

## Sandia Computing Achievements Receive 1989 R&D 100 Awards

With two successes in the 1989 R&D 100 Contest, Sandia extended its string to four straight years of winners. This year's winners are both in computing: new mathematical methods and algorithms for parallel computing, and SUPERNET/Linda software for distributed parallel processing.

The prestigious R&D 100 awards (formerly IR 100) are sponsored by *Research and Development* magazine in recognition of the "100 most significant new technical products" of the previous year. An award may be given to recognize any product, material, process, software, program, or system of scientific or technical origin or design.

The 1989 recipients were announced Sept. 28 at Chicago's Museum of Science & Industry. Dan Arvizu, manager of Technology Transfer and Policy Dept. 6010, accepted the awards for the Labs.

### Albuquerque and Livermore Winners

One of Sandia's winners is the result of work done in Computer Sciences and Mathematics 1400 to develop a technique for solving complex scientific problems at unprecedented speedups (LAB NEWS, March 11, 1988). A team consisting of Bob Benner (1424), John Gustafson (now with Ames Laboratory, Ames, Iowa), and Gary Montry (now with Myrias Computer, Inc., Albuquerque) achieved speedups of more than a thousand times. Speedups are a measure of how much faster a problem can be solved on a multiprocessor parallel computer in comparison with a single processor (from the same system).

The other award went to the product of joint research by Scientific Computing and Applied Math Div. 8233; Yale University; and Scientific Computing Associates (SCA), Inc., a private New Haven, Conn., company founded by Yale scientists. SUPERNET/Linda software permits super-computer-level performance by an existing network of small computers. Linda is a Yale-University-developed software package; Bob Whiteside (8233) headed the Sandia, Livermore, project team that developed SUPERNET.

"External awards serve as an important measure of the quality of our science and engineering," says Vice-President for Research Venky Narayanamurti (1000). "The US is well known for the innovative potential of its scientists. R&D 100 Awards are meant to recognize those who convert their creative energies into products. The two Sandia parallel-computing-related awards are an excellent example of the value of research concurrent with applications."

### The Need Grows

## ECP Needs You

Next Monday, Sandia begins the 1989 Employee Contribution Plan (ECP) campaign for United Way. Meetings and solicitations continue through Friday. To help understand the purpose of, and need for, this campaign, employees are invited to attend their directorate meetings. Sandia, Livermore, began its LEAP campaign yesterday, Oct. 5 (see page three).

The need for community services grows as our community grows. Money can give hope, relieve fears, save lives, and shorten suffering. Following are lists of Sandians who serve on the  
*(Continued on Page Five)*

**Sandians in  
Washington —  
See Page Eight**



R&D 100 WINNERS for 1989 are (standing, right) Bob Benner (1424) and former Sandians Gary Montry (standing) and John Gustafson. They demonstrated a technique for using a multiprocessor parallel computer to solve complex problems at unprecedented speedups.

Describing the results achieved in speedups with a parallel computer, Bob Benner says, "These new parallel processing methods have the potential to provide the extra computer throughput needed to make breakthroughs in computational science."

Until Bob and his colleagues demonstrated thousandfold and greater speedups, the belief in

**"External awards serve as an important measure of the quality of our science and engineering."**

computer circles — both industrial and academic — was that no matter how many processors might be linked in parallel, problem-solving speeds could be increased by at most 50 to 100 times that of a single processor.

Using algorithms programmed to run on an

NCUBE/ten "hypercube" parallel computer consisting of 1024 processors linked to work simultaneously on different parts of a single problem, the Sandia team achieved speedups that were nearly in direct proportion to the number of processors. They thus showed that the supposed "practical" barrier to dramatic improvements in speed does not in fact exist for massive parallelism — more than 1,000 parallel processors — when the problem size is increased (scaled) in proportion to the number of processors. In practice, this scaling almost always occurs in large, complex problems of interest to scientists and engineers.

At Sandia, the new technique has so far been applied to problems in structural mechanics, fluid mechanics, wave propagation, simulated radar imaging, three-dimensional finite element analysis of structures, detonation of porous solids, and

