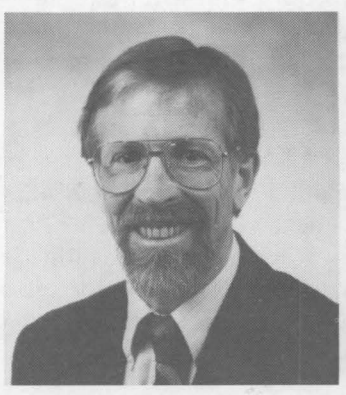


Gilbert J. Aragon
(7815) 15



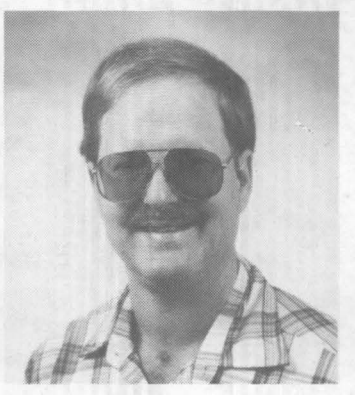
Tom Sanchez
(7852) 20

Pat Chisholm
(3144) 25



Jack Swearengen
(400) 20

Gerald Fowler
(1114) 15



Theodore Simmons
(3212) 15

Fun & Games

Boating Safety — The next power- and sailboating course offered by the Coast Guard Auxiliary begins Sept. 12. Each session lasts one and one-half hours, and the course continues for approximately 12 weeks. Text and worksheets cost $10 for the first family member; additional family members' work sheets are $3 each. The course is taught at the Armed Forces Reserve Center's classroom annex (400 Wyoming NE). To register, call Earl Livingston on 298-5926, Bill Hudson on 292-5598, or Ben Gardiner (7411) on 298-0116.

* * *

Bowling — Coronado Club Junior Pros (Junior League) is rounding up members for the new season beginning Sept. 8. Boys and girls ages 6 through high school are invited to join and bowl on Saturday mornings at 9 a.m. Cost is $3.25 each Saturday, which covers balls, shoes, coaching, shirts, awards, and the end-of-season party. For more information, contact Ciss Kelly (ret.) on 255-8011.

UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS • UNCLASSIFIED ADVERTISEMENTS

Deadline: Friday noon before week of publication unless changed by holiday. Mail to Div. 3162.

Ad Rules

1. Limit 20 words, including last name and home phone.
2. Include organization and full name with each ad submission.
3. Submit each ad in writing. No phone-ins.
4. Use 8½ 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.

MISCELLANEOUS

SHOTGUNS AND RIFLES, call for information and prices. Greene, 299-4163.

COUCH, 7', dark blue w/small white dots, velvet. Tomek, 298-0906.

VIDEO TAPES, beginning French for children, from BBC, includes workbooks and audiotapes. Wagner, 823-9323.

TRUMPET, Vincent Bach Bundy, $195. Ghiglia, 867-6182.

LAMPS, clamp-on, spring-balanced, arms extend to 34", $10, or one w/magnifier lens, $15. Stamm, 255-2640.

COFFEE TABLES: marble, 60" long; wood, round, 48". Schowers, 822-8494.

CARBURETOR, for '66 Mustang, $50; Playboy golf cart, $15; 3 aluminum storm doors, two 32" x 80", one 36" x 80", $30; vibrator belt, $25. Finley, 299-0739.

EXERCISE BIKE, 2 yrs. old, $30; white sofa sleeper, 5 yrs. old, $290. Meeks, 828-9825.

AUSTRALIAN SHEPHERD, 3-yr.-old male, w/papers, trained, free. Thomen, 281-4194.

STOVE, burns wood/coal, holds 32" logs, heats 2000 sq. ft., $500 OBO; propane tank, 580-gal., $975 OBO. Sanchez, 832-6260.

AQUARIUM, 20-gal., w/stand, light, extras, $150 OBO. Pasterczyk, 255-2066.

ROTOTILLER, Craftsman, 5-hp, 1 yr. old, $300. Redmond, 899-9744.

COMMODORE 64 PC, tape, hard disk, printer, software, $225; ceiling fan, $15. Davis, 293-7457.

ELECTRIC RANGE; 3-way speakers, pair; dwell meter; timing light. Johnston, 299-1830.

SLIDING WINDOW, Alenco, 60"W x 48"H, double-glazed, w/screen, dark bronze finish, $35. Hartzell, 292-5726.

STEREO, turntable, 2 speakers, $45; Champion juicer, for vegetables & fruits, $60. Sweet, 275-7102.

