

Retiree Crawford MacCallum Launches Balloons In Search of Black Holes and Neutron Stars

Crawford MacCallum, a recently retired Sandia physicist who spends most of his time stargazing, doesn't look at the kind of stars that can easily be seen with the naked eye.

The stars he studies are brightest at light frequencies that can't be seen, emitting gamma rays and x rays that give viewers a glimpse at how matter is converted to energy à la Einstein's theory of relativity.

Crawford has been intrigued by stars ever since he helped design some of the balloon-borne instruments now being used by NASA's Goddard Space Flight Center to study gamma rays. Like many an astronomer, he observes, "Once you get bit by this bug, you love to do it."

Crawford is among many scientists in recent years who have observed gamma rays emanating from a source at or near the center of the Milky Way galaxy. The gamma rays were first identified in 1977 with balloon-borne detectors, but the mysterious emissions later appeared to switch on and off at various times. Crawford was one of a team of scientists from Bell Labs, NASA, and Sandia who noticed during two balloon launches in 1988 over Alice Springs, Australia, that the emissions had started up again.

Gamma rays can only be observed from space, because they are unable to penetrate the earth's atmosphere.

Matter-Eating Monsters in Space?

Like many other theorists, Crawford believes the source of the gamma rays is a black hole — an insatiable, matter-eating object so dense that its gravitational pull allows nothing, not even light, to escape.

According to the black hole theory, gamma rays are emitted just before matter falls into the black hole, "spiraling down the drain, like a piece of meat for the monster," as Crawford describes it.

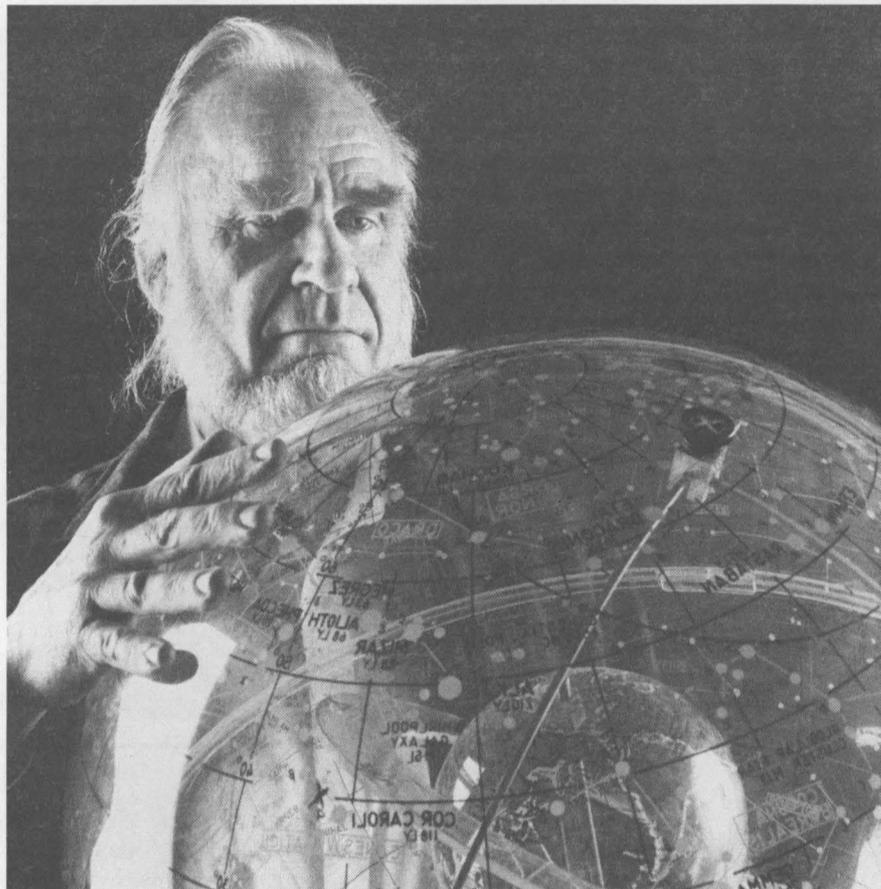
A similar gravitational phenomenon, on a much smaller scale, can be observed when starlight passing through the solar system is bent slightly by the gravitational pull of the sun.

"Once you get bit by this bug, you love to do it."

This month, Crawford is working with NASA and Bell Labs on a balloon launch to study gamma rays from a variety of sources in the Milky Way galaxy (see "Sandia Helped De-

sign Balloon Payload," page four). During its approximately 36-hour flight, beginning in Fort Sumner, N.M., and ending somewhere near the California border, the balloon will look at gamma rays emitted by Hercules X-1, the brightest x-ray source in the constellation Hercules, and the Crab Nebula, the remains of a supernova first observed in 1054. Another target is Cygnus X-1, the brightest x-ray source in the constellation Cygnus.

Though they are sometimes arbitrarily given different names, high-energy or "hard" x rays and
(Continued on Page Four)



CRAWFORD MacCALLUM, a recently retired Sandia physicist, normally studies the universe from the other direction, looking out instead of in. He is currently assisting NASA's Goddard Space Flight Center with the launch of a balloon-borne gamma ray observatory.
(Photo by Randy Montoya)

LAB NEWS

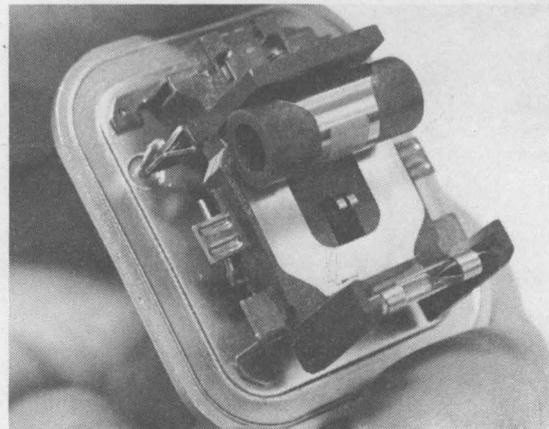
VOL. 42, NO. 10

SANDIA NATIONAL LABORATORIES

May 18, 1990

Crash! Whoosh! De-whoosh! Sandia Invention Helps Ensure Survivors

With more cars incorporating protective air bags, it was only a matter of time before two cars so equipped crashed together in a major ac-



AIR-BAG ROLAMITE manufactured by TRW Technar is about the size of a piece of candy. Chrysler uses rolamites to actuate air bags in some of its new vehicles.

cident. It happened March 12 in rural Virginia.

The investigating state trooper reportedly began thinking about the unpleasant task of notifying the drivers' relatives as he approached the badly damaged cars. But it wasn't necessary; the drivers were bruised, but suffered no serious injuries. Both cars were 1990 Chrysler LeBarons.

A Sandia invention — the rolamite — played a role in protecting the drivers. Invented for the weapon program in the mid-'60s by former Sandian Don Wilkes, rolamites are used in some new Chrysler vehicles as acceleration (impact) sensors in air-bag actuation mechanisms.

TRW Technar in Irwindale, Calif., builds and markets the mechanisms that contain the rolamites. Technar founder Lon Bell said in a June 16, 1989, LAB NEWS article that the company expected to sell about \$40 million worth of rolamites last year.

Volunteer In Action: Thomas Heine

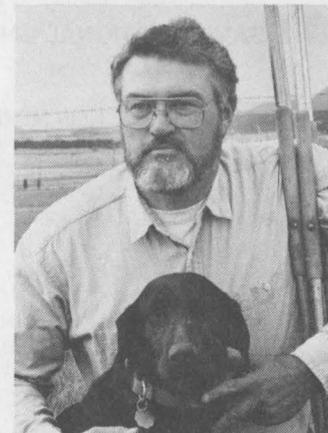
Sandian to Counsel Young Cancer Patients At Camp Enchantment

You can't just throw up your arms and quit. You have to live one day at a time. Be grateful for each day.

These are trite statements, clichés to most of us. But if you have cancer, they are — literally — words to live by.

That's the philosophy of Thomas Heine (9113), who lost a leg to bone cancer when he was an eight-year-old farm boy in House, N.M. He says when you wake up each morning with a potentially terminal illness and you survive the day, it's a good day.

Early this year, Thomas saw a notice in the LAB NEWS that Volun-



THOMAS HEINE (9113) and his dog, Osa.

teers In Action, a program administered by Community Relations Div. 3163, was looking for Sandians to apply for counselor positions at the American Cancer Society's Camp Enchantment in

(Continued on Page Five)

This & That

Volunteers Featured - Many Sandians devote their time and talents to community projects and other good causes. We begin in this issue a series of articles - to run periodically - that focus on some folks who became involved through the Labs' Volunteers In Action (VIA) program. The first article features Thomas Heine (9113), who's spending a week of his time in June as a counselor at Camp Enchantment in Alamogordo. It's no ordinary camp - it's for young cancer patients. And Thomas is no ordinary fellow - he lost a leg to cancer when he was 8 years old. Al Stotts (3163), who coordinates the VIA program, wrote the article about Thomas. Incidentally, Al says nearly 1100 Sandians are now VIA members. Many other Sandians, of course, do volunteer work through outside groups.