*(Continued on Page Four)*

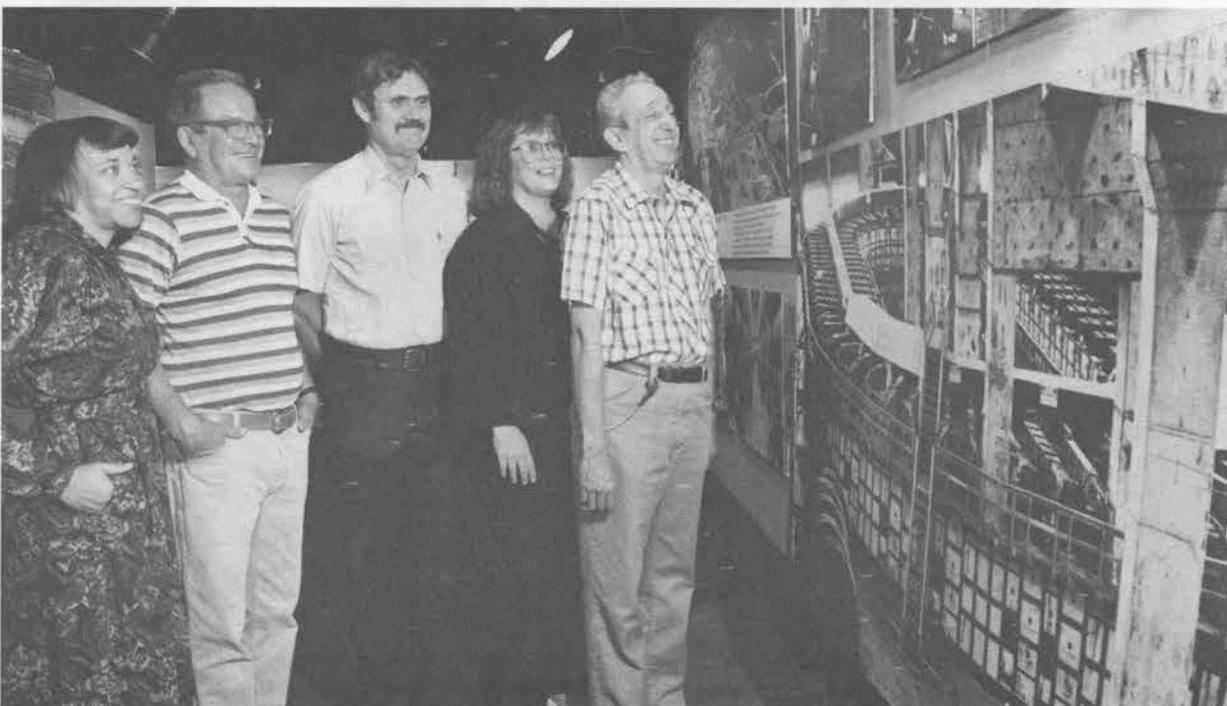


# LAB NEWS

VOL. 41, NO. 20

SANDIA NATIONAL LABORATORIES

OCTOBER 6, 1989



REPRESENTING ALL SANDIANS, this team will participate in the ceremony next Wednesday as part of Sandia's 40th anniversary activities (see page seven for details). On the team are (from left) Karla Kern (3714), MA representative; Victor John (7476), Metal Trades Council representative; Norm Wing (1111), STA/TA representative; Susan Wilson (3434), International Guards Union of America representative; and Tony Torres (3412), Office & Professional Employees International Union representative. Not shown: John Andersen (DMTS, 5161), MTS/TSA representative; and Wright Van Deusen, MLS representative.

# This & That

**Fortieth Festivities** - All Sandians are invited to the Labs' 40th anniversary commemoration, 2-3 p.m., Wednesday, Oct. 11, in the mall between Bldgs. 891 and 892 (see page seven for details). Guests will include political leaders, AT&T and DOE officials, and retired and former members of Small Staff. Refreshments will include thunderbird-shaped cookies. What a sweet deal!

\* \* \*

**Additional Antediluvians** - Several issues back, we noted that B.G. Edwards and the ten other Sandia technical folks in his NTS Staff Div. 7131 average 31 years of service - and more than 33 years when the one person with "only" ten years of service is disregarded.

Charlie Sain of Bob Alvis' W76/Mk4 Div. 5154 sends a note: "The six olde [mild plural expletive deleted - let's say fellows] in Bob's division average 33.8 years of service, which is a little more than 7131's average of 33.1. However, we stand in awe of the ten of them as opposed to the six of us." Charlie continues, "It was Bob Palmquist, our resident newcomer (four years' service), who pointed all this out. He also volunteered the information that the other six of us were working at Sandia before he was born." The six and their years of service are: Bob, 29; Lyle Schultz, 32; Howard Jones, 32; Charlie, 36; Glenn Folkins, 36; and John Souza, 38.

Well, Charlie, we'll give 5154 part of the record and 7131 part, unless someone sends in a successful challenge. When the "youngster" in each division is disregarded, 5154 has a slight edge. But, when they're included, the averages are: Div. 7131, 31; Div. 5154, 29.6.