QUEEN-SIZE SOFA SLEEPER, gray, 8 mos. old, stain-protected until 1993, cost $1000, sell for $375 OBO; '62 Studebaker motor, completely rebuilt, $400 OBO. Sisneros, 836-2573.

GARAGE DOORS, steel roll-up variety, 1 single & 1 double, complete mounting hardware w/locks, $100. Spielman, 292-4953.

CAB-OVER CAMPER, pop-up, for full-size pickup. Thunborg, 898-0863.

PUPPIES, collies, AKC, 4 males, 1 white & 3 white factored sables. Rhoden, 298-2902.

CEMETERY PLOTS, 2, side by side, Fairview Memorial Park, $800/ea. Howard, 296-2985.

CAT, male, young adult, neutered, shots, named Caspurr, w/carrying case, litter box, bowls, food, $40. Gallegos, 899-9004.

SHOTGUN, Remington Model 1100, 12-ga., $250; rifle, Remington, 30-06, ADL, 3-9X scope, $300; carpet conversion kit, long-bed Toyota type, $275. Asher, 299-1668.

RIFLE, Remington Model 760, 30-06, pump-action,w/checkered stock, no scratches, $275. Smiel, 865-9081.

SCUBA GEAR: regulator, octopus & gauges, cylinder & weight belt, $300; Mikasa dinnerware, eight 4-piece place settings, $150. Aronsson, 243-3176.

GRAVITY GUIDER, full-body-weight traction device, w/inversion boots, $50. Weingarten, 296-1110.

INFANT CAR SEATS, 2, Century Model 580, cost $58/ea., sell for $45/ea. Knutson, 299-6183.

RIFLE, Thompson/Center TCR '83, single-shot, w/base & rings; .243 Winchester; wooden desk. Richards, 281-9471.

RUGER M77, 6mm, bicentennial model; RCBS dies, brass, bullets, bullet puller, press. Jones, 888-1564.

MILLER AC ARC-WELDER, 225-amp, complete w/cables, $100. Brandon, 836-5621.

ANTIQUE VANITY, Queen Anne style, original mirror, $220 OBO. Garcia, 294-8210.

GARAGE SALE: skateboards, guitar, trumpet, more, Sept. 8, 9 a.m.-2 p.m., 8609 Aztec NE. Skogmo, 292-9773.

SEARS BAND SAW, 10", $90. Cordes, 299-0511.

VIOLA, 14", w/case, $350. Tyner, 294-5289.

GUITAR, Ventura Acoustic steel-string w/case, new strings, $200 OBO. Zelicoff, 842-1126 leave message.

ELECTRIC TYPEWRITER, Brother AX15, hard cover w/handle, instruction book, extra ribbons, $75 OBO. Prins, 821-0490.

CHARCOAL GRILL, Weber, $25. Harris, 268-4432.

FLUTE, Artley, student model, $180 OBO. Knittle, 294-6625.

WINGBACK RECLINER; home workshop tools. Granfield, 268-1942.

MATERNITY CLOTHES, dresses & casual; musical crib-mobile, $10; bench seat from '87 Dodge van, $125. Colgan, 344-3776.

FLUTE, B-flat, Artley w/case, $125. Stomp, 298-3824.

GYM MEMBERSHIP, Cosmopolitan Lady, Juan Tabo/Lomas, 2 yrs. & 3 mos., $200. Epperson, 299-0789.

RANGE HOOD, 36", $20; textured marble sink w/fixture, 31", $20. Jankowski, 299-7268.

35MM CAMERA, Pentex K1000, w/zoom lens, $350; Kenmore electric heavy-duty dryer, $50; louver for Subaru rear window, $30. Salgado, 291-9460.

CAB-OVER CAMPER, refurbished interior, corner jacks, $2000 OBO. Potter, 299-6053.

BARBECUE, w/hood, spit, motor, $20. Denish, 256-1559.

QUEEN-SIZE FOAM MATTRESS, w/box spring, $50. Cowman, 281-3478 evenings and weekends.

RUGER BEARCAT, 22-cal., $225 OBO; 2 SLR 35mm cameras, w/flash & telephoto; Post drawing/drafting instruments. Chavez, 275-0490.

FLEA MARKET, bake sale, aluminum collection, Manzano HS parking lot, Sept. 15, 8 a.m., spaces available, sponsored by Manzano Band Boosters. Bickes, 293-4037.