* * *

More Fitting Names - Several Sandians sent more unusual names after my mention of some in the last issue. Cathy Pasterczyk (3144) swears she once worked with a National Park Service employee - Seymour Parks. Bob Austin (3551) says a funeral parlor in his home town of Amarillo, Tex., was run by the Boxwell brothers. Pat Hoffman (9334) remembers a Houston optometrist who went by his initials - I.C. Wischnow. Rich Preston (9015) remembers a Sandia contractor who worked in quality assurance - Skip Weld.

* * *

Spaced Out - Thanks to all Sandians who submit story ideas to us, and apologies to many of you. Unfortunately, we just don't have the space, time, or budget to write and publish them all - even some very good ones. However, we do appreciate all of your ideas, so please keep 'em coming.

* * *

That Oughta Get 'Em! - An "important notice" posted recently at Sandia, Livermore announced that Guard Post # 2 would be closed for a short time "because of bee irradiation activities." Those California bees may be tough, but I'll bet they didn't survive that.

* * *

Fair-Minded - As I was making some major decision on some minor office problem several days ago, I mentioned to the staff that I always try to be fair - that I'm a fair-minded person. I'm not sure, but I think I heard someone mutter softly as I walked away: "He's right about that. His mind is only fair." ●LP



PATRICIA SALISBURY (3511) and Bob Eagan (1800) look at a product of the American Ceramic Society's increasingly active publication effort.

Bob Eagan Heads American Ceramic Society

Although the American Ceramic Society isn't a Sandia organization, its recent annual meeting resembled one: Not only was Bob Eagan (1800) installed as president of the 12,500-member organization, but the Labs showed a significant presence in the society in other ways.

Patricia Salisbury (3511) helped the Ceramic Society start a Pre-College Education Program. Bob says "Patricia spoke with officers of our sections, and with our professional and educational affiliates. She did a great job - we have many volunteers now."

Also, the meeting was the occasion for Terry Michalske's (1114) and Jeff Brinker's (1846) installation as ACS Fellows (LAB NEWS, Feb. 9, 1990).

Bob says, "Many people have commented on my good fortune in working for an organization that allows - in fact, supports - participation in technical societies. While I'm excited about this year and the chances it will bring to promote education and technology transfer, including the opportunities for tech transfer available at Sandia, I expect to finish the year exhausted." ●

Employee Death



Joe Black of Applied Mechanics Div. II 1522 died May 8 after a long illness.

He was 66 years old.

Joe was a Distinguished Member of Technical Staff.

Survivors include his wife, son, and two daughters.

Sympathy

To Judy (4000) and Fred (2618) Jones on the death of her father and his father-in-law in Mason City, Iowa, April 22.

To Cathy (2858) and Dan (2853) Vortolomei on the death of her father and his father-in-law in Tyrone, Pa., April 28.

To Richard Kottenstette (6212) on the death of his father in Colorado, May 6.

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BRANDON AHRENS sizes up a chunk of the Berlin Wall given to him by his brother, an Army captain stationed in Berlin last year when the infamous wall, known to Germans simply as "die Mauer," was boisterously dismantled by residents. The serviceman joined in the effort and gave the biggest chunk he collected to Brandon. Though he has never been to Berlin himself, Brandon has been showing off the jagged piece of cement streaked with red and blue graffiti to other Sandians. He says he sees a lot of "wet eyes when I show it to people. That's something we've worked for for a long time. And it symbolizes the changes we're going through." Brandon now hopes to put the Cold War memento on display at Sandia for all to see.

First Time for Sandia

Mike Dyer Receives DOE Distinguished Associate Award

Mike Dyer (8300A) recently became the first Sandian to win DOE's Distinguished Associate Award, which recognizes exceptional achievements contributing to a DOE program.

The certificate, presented in a Washington, D.C., ceremony by J. Michael Davis, DOE Assistant Secretary for Conservation and Renewable Energy, cites Mike's "commitment and contributions to the DOE Energy Conversion and Utilization Technologies (ECUT) Combustion Technology Program."

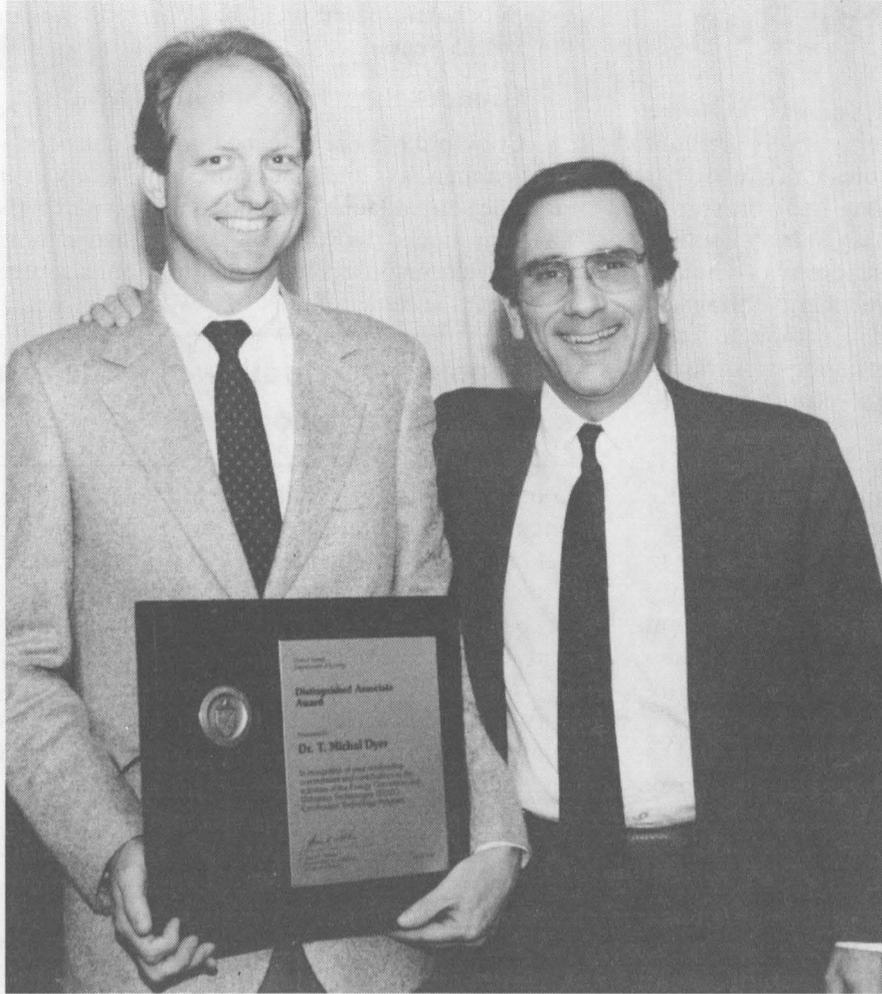
Davis' predecessor, John Berg, nominated Mike for the award, noting that he "has consistently provided exceptional technical and managerial leadership by facilitating what has become an internationally acclaimed and highly regarded applied combustion research effort."

The nomination continues, "He has worked tirelessly to involve non-[DOE]-funded industry collaborators in the program . . . Also, he has inspired several cost-shared activities between Sandia researchers and [industry]."

In his current assignment — which he began last summer — Mike facilitates technical partnerships between Sandia, Livermore and industry. Before that, he supervised the Combustion Applications Division for eight years. In this position, he directed Sandia's research projects in engine combustion and provided technical leadership for the entire DOE/ECUT Combustion Technology Program.

In 1980, he received the Society of Automotive Engineers' prestigious Horning Award for his paper characterizing the transient combustion process in an engine simulator.

Mike is the first recipient in several years of the DOE Distinguished Associate Award, which is given specifically for individual, rather than group, achievement. ●BLS



MIKE DYER (8300A, left) receives Peter Mattern's (8300) congratulations for his DOE Distinguished Associate Award. Mike is the first recipient of the award in several years. He was honored for "exceptional technical and managerial leadership" in combustion research, which has included collaborations between Sandia and industry.