\* \* \*

**Nomination for Worst Acronym** - I've railed before about silly acronyms. I saw a doozie recently - for particles that some theorists say may be present in the sun's interior - weakly interacting massive particles - WIMPs. Anyone have other candidates for worst acronym? We'll vote at my next meeting of the Society to Outlaw Dumb Acronyms (SODA).

\* \* \*

**Sorry About That!** - Got a note from a Sandia, Livermore, employee pointing out the error of my ways in a statement/question in the Q/A-format interview with President Narath last issue. The statement and question: "New Mexico is a culturally diverse state, and so is our work force. How are we ensuring that every employee gets an equal chance to perform. . . .?" The Livermore employee reminded me that we aren't confined to New Mexico - that there are lots of Sandians in Livermore, in Nevada, and elsewhere. Apologies offered.

\* \* \*

**Long Week** - We often hear someone say it's been a long week, especially on Fridays. But a mighty long one was recently observed on Kirtland Base. An anonymous caller pointed out that signs posted near the KAFB gates reminded us of Spanish Heritage Week - Sept. 8-22. However, I can understand the reluctance to proclaim "Spanish Heritage Fortnight." Doesn't sound quite right.

\* \* \*

**Free Advice** - Since taking this job earlier this year, I've learned how to get lots of free advice: Take this job.

•LP

## Take Note

Sandia Laboratory Federal Credit Union is offering estate-planning seminars every other Monday through Nov. 13 in the first-floor meeting room at Credit Union Center (Juan Tabo and Comanche) from 6 to 8 p.m. each evening. Topics and dates include "Estate Planning for Medium and Large Estates," Oct. 16; "Estate Planning with Life Insurance," Oct. 30; and "Estate Planning for Senior Citizens," Nov. 13. For reservations, call 293-0500, ext. 303.

\*\*\*\*

Ko Shari Garden Club is sponsoring a chile ristra- and wreath-making demonstration Oct. 11 at the Albuquerque Garden Center (10120 Lomas NE) at 7 p.m. Margaret Wagner (Wagner Farms) is the instructor. Bring one bushel of native chile and a ball of lightweight string for the ristra, and 3/4 bushel of native chile and stiff wire or coat hanger for the wreath. For information, contact Polly Bennett on 294-5682.

\*\*\*

Opera Southwest is offering special group rates to Sandians for its performances of "Tosca" in November, "The Marriage of Figaro" in February, and "Carmen" in May. For information, contact Pat Liguori (ret.) on 256-3613.

## Deaths



Gloria Velasquez of Material and Equipment Storage Services Div. 3425 died Sept. 15. She was 53 years old.

She was a service clerk and had been at the Labs since July 1967.

She is survived by one daughter and two sons.



Peter Johnson of Beam Experiments Div. 1264 died Sept. 29 in an auto-race accident. He was 43 years old.

He was a senior technical aide and had been at Sandia since December 1973.

He is survived by his wife, son, and daughter.

## LAB NEWS

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### SANDIA NATIONAL LABORATORIES

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REAR ADMIRAL JON "MIKE" BARR (left), DOE Deputy Assistant Secretary for Military Application, recently visited the Labs for briefings on weapons, nuclear safety, design for manufacturability, security and communications, future weapon needs, ES&H (Environment, Safety, and Health), and other topics. With Admiral Barr are Tom Thomsen (center), President of AT&T Technology Systems and a member of Sandia's Board of Directors, and President Al Narath.

**Three New Agencies to Receive Help**

**Assistance Plan Goal Is Highest Ever**

The 1989 LEAP (Livermore Employees Assistance Plan) campaign, now in full swing, has the highest goal ever — \$152,000. “The LEAP committee would really like to see 100-percent participation, plus an increase in Fair Share donors this year,” says committee chair Carol Verity (8535).

Various local health and human service agencies participated in a noontime LEAP Faire yesterday (Oct. 5) to kick off this year’s campaign. “Instead of directorate solicitation meetings — as in the past,” says Carol, “employees collected and filled out their pledge cards at the Faire. Sandians who missed the Faire or didn’t fill out their cards yesterday will be contacted by their directorate representatives.”

LEAP contributions support more than 30 nonprofit groups, including the Combined Health Agencies of California, the United Way of the Bay Area, and United Way organizations in San Joaquin and Stanislaus counties.

**Selection Process an ‘Eye-Opener’**

“The agency-selection process is quite an eye-opener for people serving on the committee for the first time,” Carol reports. “The group takes a strong role in deciding how the funds will be allocated.”

Beginning in June, the committee interviewed all applicant agencies before making the final decision on which ones to support on behalf of all Sandians. However, employees wishing to support groups not included on the list may designate their pledges to specific agencies by filling out a donor option card.