DEC RAINBOW COMPUTER, 10M, HD, dual floppy, monochrome monitor, software, $200. Davie, 296-3950.

GE MICROWAVE COOKING CENTER, w/electric range/oven, almond, $250; Kenmore refrigerator/freezer, 18 cu. ft., textured doors, almond, $200. Schmidt, 821-2917.

BUNDY FLUTE, w/stand, $150. Erwin, 888-1659.

PIANO, Staube Spinet, $700; Emerson stereo, 8-track tape player, AM/FM, record player, $60; three upholstered chairs, $25/ea. Mills, 299-2130.

VACUUM CLEANER, Sears canister, w/Power Mate & tools, 12 amps total, $50; 3' grade rake, $15. Johnson, 298-4553.

FOOD DEHYDRATOR, Excalibur Deluxe; dresser w/mirror; complete set of arts & crafts books. Bressan, 268-5367.

DESK, 2-drawer, 30" x 48", 26-1/4" high, Formica top, $65. Beck, 294-4591.

PIANO, 40", classic Wurlitzer console, $850. Stewart, 293-3959.

STEREO, Onkyo, cassette tape deck, 3 yrs. old, $50. Anastasio, 821-4245 after 5 p.m.

BUNDY CLARINET, $175; Yamaha keyboard, $50; rowing machine, $75; sleeper sofa, $175; van table w/holders, $25. Moreno, 294-4268.

FREE DIRT, you haul. Lewis, 268-5025.

DOG, female, collie/Australian shepherd, 6 yrs. old, free. Hingorani, 266-6896.

EQUUS PLUS COMPUTER, IBM-compatible, CGA color monitor, 30 MB, 640K memory, 6-slot capability, 2 floppy slots, w/Panasonic printer, KX-P1524, 24-pin, mult-mode, $1000. Gonzales, 275-0999.

TENNIS RACKETS: 1 Bancroft, $20, 1 Spalding, $25; trampoline, 3-1/2 ft. diameter, $40. Baldonado, 821-0269.

MOVING BOXES: 3 wardrobe, 5 dishpack, 6 medium, 6 small, free. Erickson, 281-1922.

EMERSON 12" TV, B&W, $35; full-size bedspread, light blue, $10. Smith, 299-7151.

RUNNING SHOES, New Balance, short size 9-1/2D, cost $62, sell for $30. Tippy, 298-3758.

ELECTRIC GUITAR, 1960 Guild Starfire, hollow body, $350 OBO. Davis, 298-3342.

ALUMINUM EXTENSION LADDER, Sears, heavy-duty, 28', $45. McClintock, 294-4286.

ELECTRIC STOVE, 4 burners, upper & lower ovens, $175. Benson, 268-4635.

GARAGE SALE: 10 homes, Sept. 15, 8 a.m.-3 p.m., Haines Ave. NE, east of Juan Tabo, 1 block south of Indian School. Miner, 298-4779.

GARAGE SALE: 22 homes, Sept. 8, 8 a.m.-5 p.m., 1900-2100 Father Sky NE, Tramway to Rover, east to Father Sky. Golliher, 296-0367.

TRANSPORTATION

'69 CHEV. IMPALA CONVERTIBLE, 2-dr., 350 V-8, AT, AC, PS, AM radio, $2800. Davis, 293-7457.

10-SPEED BIKE, 24". Johnston, 299-1830.

'83 PONTIAC 6000 LE, 4-dr., AT, AC, cruise, tilt, AM/FM cassette, power everything, new radials, 80K miles, $3200 OBO. Cook, 869-6921.

GIRL'S BICYCLE, Huffy Olympia, 26" wheels, $35. Wyant, 298-0371.

'85 TOYOTA PICKUP, 4-cyl., 36K miles, X-tra cab, AM/FM cassette. Dubois, 869-4410 weekends or between 9 and 10 p.m.

'89 MUSTANG GT, red, AT, 17K miles, best offer. Jaramillo, 242-9057.

'88 TOYOTA SUPRA TURBO, AT, removable sunroof, extended warranty, 19K miles. Hughes, 293-7320.

'86 FORD F-150 XLT, AT, PS, PB, cruise, tilt, AM/FM cassette, custom shell/camper, 68K miles, $7995. Ferguson, 292-3824.

'89 SPRINT COMPACT MOTORHOME, 19', Chevy van chassis, 350 V-8, TV, AC, microwave, 14K miles, $20,000. Ewing, 823-1112.

'70 COUGAR XR7, 351C, AT, PS, AC, PB, tilt, console, $1500. Yarberry, 821-1002.