SANDIA LIVERMORE NEWS

Personnel Representatives For Sandia, Livermore

The LAB NEWS article about personnel representatives in the May 4 issue did not reflect recent changes in responsibilities in Personnel Div. 8522. Below is a correct listing of personnel reps at Livermore:

- | | |
|----------------------------|----------|
| Jim Argyle | 294-2241 |
| Ed Hathaway | 294-1398 |
| Tonni Nunley (rep for MAs) | 294-2235 |



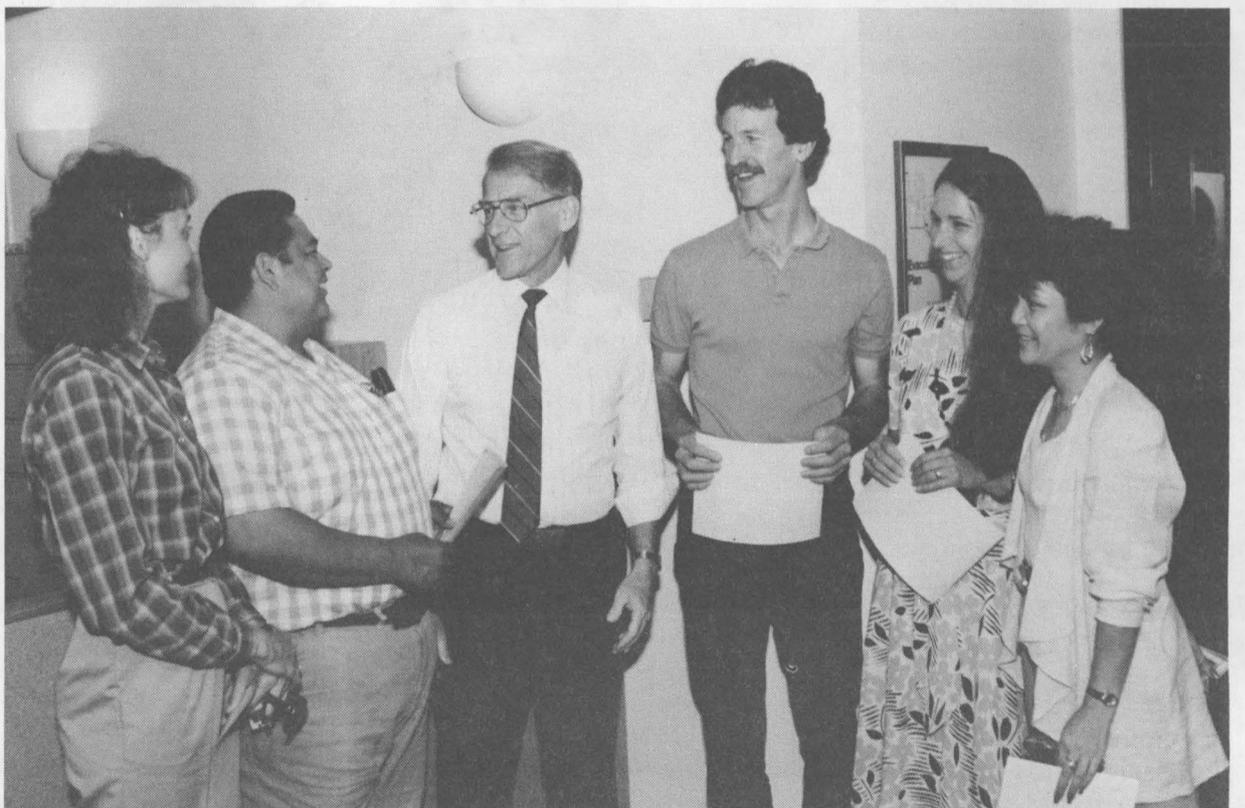
Recent Retirees



Norm Colcleasure (8513) 24



Vera Chandler (8273) 27



FIVE SANDIANS at Livermore were among local employees recognized by the Corporate Volunteer Council for community efforts. Being congratulated by John Crawford (VP-8000, third from left) are (from left) Lois Johnston (8316), Fred Perez (8513), Tim Sage (8314), Sandra Lormand (8524), and Judy Tejada (8284). Lois, Sandra, and Judy filled leadership roles in the Expanding Your Horizons in Math and Science conference for junior- and senior-high girls; Fred organized charitable chile cookoffs and serves on the board of the Buenas Vidas Youth Ranch; and Tim did restoration work on the Livermore Highway Garage and vintage fire trucks as well as serving on the board of the Livermore Heritage Guild.

Congratulations

To Kellee and Robert Dankiewicz (both 8271), a daughter, Sarah Michelle, Feb. 9.

Short Snappy Meetings? Here's How



Bored with long office meetings? When you remove chairs, ash trays, and doughnuts, participants come right to the point, "Motivational Systems" says.

Wall Street Journal

(Continued from Page One)

Crawford MacCallum: Bit by the Star Bug

low-energy or "soft" gamma rays are essentially the same thing, both attaining energy levels of about 40 keV (kiloelectronvolts), notes Crawford.

Hercules X-1 is a spinning neutron star in binary orbit around an ordinary star. A neutron star is what remains when a supernova — an expanding, dying star — explodes and collapses. Neutron stars are extremely dense, though not as dense as black holes, and have monstrous magnetic fields that enable them to attract and gobble up nearby matter.

Like many neutron stars, Hercules X-1 is literally gobbling up its companion, generating x rays and gamma rays in the process. Electrons falling into the neutron star are thought to be spiraling around its magnetic field so tightly that they enter the realm governed by quantum mechanics, jumping back and forth between higher and lower energy states and emitting gamma rays in the process.

Cygnus X-1, on the other hand, is thought to be a black hole like the mysterious gamma ray source near the center of the galaxy. If an exploding star is massive enough, it is believed to collapse into a black hole rather than a neutron star.

Based on past observations, the x-ray emissions of Hercules X-1 are expected to increase this month. If, for some reason, they do not increase,

the team of astronomers will look at other x-ray sources as well.

"This time, we're going on a fishing expedition to see what we can find," says Crawford, who has participated in 11 balloon launches in the past 15 years.

Gamma Rays Fuel Spirited Debate

Crawford has been steeped in the controversy over gamma rays and black holes practically ever since he started launching balloons. Some experts have questioned the validity of claims that gamma rays have been observed emanating from a source at or near the center of the Milky Way. They main-

"The gold in my tooth was made in a supernova explosion."

tain that the gamma rays are part of the ubiquitous background radiation streaming through the galaxy from past supernova explosions. However, Crawford and others believe that a single source, probably a black hole, is producing intermittent, energetic emissions.

The controversial gamma rays have an energy level of precisely 511 keV — the amount of energy released when a positron meets up with an electron. A positron is the antimatter equivalent of an ordinary electron, having the same mass but opposite electrical charge. When the two particles meet, they annihilate each other, releasing two gamma rays of 511 keV and providing a demonstration of Einstein's theory of relativity, in which mass is converted to energy.

Pairs of electrons and positrons are thought to originate during collisions between high-energy photons produced as matter falls onto a neutron star or black hole.

If the black hole theory is correct, it explains the interruptions in gamma-ray emissions as the result of gaps in accretions of material surrounding the unseen object. The gamma rays are thought to be emitted only when matter falls into the black hole, says Crawford.

The debate over whether the gamma rays have a single source will be decided, he says, following the launch of the Gamma Ray Observatory, scheduled for Nov. 1 aboard the space shuttle. The GRO will be better able to determine the intensity of gamma rays in any one direction, even though a precision gamma-ray spectrometer designed for the spacecraft by Crawford and his colleagues was dropped by NASA for lack of funding.

Meanwhile, Crawford perseveres in his study of the stars and his fascination with the forces that rule the universe.

Stars are the furnaces where all the elements are forged out of hydrogen, he notes, and supernovas are the hottest stars, producing the elements heavier than iron.

"The gold in my tooth was made in a supernova explosion," he says, describing the fascinating process by which stars die and collapse, overcoming nuclear forces that enable protons and neutrons to recombine in new ways.

This fall, Crawford will also begin teaching astronomy on an intermittent basis as an adjunct professor at UNM. ●LD

Sandia Helped Design Balloon Payload

Since his retirement in November, after 32 years with Sandia, Crawford MacCallum has been busy preparing for a balloon launch this week in Fort Sumner, N.M., to search for gamma rays in our galaxy.

Though the balloon is now a joint project of NASA's Goddard Space Flight Center and Bell Labs, part of the balloon's 3600-pound payload — including the instrument housing; the pointing system, which uses a magnetometer to keep the instruments oriented with respect to the Earth's magnetic field; and the computerized radio communication and command system — were designed at Sandia.

Engineers who worked on the project were Paul Stang (5233), Norm Corlis (7526), Don Sayers (ret.), Mark Dowdican (9145), Jim Redel (2345), and Al Hutters (ret.).



SPACE BALLOON, ready for launch on a previous mission, carries a gamma-ray instrument for observing neutron stars, supernova remnants, and black holes.

Crawford is now assisting Goddard on the project.