One of the new agencies added this year is School-Age Mothers. This program — for pregnant teenagers and school-age mothers — offers an alternative high-school program that includes self-paced learning, counseling, and health and child care. Two other new groups added this year are Arbor House and Valley Support Services. Arbor House is a counseling center providing individual and group counseling, support groups, and workshops in the Tri-Valley area. Valley Support Services provides social rehabilitation services for adults who suffer from mental illnesses and emotional disturbances.

They join other groups that have been supported by LEAP at least once in the past. These include Agency for Infant Development, American Indian Center, Anthropos/Nautilus bereavement counseling, Buenas Vidas Youth Ranch, The Center for counseling, Family Crisis Center, Guide



LEAP COMMITTEE REPRESENTATIVES recently visited the Livermore Area Recreation and Parks District’s Extended Student Services program. Playing a game with kindergarten students are (from left) Jim Gollnick (8284), Carol Verity (8535), Bonnie Spencer (8532), and Steve Robinson (8314).

Dogs for the Blind, Hope Hospice, Horizons youth counseling, Kaleidoscope Activity Center for the disabled, Livermore Association for Guiding and Teaching Students, Livermore Area Recreation and Parks District’s Extended Student Services, Livermore Emergency Fund Center, and Love Thy Neighbor low-income support in Manteca.

Other agencies are M-2 Sponsors prison visitation program, Ministry to the Aging Through Community Help, Northern California Society to Prevent Blindness, Nursery School Scholarship Fund, Nurses Welfare Fund for needy children, Parental Stress Services, Spectrum Community Services (includes job training and placement, and a meal program and home weatherization for seniors), Student Education Loan Fund, Tri-Valley Community Fund, Twin Valley Learning Center, and We Say No (drug and alcohol abuse alternative program).

Besides Carol, members of the LEAP committee this year are deputy chair Thomas Harrison (8451), Ann Yoshimura (8173), Tim Sa (8271),

Steve Robinson (8314), Wes Estill (8441), Carole Price (8524), Jim Gollnick (8284), treasurer Mel West (8523), administrative assistant Bonnie Spencer (8532), artist Stewart Wavell-Smith (8535), and publicist Cindy English (8522).

**Retiring**



Ralph Cozine (8510)



Ed Williams (DMTS, 8134) 30

# SANDIA LIVERMORE NEWS

**Take Note**

Jim Handrock (8446) is co-author of a new textbook, “Fundamentals of Metal Fatigue Analysis,” published by Prentice-Hall, Inc. His co-authors are Julie Bannantine from the University of Illinois and Jess Comer of the South Dakota School of Mines. All three were graduate students together at Illinois. The text is for advanced undergraduate and graduate courses in mechanical engineering and applied mechanics, as well as for industries that do research and analysis on metal fatigue.

**Congratulations**

To Denise Robinson (8526) and Gerald Mosley, married in Reno, Sept. 23.

**Sympathy**

To Fred Whitworth (8525) on the death of his wife in Livermore, Sept. 13.

To Gladys Kimberling (8534) on the death of her husband in Livermore, Sept. 14.



MORE THAN 100 Sandians at Livermore turned out recently for the Heart Healthy Food Festival. Some 35 dishes were entered in three categories for judging as heart healthy recipes. The food was taste-tested by management. A registered dietician was present to answer questions about cholesterol and diet issues. Final judging in each category was done by directors. Seen here (from left) are festival co-coordinator Beverly Kelley (8526), and judges Mike Robles (8527), Al West (8431), Anton W. (8446), and Frank Duc (8534).

(Continued from Page One)

## R&D 100 Awards

cryptography. Its developers believe that it will revolutionize all phases of scientific computing as more machines become available that are based on massively parallel architecture.

The R&D 100 is not the first award for this work, which was supported by DOE's Applied Mathematical Sciences Program in the Office of Energy Research. It won the 1988 Bell Prize for the most outstanding contribution to parallel processing and the Karp Challenge for achieving a 200 times or better speedup on three full-scale scientific applications.

### SUPERNET Links Computers

The SUPERNET/Linda software package, developed at Yale, provides an efficient, easy-to-use approach to developing high-performance distributed- and parallel-processing applications. The Linda approach to parallel processing, designed and developed in joint work between Yale and SCA, is the basis for Sandia's SUPERNET, which lets a single application program use a network of geographically distributed computers.

"The Linda project at Yale provided the fundamental research necessary for commercialization by SCA," explains Bob Whiteside. "It was then applied to a real engineering problem by Sandia."

At Sandia, SUPERNET gives programs access to a large collection of computers and workstations — some in Livermore and some in Albuquerque.