SCHWINN PRELUDE BICYCLE, 25-1/2" frame, 3 yrs. old, $200. Kovacic, 256-9867.

BOY'S 24" OFF-ROAD BICYCLE, w/new thorn-proof tubes, $25. Babcock, 892-7199.

DODGE 1-TON VAN, carpeted, fold-up bed, cabinets, AT, PS, cruise, CB, extras, $2500. Tobyas, 877-0354 after 6.

'71 CAMARO, V-8, AT, needs engine work, $850. Pryor, 294-6980.

'79 RX-7, one owner, AC, AM/FM cassette, new transmission/clutch/tires, partially restored, garaged, not driven last 3 years, $3500 OBO. Rea, 296-4620.

'73 WINNEBAGO BRAVE, 21', $6000; '47 Ford, V-8, 2-dr., $1200. Campbell, 299-9195.

'84 GMC 3/4 TON SIERRA CLASSIC, 45K miles, AC, AT, PS, extras, $7200 OBO. Potter, 299-6053.

'79 CAMARO Z-28, glass T-tops, Centerlines, stereo, AC, PS, PB, AT, $3200; '85 Ford Ranger, 4-cyl., 5-spd., 50K miles, $3850. Puccini, 255-0568.

ALUMINUM BOAT, 14', w/trailer, $300. Asher, 299-1668.

WOMAN'S 10-SPD. BICYCLE, Columbia, $70. Baldonado, 821-0269.

'69 LINCOLN, 4-dr., tan/green leather, new Michelins/exhaust, 86K miles. Hill, 884-4721.

'83 CHEV. S-10 PICKUP, 4x4, exterior cab w/camper shell, $3400 OBO. Brewster, 345-7164 leave message.

'84 Z-28, 58K miles, original owner, all performance options, AC, cruise, AM/FM cassette, $5995. Fogelson, 296-0620.

'74 DATSUN B210, hatchback, 1300 series engine, original owner, $400 OBO. Cowman, 281-3478 evenings and weekends.

NISHIKI SPORT 10-SPD. BICYCLE, 21" frame, $100. Mills, 299-2130.

'89 SUBURBAN, 4-WD, Silverado package, white, factory warranty, records, extras. Laub, 898-6275 weekdays 6-9 p.m. & weekends 9 a.m.-9 p.m.

'88 BMW, K100LT Model, custom seat, fairing, trunk, saddle bags, AM/FM cassette radio, 6.2K miles, $6500 OBO. Oatley, 821-6801.

'78 LTD II, 4-dr. sedan, partially restored, loaded, 351 V-8, $900. Burton, 275-9483.

HANDICAP BIKE, Amigo, custom, 100 lbs., 2 batteries, rear-wheel drive, includes short ramp access/ wheels/cushioned arm rests/ padded seat, cost $2475, sell for $1800. VanDeVelde, 255-8174.

'76 DATSUN 280Z, 4-spd., new paint, 130K miles, new engine at 100K miles, $2000. Larson, 294-6705.

BOY'S SCHWINN VARSITY 10-SPD., 26", new seat, book rack, $75 OBO. Anastasio, 821-4245 after 5.

MOUNTAIN BIKE, Diamondback Ascent, 21", CrMo frame, 18-spd., alloy wheels, Shimano components, $150. Darnold, 275-8085.

R/C BOAT, built from scratch, 7-1/2', includes drive, batteries, & pumps, needs R/C system, $65. Horine, 266-4534.

'82 PLYMOUTH RELIANT SW, AT, PS, PB, AC, cruise, one owner, maintenance records, 138K miles. Graham, 865-9427.

MAN'S BICYCLE, Sears Free Spirit, 26", best offer. Church, 281-5215.

SQUARE-STERN CANOE, 17', fiberglass, with 5-hp Mercury outboard motor, $750. Benson, 268-4635.

'89 HONDA ACCORD LXi, $12,000 OBO. Schneider, 822-9584 or 292-8017.

REAL ESTATE

4-BDR. HOME, NE Heights, assumable. Asher, 821-8772.

LAKESIDE LOT, in Angel Fire, all utilities. Krahling, 294-2623.

LOT, Belen-Rio communities, .8-acre, water, owner financing, $11,000. Hunter, 293-8707.

5 TIMBERED ACRES, by Ramah Lake, electricity, fishing, view, $13,000. Naegle, 293-6069.

5-BDR. HOME, Sandia Heights South, city gas, 1 acre, spa room, city view. Conn, 294-7619.