The collaboration began in 1974, when Bell Labs' Marvin Leventhal came up with

200 times its original size. "When it is fully inflated, you could spin a football field around inside it and not touch the sides," says Crawford.

the idea of designing balloon instruments that used germanium crystals rather than crystals of sodium iodide, allowing for more precise measurement of the energy levels of gamma rays, says Crawford.

The balloon is made of acres of transparent polyethylene, the same stuff used to make sandwich bags. When first released from the ground, it towers 800 feet high, or half again as tall as the Washington Monument. As it travels aloft to a distance of 25 miles above the Earth, clear of the barrier formed by the atmosphere, which is impenetrable to gamma rays, the helium-filled balloon will expand to 40 million cubic feet,

Take Note

In a tribute to mathematician Stanislaw Ulam, the National Atomic Museum is exhibiting photographs, quotes, and descriptive text recognizing the legacy of his life and work. He participated in the Manhattan Project and helped develop a workable thermonuclear weapon design. His achievements in mathematics found applications in physics, computer science, and biology. "Stanislaw Ulam: Adventures of a Mathematician" will open May 22 at 10 a.m.

Speakers include Ulam's wife, Francoise, and Carson Mark, Theoretical Division Leader at LANL from 1947 to 1973.

Everyone is invited to the opening ceremonies of the New Mexico Special Olympics State Summer Games June 1 at Milne Stadium at 6:30 p.m. More than 700 Special Olympians will march in the parade of athletes and participate in four sports. Admission is free. Chief Schwyzer (122) is vice-

chairman of the N.M. Special Olympics Board of Directors. For more information, call 883-5525.

The Project Management Institute meets at the High Mesa Inn (3347 Cerrillos Rd.) in Santa Fe May 22 at 7 p.m. Larry Selby of Jacobs Engineering will talk about the Jackpile Uranium Tailings Restoration Project at Laguna Pueblo. Dinner is \$12. Carpooling is available. For reservations and information, contact Ken Hanks (1201) on 4-1820.

(Continued from Page One)

Volunteer in Action: Thomas Heine

Alamogordo this summer. He applied and will be a counselor at this year's camp, June 23-30.

Camp Enchantment, established in 1987 on the campus of the New Mexico School for the Visually Handicapped, provides a week-long retreat for 25 young cancer patients ages 6 to 17. They participate in recreational activities such as sand sledding at White Sands, horseback riding, arts and crafts, dancing, hot air balloon rides, and swimming.

'Empathy for These Children'

Thomas decided the perspective he now has on his own childhood fight with the disease might be helpful to kids currently trying to cope with cancer.

"I have genuine empathy for these children," Thomas says. "The worst part of having cancer as a child is the constant testing and probing of your anatomy — the invasion of your person. I want to help these kids relax and enjoy themselves for a week."

He says he also wants the kids to know that it is possible to survive cancer. "When my leg was

"I want to help these kids relax and enjoy themselves for a week."

amputated," he says, "doctors told me my chances of survival were one in a thousand. Then, when I had a recurrence of the cancer and needed a second operation, they said my chances were one in ten thousand. I have been cancer-free now for about 36 years, and I have learned to live with the loss of my leg. I think I can do something positive for these children. I have faith in God and hope for tomorrow."

Elaine Gutierrez of the American Cancer Society agrees. "We're very excited to have Thomas," Elaine says. "He will be an inspiration to the kids. We will have a lot of high-school-age kids at the camp who are going through the 'why me?' stage. Thomas is minus a limb, and most of them aren't,

so I think he will be very inspirational."

Thomas says special events like Camp Enchantment were not available when he was a child with cancer. But he did have his family's Quay County farm to keep him busy and the faith and strength of a father who refused to treat his son as though he had any limitations.

"I had a marvelous relationship with my dad," Thomas says. "I wasn't given any slack at home that I could notice. My dad and I made a hand-clutch for the tractor so I could drive it, and I worked alongside him on the farm. That was very good therapy for me. We just went right on with life and I stayed very physically active."

More Than a Survivor

Thomas has done more than survive cancer. His life has flourished in the years since he was first diagnosed with osteogenic sarcoma. Although there were two attempts at suicide in his middle teenage years, Thomas recovered in his early twenties and began forging a new life for himself.

At Eastern New Mexico University, Thomas made the varsity gymnastics team because of his expertise on the rings. He also learned to play ten-

nis. Growing up on a farm had given him an early love of the outdoors, so hunting, fishing, and riding horses became part of his life again.

"I'm sure I was a very unpleasant person for a long time," he says. "I hurt myself by thinking that society had done something to me. I've run into bitter people who had cancer or other catastrophic events in their lives. To me, those people haven't gotten over being self-centered. But I guess in some ways, I'm still trying to correct my own personality. I'm a fairly private person even now, but I've become tolerant and optimistic."

Sixteen years ago, Thomas came to Sandia as a mechanical measurements apprentice. Today he works in Div. 9113, where — along with his designing duties — he runs a small shop and sometimes teaches in the apprentice program. Married 22 years, he has two teenage children.

"My children are the joy of my life," Thomas says. "My own experiences have taught me not to be dogmatic with them. As a result, I have a good relationship with my teenagers. They communicate with me. I see my whole life as a miracle. I define a miracle as something beyond explanation."

●AStotts (3163)



THOMAS AND APACHE — Thomas Heine (9113) gets ready to ride his horse Apache on his family acreage near Edgewood. Thomas, who lost his leg to cancer as an eight-year-old, will be a volunteer counselor at Camp Enchantment this summer. The camp is a recreational experience for young cancer patients.

(Photo by Beth Heine)

By American Chemical Society

Carol Ashley Named Chemical Technician of Year

Switching fields from biochemistry to chemistry of materials paid off for Carol Ashley (1846). In ten years at Sandia, she has succeeded so well in her (no longer new) field that the American Chemical Society recently named her Chemical Technician of the Year — about the same time she was advanced to Member of Technical Staff.

That puts Carol in the odd position of being Technician of the Year (on the basis of a 1989 nomination) while no longer being a technician. Her supervisor for the past four years, Dan Doughty (1846), points out, "It's an unusual situation, but a pleasant one, created by almost-simultaneous recognition from Sandia and the ACS."

Carol now specializes in sol-gel chemistry, which deals with microscopic particles dispersed in fluid media (though a gel may be viscous enough to behave as a solid). She contributed substantially to the development of Sandia's sol-gel program from a small, minor effort to a world-class program and facility.

'Excellent Role Model'

"I'm really delighted Carol won this award," says Venky Narayanamurti, Vice-President of Research 1000. "She is an excellent role model for all our support staff who play a critical role in making a technical organization like ours run. Nothing



CAROL ASHLEY (1846), selected as the American Chemical Society's Technician of the Year, begins a procedure for synthesizing a sol-gel-derived glass.

pleases me more than when our people are recognized for technical excellence. So my congratulations go to Carol."

Dan Doughty says, "Carol's really a top performer. She runs our sol-gel lab, she does an excel-

lent job of supporting our staff and programs, and currently she has two projects that are her own responsibility. Our senior staff rely on her for more than just sample preparation — she often co-authors publications with them."

New Area of Chemistry

Although Carol has been a Sandian since 1980, she was at the Labs before then as a UNM employee on contract. "I was working on radiation effects in viruses," she explains, "but when that research was to be discontinued, I wanted to stay here." That required her to learn a new area of chemistry so that she could be hired by Sandia for other kinds of work. "It was a scary move, but it has worked out well," she says.

Carol is author or co-author of about 20 publications and has eight patents awarded or pending. Besides assisting in basic research, she has major responsibility in sol-gel applications, which have included (among other things) anti-reflective coatings for solar-energy technology. Recently she has been working on gels as precursors in the manufacture of radioluminescent lights, which might be used as emergency lighting or runway lights, or in space. She is organizing a workshop, scheduled for August, to aid the transfer of Sandia-developed sol-gel film technology to industry. ●CS

'Don't Fence Me In'**Building 823 Goes 'Outside' on June 1**

The ribbon-cutting has become a hackneyed tradition, but a fence-cutting is a little out of the ordinary. Dick Traeger, Manager of Geosciences Dept. 6230, is busy planning just such an event for June 1.

New Mexico's US Senators Pete Domenici and Jeff Bingaman will be here at 2:30 p.m. that day to participate in a ceremony that will take Bldg. 823 out of the tech area. The event culminates years of discussion and months of preparation by many Sandians.

Bldg. 823 is expected to become a place where Sandia researchers and their peers from industry and universities can work side by side, benefiting from the Labs' resources. Computer support, a big hang-up in the past, will come long-distance from Sandia, Livermore.

Many employees with offices in 823 will remain there. Those working primarily on classified projects have been relocated, and some divisions from 1100, 1400, and 1800 will take their places. Dick says the building also will accommodate researchers from private companies and universities who need to work on Sandia premises for periods ranging from a few days to several months. It also will provide office space for university faculty members and graduate students working during the summer at Sandia.