### Can Halve Solution Time

"By using this collection as an integrated parallel processor," says Bob, "engineers regularly solve some problems more than twice as fast as is possible on a Cray-1S supercomputer. SUPERNET/Linda permits the various computers to cooperate by providing access to a shared data object called 'tuple space,' which is analogous to a bulletin board. The three operations permitted on tuple space correspond to reading, removing, and posting messages on the bulletin board."

### The Sandia team achieved processing speedups of more than a thousand times.

The system does not require learning a new programming language. The small set of operations on tuple space is added to an existing programming language, such as C or Fortran, so that the programmer can conveniently describe a parallel program.

"Though conceptually simple and easy to use," says Bob, "this programming model is very powerful. It has been implemented efficiently to permit high-performance parallel processing."

The immediate application of SUPERNET/



BOB WHITESIDE (8233) led the Sandia, Livermore, project team that developed SUPERNET. Combined with the Yale-developed Linda software, SUPERNET allows a network of small computers to be used like a single supercomputer. The project resulted in one of the two R&D 100 awards presented to Sandia on September 28.

Linda is to transform networks of minicomputers and workstations, which often sit idle overnight, into supercomputers that can be used for many major applications.

Some of the other major applications include developing portable parallel-processing

### SUPERNET/Linda permits supercomputer-level performance by an existing network of small computers.

applications and heterogeneous distributed applications. Portable parallel-processing applications could overcome a major barrier to the widespread use of parallel technology: the difficulty of using software developed for one machine on a different machine. Heterogeneous distributed applications could allow different portions of a large program to be executed on different kinds of hardware — for instance, vector operations on a Cray and graphics operations on a workstation.

The SUPERNET/Linda developers see it as an excellent example of the type of achievement possible when American universities, industry, and government collaborate.

The two 1989 R&D 100 awards raise Sandia's total to 13 since the competition began in 1976 (see "Past Winners" for the others).

•CS/RGeer(3163)



## Past Winners — 1976-1988

Sandia efforts resulting in processes, inventions, research tools, and other technically significant achievements have received the R&D 100 award 11 times in the past:

**1976** — *Hot-air solder leveler*, T. A. Allen and Bob Sylvester (both ret.)

**1984** — *TA-23 glass*, Bob Eagan (1800) and Rod Quinn

**1986** — *High-speed multi-channel data recorder*; Jim Chang; *PBFA-II*; Org. 1200 team (led by Pace VanDevender [1200]), Naval Research Lab, and Cornell University; *Polysilane self-developing photoresists*, John Zeigler, Wayne Johnson (1126), and Larry Harrah (ret.); *SANDAC IV (Sandia Airborne*

*Computer*), Charlie Blaine (ret.), Paul Pierce (2335), and Charles Borgman (9132); *Carbon-resistance particle analyzer*, Bill Wampler (1112); *X-ray microanalyzer*, Monte Nichols (8311), Dale Boehme (8313), and Richard Ryon (LLNL)

**1987** — *External Microbeam Analysis (X-MIBA) system*, Barney Doyle and Norman Wing (both 1111); *Rapid Reduction of Nitrogen Oxides (RAPRENOx) process*, Bob Perry

**1988** — *Three-dimensional chemical x-ray microscope*, Monte Nichols (8311) and researchers at Lawrence Livermore National Lab and the University of Dortmund (West Germany)

## Events Calendar

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

**Oct. 6-8** — Annual Grecian Festival: Greek food, dancing, arts & crafts; 11 a.m.-10 p.m. Fri.-Sat., 11 a.m.-8 p.m. Sun.; St. George Orthodox Greek Church (308 High St. SE), 247-9411 or 242-2212.

**Oct. 6-8 & 13-15** — Rio Grande Arts and Crafts Festival: juried arts and crafts, featuring more than 120 different artists each weekend, musical entertainment, demonstrations, children's entertainment, and food; call for times; SW corner of I-25 and Paseo del Norte, 292-7457.

**Oct. 6-15** — "Waking Jimmy Rizo," by Frank Adamo, Southwest premiere of dark comedy about everyday life and death in a Brooklyn neighborhood; 8 p.m., Adobe Angels Theatre (3300 Princeton NE), 822-9012.

**Oct. 6-8, 12-15, & 20-21** — "The 1940s Radio Hour" by Walton Jones, musical with classic Big-Band songs; 8 p.m. Thurs.-Fri., 6 & 9 p.m. Sat., 2 p.m. Sun.; Albuquerque Little Theatre, 242-4750.