20 ACRES, 1/4 mile from Moriarty Industrial Park, gas, electricity on property line, $2000/acre, REC okay. Shunny, 265-1620.

4-BDR. HOME, 1900 sq. ft., 1-3/4 baths, 3 miles east of KAFB. Garcia, 292-0979.

2-BDR. PATIO HOME, 2 baths, cathedral ceilings, landscaped, Spain/ Morris area. Biringer, 821-8741.

3-BDR. HOME, 1-3/4 baths, near Winrock, eat-in kitchen, oak cabinets, self-cleaning oven, carpeted, $73K. Mills, 299-2130.

3-BDR. HOME, den, 1525 sq. ft., garden, 7412 Euclid NE. Gutierrez, 883-0780.

3-BDR. HOME, 2050 sq. ft., study, LR, den, 400-sq.-ft. greenhouse, spa, lap pool, custom-built. Beasley, 298-3398.

TAYLOR RANCH HOME, auto. sprinklers, baseboard heat, 2" x 6" construction, FHA assumable. Lucero, 898-5532.

3 ACRES, Tome, irrigated, fenced, pasture, views, $49,500. Grant, 865-0785.

WANTED

22-CALIBER RIFLE, pump-action, prefer High-Standard Model P1011, Savage Model 29, or Remington Model 572 Fieldmaster. Zamora, 865-6280.

CAMERA, Olympus XA-2 or XA-3, w/flash. Stevens, 293-5704.

HOUSE SITTER, retired person or couple that enjoys country living, secluded, acreage, hot tub, care for pets & plants. Bush, 281-3773.

WINE MAKER, to take grapes from North Valley vineyard and return share of wine to grower. Baxter, 344-7601.

GYM SET, in good condition. Koepp, 294-7136.

SHARE-A-RIDE

NEED RIDE, to/from work, regularly, from Louisiana/Constitution area to Bldg. 832. Schultz, 255-0686.

Coronado Club Activities

Attention, Cowpersons! Western Night This Evening

IT'S WESTERN-WHOOPEE TIME, so gallop on over to the Club tonight, Sept. 7, for some first-rate chow and stompin'. The two-for-one $14.95 dinner special, served from 6 to 9 p.m., features some extremely elegant entrees: New York sirloin strip, prime rib, fried shrimp, or salmon steak. Enjoy free c/w dance lessons from 7 to 8 and try out your newly learned shuffling skills from 8 to midnight, accompanied by the tunes of those ever-popular Isleta Poor Boys. Chow-line reservations recommended (265-6791).

THERE'S STILL TIME TO VOTE for seven C-Club Board members between now and the annual meeting next Monday, Sept. 10. Cast your ballot at the Club at midday (11:30 a.m.-1 p.m.) today or Monday, this evening (6-8), or from 4:30 to 5:30 at the meeting, which officially gets started at 5. Enjoy free refreshments afterward while the votes are being tallied.

A BRUNCH OF FUN is in store if you reserve space this Sunday, Sept. 9, for the best meal deal in town, served from 10 a.m. to 1 p.m. In recognition of "Grandparents Day," grandparents having brunch with their grandchildren receive a $1 discount off the price of their meals. Prices for non-grandparents are the same as usual: $5.95/adults, $2.50/children 3 through 12 years old, and free/toddlers under 3.

IT'S FIESTA TIME next Friday night, Sept. 14. Start off with a meal offering some good-hot-stuff selections — sizzling fajitas ($6.95), beef burrito plate, carne adovada, or chicken breast with lots of green chile (all $5.95). Mariachis serenade you from 6 to 8 p.m., when it's time for the Bourguet Brothers to start the mambo music, which lasts until midnight. Fiesta means a sellout, so make that reservation early.

ALWAYS ON TUESDAY describes the budget-bingo schedule for the rest of September, while regular bingo's on tap every Thursday night. Card sales for both sessions begin at 5:30 p.m. Tuesday night games start at 7, and Thursday nights kick off with the early-bird game at 6:45. Forget the cooking, because low-cost buffets are available both nights.

SPEAKING OF GAMING, the T-Bird card sharks swing back into action Thursday, Sept. 20, beginning at 10 a.m. Rumor has it the sharks will hold the first of several strategic planning sessions on how to beat the Las Vegas dealers this winter. Honcho Jim "Jaws" McCutcheon, we're sure, will be willing to share his winning ways with the group.