"Our biggest current concern is knowing that 823 cannot accommodate all needs for joint research, post docs, summer hires, new unclassified hires, and unclassified contractors," says Dick. "In other words, we have more needs than we have space. Some hard decisions are obviously in the works."

A New Entrance

The main access to 823 has been through the security gate in Bldg. 822, the small building that connects 823 with Bldg. 821 to the west. Under the

new arrangement, the access to 823 will be closed off from 822, and a new main entrance is being constructed at the southwest corner of 823. The reception area will serve as a staging point, operated by Security, for access to the southwest part of Tech Area I.

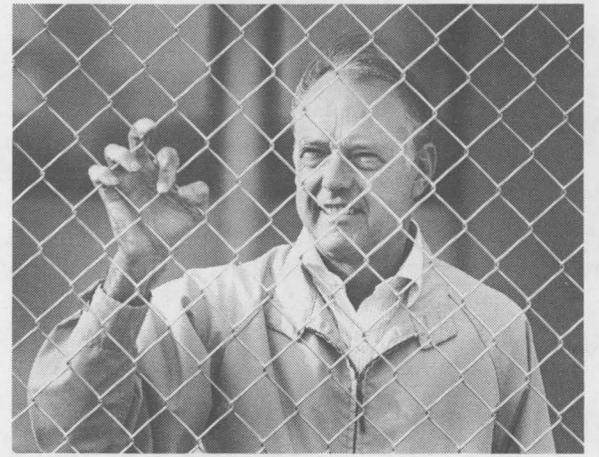
The 146,900-sq.-ft. facility, constructed in 1982, was used by Organization 2000 for a couple of years. But when Bldg. 891 was completed, 2000's components work was moved there, and 823 became dedicated mainly to energy and tech transfer activities.

A concern for computer security precluded making 823 an unclassified facility when it was constructed. Last year, the Sandia Computer Committee recommended that a Livermore computer be made available for unclassified use. That recommendation, coupled with the success of Livermore's Combustion Research Facility in opening doors to industry and the move of then CRF Director Dan Hartley to Vice-President of 6000, led to a new drive to have 823 "outside the fence." Al Narath supported and encouraged the drive when he became Sandia president last spring.

Lots of Helpful Sandians

Interactions between many Sandia divisions were necessary to accomplish the change. The data communications plan initiated by Larry Bertholf (2600) and his staff had to be executed. The 2600 group worked closely with Dirk Dahlgren and Wynona Sexson (both 6410) and with Bill Wilson's group (8230) in Livermore.

Larry Tolendino (2617) led the 2600 effort, which involved a major rerouting of communications systems and installation of new switching stations. The work led to an on-schedule cutover to the Livermore systems during the weekend of May 5-6. More than 2000 wires were rerouted and reconnected from 823 to



WIRE CUTTERS, PLEASE! Dick Traeger (6230) looks forward to June 1, when the fence around Bldg. 823 will no longer be needed. The change will allow more on-site cooperative work with industry and university researchers.

Bldg. 821 to the Livermore net.

The transition also required a major effort by Facilities Directorate 7800, led by Ward Hunnicutt. Jim Smith (7823) was the project coordinator, and Pat Miller (7823) was liaison with 6000. Gerry Lipka (7851) ramrodded the contracts.

Charlie Ray (3723) had responsibility for seeing that all purchases were made in time to meet schedules and actual installations.

Security issues were addressed by Don Jerome (3432), with help from Bob Baca (3437) and his group.

Out-of-hours access to the building will be provided by magnetic stripes on employee badges — something that is planned eventually for all of Sandia. System hardware was specified by Larry Wright (5248), and software is being developed in joint efforts by Larry, Arlene Schaefer (6300A), G. C. Hollowwa, and Gary Nez (both 3411).

●AEtheridge(3161)

Fun & Games

Golf — The third Sandia Golf Association tournament, the Cochiti Classic, was played on April 21 at the Cochiti Lake Golf Course. The tournament was a two-member team event with a scramble format. Gift certificates were awarded to teams with the lowest scores in four flights. Golf balls were awarded to individuals who hit the longest drives and were closest to the pin on selected holes. Winners included: A Flight — Charlie Salazar (7485) and Pres Herrington (9243); B

Flight — Al Maes (3724) and Dennis Chavez (ret.); C Flight — Pro Padilla (3743) and Larry Wilhelm (2631); and D Flight — John Brane (2832). Long-drive winners were the teams of Charlie Salazar and Pres Herrington, Cass Gowins (5144) and Glenn Rackley (5166), Len "3-Wood" Morrison (9111) and Phil Federico (9114), and Dan Thomas (2314) and Phil Fajardo (2313). Closest-to-the-pin winners were Mark Grohman (9127), Jose Torres (1273), Ken "Mr. Handicap"

Bercaw (7816), and Mike Gray (9121). A total of 44 teams participated in the Cochiti Classic. The tournament was coordinated by Tim Mirabal (2172) and Frank Ross (7262).

More Golf — Braving 50-mph winds, the Sandia Women's Golf Association played its first 18-hole tournament on Sunday, April 29, at the Rio Rancho Country Club. SWGA members who won Chip-In Awards are Fay Joy, Peggy Burrell (6000), Nina Coe (3718), and Shirley Lopez (3745). Other award winners: Flight A — Marijo Hinrichs (6000), low net; Nina Coe, second low net; Renae Dietz (400), low putts; Debra Reichman, second low putts. Longest drive prizes went to Renae Dietz and Debra Reichman. Flight B — Teri Carpenter (3731), low net; Betty Worley (ret.), second low net; Maria Feliz (3733), low putts; Suzette Beck (4021), second low putts; and Teri Carpenter (3731), closest to the pin.

For information about joining SWGA, call Teri Carpenter on 256-0614.

Softball — Today is dedication day at the "new" Manzano softball field. The Softball Association is sponsoring an opening ceremony at 5:15 p.m. for the recently refurbished facility. The main event is an "old-timers" game with players who played at the field in its heyday. Included in the festivities are ballpark music, special Manzano hats, T-shirts for players, and concession-stand refreshments. Everyone is invited to attend. Old-timers interested in playing should call Suzan Baldonado at SERP on 4-8486.

Favorite Old Photo

TED CHURCH (7290) found this photo recently while sorting through some of his office memorabilia. The picture — taken in Bldg. 847, probably in the late '40s — shows Ted (standing, right) and other members of the advanced fuzing radar development group to which he was assigned when he began working at Sandia. Ted retires at the end of May, 43 years after he began his Labs career.



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 8 1/2 by 11-inch paper.
5. Use separate sheet for each ad category.
6. Type or print ads legibly; use only accepted abbreviations.
7. One ad per category per issue.
8. No more than two insertions of same "for sale" or "wanted" item.
9. No "For Rent" ads except for employees on temporary assignment.
10. No commercial ads.
11. For active and retired Sandians and DOE employees.
12. Housing listed for sale is available for occupancy without regard to race, creed, color, or national origin.

MISCELLANEOUS

80386 COMPUTER, 25-MHz, quiet tower, .28 VGA, 50MB HD, 4MB memory, 2 floppies, ports, \$2500. Hsing, 293-5670.

SECTIONAL FURNITURE, including queen-size sofa sleeper, recliner used 3 months, \$600; utility trailer, 5 x 10, w/spare, \$450 OBO; swimming-pool solar cover, \$25. Bercaw, 275-1691.

COLOR TV, 25" Heathkit GR2000 console, \$60; Craftsman reel-type power lawn mower, w/catcher, \$20. Bear, 881-7128.

REFRIGERATOR, GE side-by-side, frost-free, 22 cu. ft., 33"W x 29"D x 67"H, gold color, \$400. Holmes, 292-0898.

COCKER SPANIEL, female, honey-colored, spayed, 6-1/2 yrs. old, 20 lbs., has all shots, free to good home. Kirson, 293-5284 after 6.

FIVE MATURE EVERGREEN SHRUBS, free, one or more, you dig, you haul. Rieger, 299-2349 leave message.

SAILBOARD EQUIPMENT: Mistral 6.2 camber race, \$210; NPU 6.1 camber race, \$170; NPU 6.9 RAF, \$130. Healer, 298-6967.

MITCHELL 8' CAB-OVER CAMPER, icebox, range, heater, closet, dinette, sleeps 4, \$800 OBO. Floyd, 836-3601.

GUITAR AMP, Peavey Backstage Plus, \$100; DOD Supra distortion pedal, \$40. Petruno, 265-1826.

CHILD'S SKIS, RC Elan Pro Team, 125cm, w/Salomon bindings & Nordica boots, size 3, red & white; copper drapery rods, expandable. Wagner, 823-9323.

TWO STUDIO COUCHES, green, you pick up, \$25; telephone table, w/ceramic top, \$45. Chavez, 243-9530.