**Oct. 6-29** — "Baseball Wives" by Grubb Graebner, play for those who've wondered what major-league baseball wives do on and off the field; 8 p.m. Fri. & Sat., 6 p.m. Sun.; Vortex Theatre, 247-8600.

**Oct. 7** — Pops Concert One: Henry Mancini conducts the New Mexico Symphony Orchestra in a selection of his own works; 8:15 p.m., Popejoy Hall, 842-8565.

**Oct. 7** — Mariachi Fiesta: sponsored by KLUZ TV-41, entertainment includes Vikki Carr, comedian Paul Rodriguez, Miguel Caro Mexican Fiesta Dance Company; Teach the Children in New Mexico benefit; call for time, Albuquerque Sports Stadium, 344-5589.

**Oct. 7-15** — International Balloon Fiesta, more than 500 balloons, weekend sunrise mass ascensions, balloon glow Oct. 8; Balloon Fiesta Park (I-25 & Alameda), 821-1000.

**Oct. 7-15** — Indian Dances: traditional Indian dances in commemoration of Balloon Fiesta Week; 11 a.m. & 2 p.m.; Indian Pueblo Cultural Center, 843-7270.

**Oct. 9** — Festival of Trumpets, featuring the UNM Trumpet Ensemble w/guest artists from the New Mexico Symphony Orchestra; 8:15 p.m., free, Keller Hall, 277-4402.

**Oct. 10** — NM Symphonic Wind Ensemble, conducted by Harold Van Winkle; 8:15 p.m., Keller Hall, 277-4402.

**Oct. 12-15 & 19-22** — "Six Characters in Search of an Author" by Luigi Pirandello, La Compania de Teatro de Albuquerque, presented in English; 8 p.m. Thurs.-Sat., 2 p.m. Sun.; KiMo Theatre, 242-7929.

**Oct. 13-14** — Classical Concert II: New Mexico Symphony Orchestra performing music of Mozart, Strauss, and Dutilleux; 8:15 p.m., Popejoy Hall, 842-8565.

**Oct. 13-15** — Stamp Show and Sale: Albuquerque Philatelic Society presents postage stamps from the US and abroad; 12 noon-7:30 p.m. Fri., 10 a.m.-7 p.m. Sat., 10 a.m.-4 p.m. Sun.; BPOE Elks Lodge #461 (1642 University NE), free, 881-3221 or 888-9478.

**Oct. 13-22** — "The Magic Story in the Land of Enchantment," story fiesta, presented by Storytellers International, Inc.; call for times, Albuquerque Academy, 828-3200 or 897-0713.

**Oct. 15** — Fine Arts Music Series: Camerata Bern w/pianist Emile Naoumoff, 15 musicians (strings and harpsichord); 4 p.m., First United Methodist Church (4th & Lead SW), 243-5646.

**Oct. 17** — Subscription Concert I: violinist Dylana Jenson, music of Mozart, Saint-Saëns, and Gounod; 8:15 p.m., St. John's United Methodist Church (2626 Arizona NE), 881-0844.

**Oct. 20-21** — "Romeo and Juliet," Ballet West of New Mexico, with music by the New Mexico Symphony Orchestra; 8:15 p.m. Fri., 2 & 8:15 p.m. Sat.; Popejoy Hall, 889-9789 or 277-3121.

(Continued from Page One)

## ECP Needs You

ECP Committee and the ECP Directorate Reps. They are your source of information about various United Way agencies and will answer your questions about how to fill out donor cards.

### 1989 ECP Committee Members

Chairman, Dick Shepardson (3550)  
 Solicitation Chairman, Don Cook (1260)  
 Publicity Chairman, Ted Schmidt (6450)  
 Treasurer, Chief Schwyzer (152)  
 Executive Secretary, Joe Laval (3163)  
 Tech Art Coordinator, Bonnie Skenandore (3155)  
 LAB NEWS Coordinator, Janet Walerow (3162)  
 New Hire Coordinator, Helen Richardson (3533)  
 New Hire Coordinator, Mark James (3533)  
 IGUA Representative, Michael Benevidez (3435)  
 OPEIU Representative, Anna Marie Sanchez (7135)  
 MTC Representative, Ernest Aguilar (3424)