SNOW IN SEPTEMBER? Doubtful (we hope), but that doesn't stop the Coronado Ski Club. CSC members kick off the 1990-91 ski season with their annual Ski Fair Sept. 18, starting at 5 p.m. This is your chance to sign up for some of this winter's tremendous trips planned by CSC and to learn about the latest in Alpine attire. You needn't be a CSC member to join the festivities, but you can sign up then and there if you want to.

Recycling Program Off to Good Start

Now in its second month, Sandia's wastepaper recycling program is off and running and gathering momentum.

By the end of August, about two tons of recyclable white paper — about 10 percent of Bldg. 891's trash — had been collected, says recycling coordinator Don Schubeck (3412).

"That means that we've already helped to save 34 trees," Don notes. Each ton of paper made from recycled pulp saves 17 trees, 4200 kilowatt-hours of electricity, and 7000 gallons of water.

On Aug. 1, Sandia launched a wastepaper recycling pilot study in Bldg. 891. The program may be expanded to other buildings later this year.

The pilot program has sparked numerous calls from interested Sandians and spurred other related actions, Don reports. For example, the cafeteria has since switched from Styrofoam cups to paper cups for cold drinks.

"In anticipation of other areas being included in the pilot program, we welcome the participation of organizations that generate considerable white paper waste, such as 6 to 10 computer boxfuls a week," Don says. Interested organizations should contact Don. •

Welcome

Albuquerque — Kenneth Eras (2542), Jeanne Evans (7311), John German (3162), Kevin Horn (9351), Kathleen Trauth (6342).

Elsewhere: *Maryland* — Christopher Cherry (9333); *Texas* — James Ohlhausen (1834).

Sympathy

To Ed Kociscin (2857) on the death of his father-in-law in Albuquerque, July 22.

To Brien Bopp (2857) on the death of his father-in-law in Williamstown, Pa., July 28.

To Lee Garner (3151) on the death of his mother-in-law in Albuquerque, Aug. 14.

To Douglas Brown (2636) on the death of his father-in-law in Valdosta, Ga., Aug. 16.

To Martrice Bordlemay (3718) on the death of her father in Albuquerque, Aug. 19.

To Celia Arias (7263) on the death of her brother-in-law in Albuquerque, Aug. 20.

To Edna Pederson (3301) and Irene Schulte (6341) on the death of their mother in Albuquerque, Aug. 23.

Events Calendar

Events Calendar items are gathered from various sources. Readers should confirm times and dates of interest whenever possible.

Sept. 7-14 — Exhibit: "Raymond Jonson: Geometric Form in the Pursuit of a Unifying Principle"; 9 a.m.-4 p.m. Tues.-Fri., 5-9 p.m. Tues. evening; UNM's Jonson Gallery, 277-4967.

Sept. 7-22 — "Amadeus," provocative play revolves around a confrontation between genius and mediocrity in the eighteenth-century world of Antonio Salieri and Wolfgang Amadeus Mozart; 8 p.m. Thurs.-Sat., 2 p.m. Sat.; Albuquerque Little Theatre, 242-4750.

Sept. 7-Oct. 14 — "Georgia O'Keeffe and the Stieglitz Circle," exhibition examining the group of artists (including O'Keeffe) who were affiliated with Alfred Stieglitz, the photographer, gallery owner, and champion of early twentieth century avant-garde art; 9 a.m.-4 p.m. Tues.-Fri. (5-9 p.m. Tues. evening), 1-4 p.m. Sun.; Upper Gallery, UNM Art Museum, 277-4001.

Sept. 7-Oct. 16 — "Birds/Portraits," exhibit of 40 oil portraits of birds seen in the Southwest by Austin, Tex. artist Benita Giller; 9 a.m.-5 p.m. daily, New Mexico Museum of Natural History, 841-8837.

Sept. 15 — White Elephant Benefit Sale, proceeds go to Hospice of the Rio Grande, New Mexico AIDS Services, and New Mexico Association of People Living with AIDS; 9 a.m.-5 p.m., 126 Quincy NE.

PLANNING AHEAD — Melodie Owen (120), 1990 ECP Publicity Subcommittee Chairperson, and Juan Garcia (3154-2) look over the new Employee Contribution Plan campaign poster being prepared for printing in Sandia's Print Shop. Gene Clardy (3155) designed this year's poster. The Albuquerque campaign is Oct. 8-12. This year employees are being asked to "Make a Difference" by checking a box on the donation card that reads "Increase my contribution by 0.1%." That amount equals 10 minutes pay per month.