SPANISH HAND-CARVED FURNITURE: 2 wall units, 7', curved tops, matching sofa table, \$650. Hogan, 296-8846.

STANDARD POODLE, male, neutered, white, 1-1/2 yrs. old, papers, free to good home. Baird, 891-5497.

AMERICAN AIRLINES TRAVEL VOUCHER, use like cash, \$164 face value, sell for \$80. Chu, 298-1073.

IBM/XT COMPATIBLE, dual-speed clock, 20MB hard disk, 360K floppy drive, monochrome monitor, \$800 OBO. Morris, 292-1722.

RUGER "BEARCAT" .22 PISTOL, valued at \$350, sell for \$275 OBO. Chavez, 275-0490.

NAUTILUS BACK MACHINE, Nautilus abdominal machine, \$200/ea. OBO. Girven, 899-1503.

SHOP MANUAL and parts for '77 Datsun pickup, free. Joseph, 299-6989.

LAWN/GARDEN TRACTOR, Sears Craftsman, 10-hp, 36" mower, \$700. Rivers, 836-6304.

FULL-SIZE SOFA SLEEPER, \$300 OBO; solid-wood 2-tiered table, \$100. Bennett, 889-0929.

OVAL DINING TABLE, Pennsylvania House, maple, 52" x 42", two 10"

leaves, 4 mate's chairs, 2 captain's chairs, \$250. Underhill, 294-5774.

LIGHT TABLE, 2' x 2', \$25; Sony Sports boom box, AM/FM cassette, \$25; 2' x 4' folding aluminum table, \$8. Eley, 255-2617.

UPRIGHT FREEZER, Wards Signature, \$75. Garrison, 292-8973.

SAFES: Haskelite, fur storage, 71" x 26" x 26", key lock, \$350; Herring combination, 48" x 28" x 29", "B" fire rating, T-20 burglar rating, wheels, \$850. Shunny, 873-2131 or 260-0032.

SAVAGE 30.06 RIFLE, bolt-action, w/scope, \$275. Marquez, 344-8455.

INFRARED HEAT LAMP, make offer. Krahlung, 268-8126.

BABY CRIB, blond wood, w/mattress, 2 mattress pads, 8 crib sheets, \$100 OBO. Geitgey, 821-5827.

MAGNAVOX VIDEO CAMERA, \$375; upright piano, \$375; Vic 20 and Commodore 64, w/disks, printers, games, graphics. Dean, 299-3281.

GOLF CLUBS: 1-3-4-5 woods, 3-PW irons, putter, onyx set Walter Hagen, \$110; 3-PW irons, '86 PGA Cameron, \$125; new golf balls, \$10/doz. Stang, 256-7793.

KING-SIZE WATER BED, waveless, w/double-layer 12-drawer pedestal, cushion pads, bookshelf headboard w/mirror, \$175. Laguna, 298-1732.

FLAT-BED LATHE, Craftsman/Atlas, 6" swing, 36" bed, complete, all gears mounted, \$1500. Roche, 266-2079.

QUEEN-SIZE FOAM PAD, 4", \$30. Spires, 275-3655.

SOFA SLEEPER and love seat, rust & white, \$225; camper shell for short/narrow bed, \$180. Martinez, 296-9035.

'72 REDDALE TRAVEL TRAILER, 19', self-contained, dual axles, new upholstery & drapes, \$2400. Chavez, 294-8962.

GAS LAWN MOWER, Sears Craftsman, rear bagger, electric start, self-propelled, used 5 times, \$250. Maldonado, 821-5041.

APPLE IIe COMPUTER, dual floppy drives, monitor, printer, software, \$800; twin-size mattress, box spring, wheeled frame, \$200; 5-bulb chandelier, \$35. Edmund, 881-7974.

LANDSCAPING ROCK, red-lava type, 12 cu. ft., \$25. Davis, 294-1048.

TWIN-SIZE BED, Ethan Allen, dark pine, dresser, new mattress, linens, brass lamp, \$300. Lippis, 898-8429.

ATARI 1040ST COMPUTER, w/color monitor, software, \$975 OBO. Harris, 291-8956.

DOT-MATRIX PRINTER, Panasonic, w/cable, dust cover, manual, ribbon, paper, \$100; classical guitar, Juan Orozco student model, w/hardshell case, strings, \$300. Linebarger, 275-7931.

UMBRELLA STROLLER, \$9; water softener, \$85; air conditioner, \$60. Cibicki, 877-7098.

TOP SOIL, free, you load, you haul; Craftsman 5" miter box, \$100. Caton, 281-9420.

KING-SIZE SPRING MATTRESS, w/bookcase headboard, electric blanket, 4 sets bed linen; electric range top, 4 burners, 16" x 45". O'Neill, 255-6355.

ENCYCLOPEDIA AMERICANA, 30-volume set, \$20. Gregory, 344-1436.

RON LIGHT FAMILY BENEFIT SALE, Comanche Elementary School parking lot, May 20, 10 a.m.-5 p.m., donations accepted, call for information. Graham, 884-6489.

TURTLE SAND BOX, preschool toys, books. Wilder, 299-6198.

THIRD SEAT FOR '88 DODGE CARAVAN, never used, make offer. Baca, 265-2881.

TIRES: 2 Firestone radials, 155xR13, 33K miles, \$10/ea.; hot-air popcorn popper, \$5. Trembl, 292-9219.

KHS BIKE PARTS; sewing machines, Olds. rims, drive shaft, tire, alternator; air hockey; weight set and bench; encyclopedias. Carter, 293-6750.

SPLITZ (AMERICAN ESKIMO) PUPPIES, 4 males, 7 wks. old, \$75/ea. Smith, 281-2940 after 5.

SHAR-PEI PUPPIES, born Feb. 3.

Rodeman, 821-1816.

TABLE SAW, Craftsman, 10", \$125. Loemker, 898-2271.

BROYHILL DINING TABLE, 76" x 42", no scratches, w/4 chairs; washer and dryer; electric blower. Padilla, 299-2637.

BATHROOM COUNTER TOPS, cultured marble; 2 Delta antique-brass bath faucets, 2 yrs. old. Lott, 296-8071.

TANDY 1200HD COMPUTER, 10-meg. hard drive, 640K RAM, DOS, BASIC, Multiplan spreadsheet, \$400. Casper, 268-4464 leave message.

THREE 14" RIMS, fit '71 Ford Maverick, \$10/ea. Gonzales, 265-2671.

AYER'S COUCH, love seat, chair, brown wicker base, peach-tone floral cushions, \$1500. Arredondo, 291-0268.

BARBECUE GRILL, w/charcoal & lighter, \$25. Zirzow, 281-9896.

COCKER SPANIEL PUPS, full breed, 6 wks. old, parents on premises, \$90/ea.; Escort radar detector, \$75. Apodaca, 294-5525.

TRANSPORTATION

YAMAHA 125IT, 1 hour on overhauled motor, \$350 OBO; Honda 250XT dirt/street bike, needs work, \$350 OBO. Bercaw, 275-1691.

BICYCLES, Sears Windsprint 12-spd.: man's 27", woman's 26", \$50/ea. Patrick, 265-4569.

Early Deadline

Because of the Memorial Day holiday, deadline for ads and other submissions to the June 1 LAB NEWS is Thursday, May 24.

SCHWINN LeTOUR 12-SPD. TOURING BIKE, 25" frame, \$75; child's 16" 10-spd. mountain bike, \$60. Cuyler, 292-8076.

'77 GRAND PRIX, loaded, w/T-top, cruise, tilt, PS, PB, PW, AC, rebuilt engine & transmission, \$2500 OBO. Lucero, 892-2946.

'56 CHEV. PICKUP, 1/2-ton, restorable, recently rebuilt engine, new tires, \$2000 OBO. Floyd, 836-3601.

'77 CAMARO, 350 V-8, AT, AC, AM/FM stereo, PB, PS, vinyl split-top, \$1400 book, sell for \$1250. Stang, 766-6806.

'81 CHEV. BLAZER, 4x4, full-sized 6-cyl., 4-spd., 72K miles, \$3900. Baker, 294-3334.

'84 FORD RANGER, V-6, AC, PS, PB, shell, \$3300 OBO. Peters, 296-7390.

TWO BOY'S BIKES: \$20 and \$35. Lucero, 831-5871 days or 296-2473 evenings.

'89 JEEP WRANGLER, 6-cyl., white, Islander package, 11K miles, \$1400 below book, \$10,500 or \$4500 and assume \$6100 loan. Goodwin, 294-6702.

'66 MUSTANG, 289 V-8, AT, PS, vinyl roof, many original parts, \$4400. Nelson, 293-7083 after 6.

'78 MUSTANG, V-6, \$750 OBO; '73 Camaro, 900 miles on rebuilt 350 engine, \$3500. Sanchez, 255-5515.