### 1989 ECP Directorate Representatives

**100, 300, 400** Gerri Saucier (111) and alternate Susan Compton (121);  
**1100** Michael Coltrin (1126) and alternate Alan Burns (1151); **1200** Ellen Cronin (1200); **1400** Victor Holmes (1423); **1500** Randy Weatherby (1521); **1800** Wanda Bechdel (1800);  
**2100** Russell Brown (2132) and alternate Doug Greenway (2175); **2300** Marie-Elena Kidd (2337) and alternate George Steigerwald (2346); **2500** Roger Edwards (2553) and alternate Steve Lee (2564); **2600** Terry Bisbee (2648) and alternate Ken Damrau (2635); **2800** Ross Burchard (2814) and alternate Adele Montoya (2833);  
**3100** Judd Hollister (3180); **3200** Sharon Felicetti (3200); **3300** Kay Sanderville (3340); **3400** Robert Gaeddert (3410) and alternates Max Martinez (3411), Phillip Vouterin (3426), and Keith Chavez (3434); **3500** Terri Giron-Gordon (3533); **3700** Theresa Carson (3718) and alternate John Zepper (3734);  
**4000** Mary Ann Lindsay (4000);  
**5100** Robert Alvis (5154) and alternate Ann Chipman (5171); **5200** George Stone (5220);  
**6100** Frances Armijo (6111); **6200** Paul Veers (6225); **6300** Jaime Moya (6322); **6400** Randall Summers (6418); **6500** Steven Hudson (6522);  
**7100** John Allen (7123) and alternate Grant Lockwood (7112); **7200** Dwight Miller (7223); **7400** Larry Pope (7471); **7500** Marvin Morris (7553); **7800** Nancy Freshour (7825);  
**9100** Judy Gudovich (9143); **9200** James Griffie (9231).

A. Narath  
 President

Sandia National Laboratories

Albuquerque, New Mexico 87185

Dear Sandians:

The ECP campaign begins here Monday, and the LEAP drive is already under way in Livermore. I encourage each of you to give generously to these campaigns. I believe there are very few things we do as individuals and as an institution that so deserve our complete support.

It is hard to overstate the benefit of these campaigns to our communities – and to ourselves. During the year, many are helped by our contributions, including some Sandians; but, just as importantly, our giving ties us closer to our communities and makes us better, more caring citizens. This year's United Way theme, "United by the Lives We Touch," expresses this thought perfectly.

The single, once-a-year ECP and LEAP campaigns are efficient and proven means of making our individual contributions go farther – more money is raised, and greater good can be done than if each of us acted alone. And the need is there. This is our opportunity once again to show that, in generosity, Sandians lead all the rest.

## Message From the Union Presidents

To All Represented Sandia Employees:

ECP needs you. This year's Employee Contribution Plan campaign kickoff is Oct. 9. With your support and contributions, we can make this year's campaign one that Labor can be proud of.

Below are figures, provided by the Labs, on Employee Contribution Plan participation by members of the Metal Trades Council, Office & Professional Employees International Union, and International Guards Union of America.

|  | MTC   | OPEIU | IGUA  | Sandia Overall |
|--|-------|-------|-------|----------------|
| Gold Share<br>(1% of salary or more)   | 2.0%  | 1.2%  | 0.0%  | 3.2%           |
| Fair Share<br>(0.6%, but less than 1%) | 22.3% | 26.0% | 22.5% | 42.5%          |
| Participant<br>(less than 0.6%)        | 52.0% | 53.8% | 46.7% | 41.0%          |
| Not Participating                      | 23.7% | 18.0% | 30.8% | 13.3%          |

Last year's allocations to the agencies funded by United Way of Greater Albuquerque was \$700,000 short of the agencies' needs. That means there were some people who didn't get the help they needed because of lack of money.

This year, when your area representative approaches you with your ECP donation card, remember those not as fortunate as we. You can make the difference. Increasing your contribution by just one dollar per week will help many more needy people receive the help they need.

We would like to thank all who contribute to ECP, and encourage non-contributors to join those of us who do.

If you have any questions, contact your ECP Representatives: Ann Marie Sanchez, 7135 (OPEIU), 255-8101; Mike Benevidez, 3435 (IGUA), 4-9369; and Ernest Aguilar, 3424 (MTC), 4-3255.

Remember, Brothers and Sisters, "ECP Needs You."

Conrado Otero, President MTC,  
 Johnny Ayala, President OPEIU,  
 Ruben Garcia, President IGUA

### Sympathy

To Robert Lewandowski (7476) on the death of his mother in Corpus Christi, Sept. 1.

To Karen Crowley (2561) on the death of her father in Santa Maria, Calif., Sept. 17.

To Joann Danella (7266) on the death of her father-in-law in Tucson, Sept. 18.

To Kevin Fleming (2514) on the death of his father-in-law in Truth or Consequences, Sept. 23.