'89 KAWASAKI BAYOU 4-WHEELER ATV, red, single/dual traction, 5 hours riding time, w/accessories, \$3100. Chavez, 899-8695.

'69 MUSTANG, 302, 3-spd., tires w/less than 100 miles, \$3000 OBO. Spinelio, 256-1597.

'81 FORD E250 CONVERSION VAN, V-8, 3/4-ton, towing package, loaded, PS, PB, cruise, AC, rebuilt transmission, \$4000 firm. Linn, 877-3999.

'86 PONTIAC 6000LE, 4-dr., PS, PB, AT, 48K miles, original owner, \$6200. Hogan, 296-8846.

'83 YAMAHA MAXIM 650, 7K miles, adult-owned and ridden, garaged, new Dunlop tires, \$975. Connors, 869-2161.

'40 BUICK SPECIAL, 4-dr. sedan, new battery, \$2400. Chavez, 294-8962.

'71 OLDS. CUTLASS, 2-dr., 85K miles, \$500 OBO. Harvey, 242-1619.

'87 YAMAHA YZ490 MOTORCYCLE, adult-owned & maintained, \$1500. Wright, 296-3850.

FUJI S12-S 12-SPD. BICYCLE, \$225. Allen, 821-8491.

'75 ALFA ROMEO SPIDER, 54K miles,

white w/maroon seats & bra, \$4600. Martel, 293-1892.

'87 DODGE RAIDER, 4x4, AC, AM/FM cassette, take over payments. Maenchen, 275-7295.

WOMAN'S RALEIGH MOUNTAIN BIKE, Sountour, 12-spd. indexed shifting, \$145. Dandini, 296-4975.

'72 TOYOTA LANDCRUISER FJ40, \$2600. Beck, 296-8632.

'31 MODEL "A" FORD, 2-dr. coupe, needs complete restoration, w/engine, doesn't run, \$1100 OBO. Stuart, 865-1456.

'83 YAMAHA YZ490, new engine, rear tire, & side panels, second owner, \$750. Pryor, 294-6980.

'84 CHEV. CAVALIER, 4-dr., PS, PB, AC, AT, tape, 58K miles, \$3200. Paul, 299-6387.

TWO '72 TOYOTA WAGONS, need work, both for parts or 1 whole vehicle, \$399 and \$400. Case, 299-4774.

'76 CHEV. 1/2-TON PICKUP, new paint & tires, 90K miles on 350 engine, one owner, 4-spd., \$3200, will trade for tractor and equipment. Lackey, 869-9333.

'82 CADILLAC COUPE DeVILLE, 76K miles, light yellow, half-vinyl top, \$3900. Mead, 299-4868.

'78 FIREBIRD, PS, PB, AT, AC, rear defogger, AM/FM cassette, 4 speakers, new tires, 76K miles, below book. Shortencarier, 299-5648.

'86 MALLARD SPRINTER MMH, 22', sleeps 6, 4.5KW generator, roof air, storage pod, \$18,950. Schuler, 298-5827.

'85 OLDS. 98, \$7900; '85 GMC Jimmy, 4-WD, new tires, \$7000. Fitzpatrick, 275-3422.

'77 RAMCHARGER, fresh engine, transfer case, PS, PB, AT, burgundy/white, \$3100 OBO. Schaub, 345-2867.

'81 OLDS. 88, diesel, 26K miles on new engine, 20/30 mpg, 4-dr., AC, all power, \$1750. Roche, 266-2079.

REPO: '80 Mazda GLC SW, 4-cyl., AT, AC, AM/FM stereo tape deck, 84.2K miles, bids accepted through May 23, we reserve the right to refuse all bids, subject to prior sale. Sandia Laboratory FCU, 293-0500.

'84 FORD RANGER, V-6, AC, PS, LB, AT, shell, \$3600. Peters, 296-7390.

BIKES: 18" Schwinn, 12" Schwinn. Wilder, 299-6198.

'81 HONDA CX500D, 15K miles, original owner, service manual & cover included, 2 helmets available. Zirzow, 281-9896.

'86 TOYOTA CELICA GT, electric sunroof, AT, PS, PB, cruise, power mirrors, new tires, brakes, battery, \$7650. Stewart, 293-3959.

'84 EAGLE 4x4 WAGON, 6-cyl., 79K miles, service records available, below book, \$4500. Roehrig, 281-2695.

'77 DODGE MAXIVAN, 1-ton, AT, PS, CB, cruise, customized, \$3200 OBO. Tobyas, 877-0354 after 6 or weekends.

REAL ESTATE

3-BDR. HOME, Rio Rancho, 1540 sq. ft., formal DR, brick FP in den, landscaping, \$78,000. Wanya, 891-0018.

2-BDR. TOWNHOUSE, 2-story, 2-1/2 baths, FP, NE Heights, fully assumable, no-qualifying FHA loan, \$71,000. Hesch, 275-7630.

3-BDR. MOBILE HOME, in Las Cruces, '73 Wicks, 14' x 70', 1-1/2 baths, fully furnished, washer/dryer, AC, refrigerator, etc., \$9000. Ashworth, 1-525-0508.

2-BDR. TOWNHOME, 2 baths, Tramway and Candelaria area. Lizut, 275-0965.

2 ACRES, 14' x 60' mobile home, fenced, utilities included, Quail Hollow Rd., Manzano Mtns., \$7000 down, \$34,000. Marquez, 831-3088.

VIEW LOT, latest Four Hills addition, Lot 35, Soplo NE, \$75,000. Arthur, 256-7359.

'79 WINDSOR MOBILE HOME, 14' x 70', AC, refrigerator, washer/dryer, dishwasher, in Four Hills Park, \$12,000. Boston, 298-9727.

7 ACRES, 1/3 wooded, off 217 on 222. Kelton, 281-8224.

CABIN SITE, wooded mountain area, north of Mora, access to Angel Fire

& Taos, 13.5 acres, \$14,000 OBO. Moyer, 298-1778.

ANGEL FIRE LOT, 3/4-acre, w/utilities and access, country-club membership includes family tennis, golf, skiing, \$14,700. Burd, 892-2117.

3-BDR. HOME, 2 baths, double garage, 1300 sq. ft., 9% FHA, \$83,000. Depoy, 291-0576.

3-BDR. TOWNHOME, vaulted ceiling, formal DR, private patio, w/privacy wall, double garage, assumable loan. Salazar, 243-2432.

UNDEVELOPED LOT, Camelot Crown Estates in Ruidoso, paved road, utilities, views. Arredondo, 291-0268.

WANTED

MOTORIZED GO-CART, can be fixer-upper. Miller, 292-5634.

UPHOLSTERER. Lucero, 296-2473 evenings or 831-5871 days.

ROOMMATE, share 3-bdr. house, near UNM, KAFB, and park, \$275 and utilities. Petterson, 299-0164 or 243-4000 ask for Lisa.

ROOMMATE, share home in NE Heights, full privileges, price negotiable. Mulryan, 822-0398 or 296-3628.

TRUNDLE BED, prefer wood. Cooper, 883-7494 after 6.

HOUSEMATE to share 2-bdr., 2-bath Mission Hill apartment, \$200/mo. plus 1/2 electric. Mesibov, 292-1249.

SOCCER PLAYERS, Striker Express soccer team expects several openings for '90-'91 season, for girls born in 1979, team still practicing. Geer, 265-2094.

SMALL-SCREEN COLOR TV, maximum 14"; 2 small, inexpensive shelf speakers. Underhill, 294-5774.

ELECTRIC LAWN MOWER. Richards, 296-2272.

TRAVEL TRAILER, 21'-35', self-contained, gas/electric refrigerator, 2-axle, less than \$8000. Croll, 881-7235.

SHOP MANUALS for '77 Buick Electra. Baney, 294-8970.

INSTRUCTION MANUAL for Pentax Program-Plus camera, to buy or borrow. Gottlieb, 298-9859.

OUTDOOR CHRISTMAS-TREE LIGHT STRINGS, for 9-1/4-size light bulbs. Harris, 344-6640.

'70-'78 FORD PICKUP, in good condition, must have AT. Nickerson, 888-4159.

LIVE-IN ATTENDANT for employed disabled person, free room and board, prefer single female under 40, nonsmoker. Morrato, 255-6317.

SOCCER BALLS, new or used, sizes 4 or 5. Shrouf, 821-0765.

GAS-POWERED LAWN MOWER, reliable, to replace one stolen from 86-yr.-old woman. Hovorka, 294-6981.

PARENTS interested in forming summer day-care for children ages 8-12, in far NE Heights, Juan Tabo and Montgomery area, personalized small group day-care environment to be led by a college junior. Landenberger, 294-4849.

CHILD'S DESK, with or without chair; box spring for twin bed. Noack, 268-1277.

LOST AND FOUND

FOUND: cross pendant, about 1" tall, found on corner of "G" St. and 7th. Rivers, 836-6304.

SHARE-A-RIDE

SHARE A RIDE from north 217 and old 66 area, nonsmokers only. Zirzow, 281-9896.

FULL-TIME VANPOOL SEATS AVAILABLE, Rio Rancho, Corrales, Paradise Hills, to Sandia Tech area. Boatman (892-3570) or Durand (891-3251).



Coronado Club Activities

Memorial Day Pool Party Marks Unofficial Start of Summer

OFFICIALLY, SUMMER DOESN'T BEGIN until June 21, but since when does a date on the calendar stop anybody from celebrating the return of warm weather and the grand opening of a brand-new pool? The Memorial Day bash on May 28, from 11 a.m. to 6 p.m. in the pool/patio area, is a great way to cap off the holiday weekend. Perfect picnic food — Cajun chicken, grilled steaks, burgers, hot dogs, corn on the cob, fresh watermelon, and more — is available from noon on, and the Red Hot Peppers will put everybody in a party mood as they play Dixieland jazz from 2 to 6. Lots of contests and games (and terrific prizes) are planned throughout the day. Admission for C-Club members is free, and it's \$3/person for guests.

THE "CENTRAL EXPRESS" rolls into town tonight, May 18, to provide dancing tunes from 8 p.m. to midnight. This new band belts out a great variety of music — everything from country/western to top 40s. Dinner entree selections include prime rib, fried shrimp (both \$7.95), steak Neptune (\$8.95), and poached flounder (\$6.95). Reservations recommended.

SUNDAY MATINEE FARE this weekend, May 20, promises a real treat for the whole family. The first-run movie, "The Little Mermaid" — based on Hans Christian Andersen's classic fairy tale — lights up the big screen at 2 p.m. Reasonably priced lunch items are available starting at 1. As usual, movie admission is free.

PREPARING FOR HUNDREDS OF FOLKS is on the Club staff's agenda next Thursday, May 24, as the cooks and the cleaners get ready for the annual retiree picnic — set to begin at 4 p.m. All the preparation activity means the Club will be closed to the rest of us that day — lunch line included. Take heart, though, because it's business-as-usual the next day.

THE RETURN OF THE ISLETA POOR BOYS is the way to describe festivities next Friday night, May 25, as that well-known group from south of town plays four (count 'em) hours of stomp music, from 8 p.m. to midnight. Ahead of time, the chow-line menu includes prime rib, fried shrimp (both \$7.95), a seafood combination plate

(\$7.50), and chicken teriyaki (\$6.95). Lighter fare includes a trip — or trips — to the soup/salad bar (\$3.95/all-you-can-eat or \$1.50/one trip).

THUNDERBIRD NEWS: T-Bird card sharks say goodbye to May with another get-together on May 31, starting at 10 a.m. Come out and join this retired, but unretiring, group for all kinds of card games and convivial conversation.

The Thunderbird Roadrunners are singing "On the Road Again," as they head for Villanueva State Park May 22-25. For details, happy campers should call wagon master Harvey Miller on 268-5992.

PROSPECTIVE NEW CLUB MEMBERS: Mark Friday, June 1, on your calendar. An open house that day in the patio area will introduce you to the many advantages of membership, including the city's best pool/patio/outdoor recreation area. Enjoy swimming from 5 to 8 p.m. (free) and receive a C-Club mug and coupon flyer when you pay your dues. A bonus: Your first month of membership is free.

Events Calendar

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

May 18 & 20 — "Carmen," opera presented by Opera Southwest; 8 p.m., 2 p.m. Sun.; KiMo Theatre, 243-0591.

May 18-20 — Annual New Mexico State Square Dance Festival, open to all square dancers, spectators welcome; 8 p.m. Fri., all day Sat. (10 a.m. Sun., 4915 Hawkins NE); NM State Fairgrounds, 821-4227.

May 18-June 3 — "Rough Crossing," Tom Stoppard comedy based on Ferenc Molnar's "Play at the Castle," includes songs written by André Previn specifically for the show; 8 p.m. Fri.-Sat., 6 p.m. Sun.; Vortex Theatre, 247-8600.

May 19 — Pops Concert Six: "An Evening of Lerner and Loewe," music under the stars with the New Mexico Symphony Orchestra and Chorus performing music from "Camelot," "Gigi," "Brigadoon," "Paint Your Wagon," and "My Fair Lady"; bring chairs or blankets; 8:15 p.m., Rio Grande Zoo band shell, 842-8565.

May 19-31 — Rio Grande Exhibition: traditional and representational paintings and sculpture; 1-5 p.m. (closed Mon.), Fine Arts Gallery, NM State Fairgrounds, 265-1791, ext. 228.

May 20 — Children's exhibit opening, "History Hopscotch"; activities, historical artifacts, and objects for touching give children tools to trace their family histories and learn how history is transmitted from generation to generation; 9 a.m.-5 p.m. Tues.-Sun.; Albu-

querque Museum, 242-4600.

May 20 — "The Car Show," New Mexico Council of Car Clubs' one-day event for car-fanciers. 9 a.m.-5 p.m., Albuquerque Museum parking lot, free, 298-6255 evenings.

May 20 — "Cretaceous Dinosaurs of China," lecture by Niall Mateer, paleontologist and science advisor at the University of California, in conjunction with From the Land of Dragons exhibit; 2 p.m., New Mexico Museum of Natural History, 841-8837.

May 21 — New Mexico Woodwind Quintet, premiere chamber music concert; 7:30 p.m., St. Andrew Presbyterian Church (5301 Ponderosa NE), 881-2986.

May 25 — Crown Point Rug Auction: 3 p.m. viewing, 7 p.m. auction; Crownpoint Elementary School (Crownpoint, N.M.), 786-5302.

May 25-27 — Wimmenfest '90: open mike, dances, showcase of rising stars, arts and crafts show, presented by Women In Movement in New Mexico; call for details, KiMo Theatre, 873-2950.

May 26-27 — "Delighting the Dragon," special Children's Theater performance in conjunction with From the Land of Dragons exhibit; every hour on the hour, 11 a.m.-3 p.m.; New Mexico Museum of Natural History, 841-8837.

May 26-27 — Flower Show: "Spring Time! It's Magic!"; 36th annual standard flower show; 2-6 p.m. Sat., 10 a.m.-4 p.m. Sun.; Albuquerque Garden Center (10120 Lomas NE), free, 296-6020.

May 29 — Blessing of the Fields, Corn Dance; call for times, Tesuque Pueblo, 843-7270.

Welcome

Albuquerque — Fred Allen (2855), Stephanie Ball (3320), John Bode (9000), Weldon Chambers (6423), John Cochran (3223), Jean Cooper (22-2), Garth Corey (2526), Michael Cox (3426), Shirley Everett (2855), William Friday (2857), Robin Jessen (3722), Jeffrey Kellogg (2853), Pamela McKeever (7823), Jo Ann Neel (21-1), Debra Tabor (2853); Other *New Mexico* — Milissa Fellers (22-2), Charles Jojola (2858), Clara Steele (7825).

Elsewhere: *Delaware* — Kevin Ewsuk (1845), Jill Glass (1845); *New York* — Deborah Hansknecht (2624); *Texas* — Armando Castorena (3511).



Congratulations

To Jana and Jay (2362) Hammond, a son, Jory William, Jan. 22.

To Betsy and Charlie (9143) Patterson, a son, David Charles, April 28.

To Matilda (7411) and George Shendo, a daughter, April 30.

To Marie (3731) and Victor (3425) Baca, a daughter, Veronica Marie, May 2.

To Priscilla Reyna and Ray Jojola (7515), married at Isleta Pueblo, May 5.

Retiree Picnic Reminder

If you're planning to attend the annual retiree picnic next Thursday (May 24), here's a last-minute rundown on details:

- Time — 4-7 p.m.
- Place — Coronado Club patio area
- Parking — In parking areas at the C-Club, Base chapel, Que Pasa Recreation Center, Base hospital, and Sandia Base Elementary School. (A shuttle bus will run between the Club patio entrance and parking areas on "B" Street.) Parking for the handicapped is available near the Club's main entrance.

NOTE: All reservations, including "no-shows," must be paid for by Sandia's Benefits Department. Therefore, if you have made a reservation for the picnic but are unable to attend, call Benefits (844-5072) by May 22 to cancel.



NORBERT HILL, Executive Director of the American Indian Science and Engineering Society (Denver) spoke at a recent Cultural Diversity Colloquium sponsored by Sandia's American Indian Outreach Committee, which is chaired by Ruth Bitsui (3511, right). Hill's topic, "Healing the Hurt: American Indians in Transition," focused on the emergence of Indian culture into the American mainstream.