### Congratulations

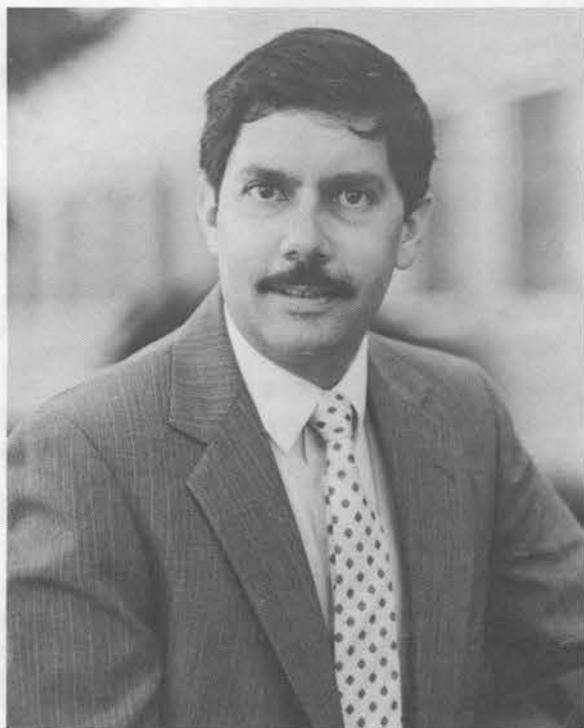
To Renee and Robert (1513) Baca, a daughter, Leha, Aug. 30.

To Zane and John (7481) Cresap, a daughter, Terri Amanda, Sept. 4.

To Kim and Ron (5144) Franco, a son, Warren Jacob, Sept. 6.

To Evelyn (3412) and Bruce (1842) Tuttle, a son, Andrew Milton, Sept. 7.

## Supervisory Appointments



DAVID PALMER to supervisor of Supplier Relations Div. 3733.

Dave joined the Labs' General Accounting Division in September 1977, where he prepared monthly accounting reports. He transferred to Purchasing in 1978, where he entered MLS training in product buying. In 1980, he joined the Contract Auditing Division as an external auditor. He was a buyer in Purchasing from 1981 to 1986. In February 1986, he joined the Job Evaluation and Classification Division, where he worked on the 14-level plan. Dave was promoted to supervisor of the Construction Purchasing Section in 1988.

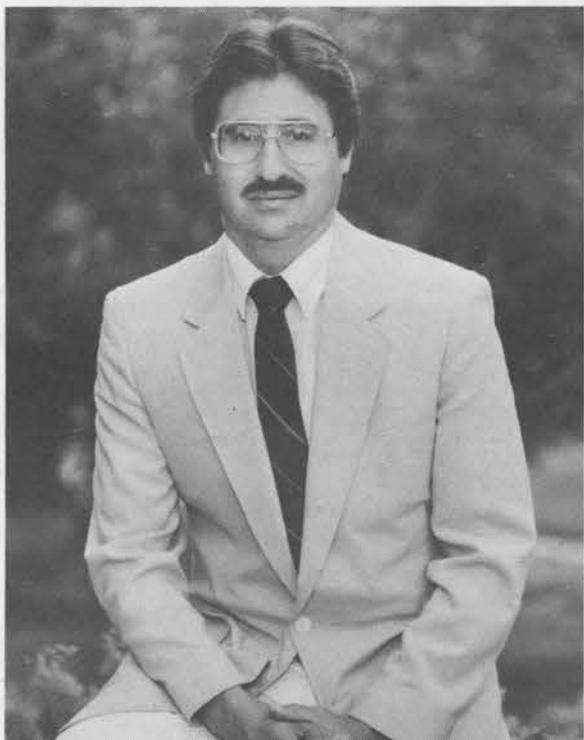
He has a BBA from New Mexico State University and an MBA from New Mexico Highlands University. Before joining Sandia, he was a bank auditor at the First National Bank of Santa Fe.

Dave enjoys hunting, fishing, camping, and woodworking. He and his wife Karen have two children and live in the NE Heights.

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DAVID MARTINEZ to supervisor of Applied Mechanics Div. II 1524.

David has been a member of the Engineering Analysis Department since he joined Sandia in June 1969 as a member of Applied Mechanics Div. I. He performed vibration and stress analyses for the Mk4 RV and other weapon systems. He provided structural analysis support for the Mk5 RV and YSB telescope, conducted research and development in structural dynamic analysis techniques, and performed shock and vibration analyses and specifications for weapon electronic components.



DAVID MARTINEZ (1524)

David has a BS in mechanical engineering from UNM, an MS in applied mechanics from Cal Tech, and a PhD in mechanics and structures from UCLA. He's a member of the American Institute of Aeronautics and Astronautics.

David enjoys church activities, family activities, music, basketball, and golf. He's directed his church choir for 15 years. He and his wife Karen have two children and live in the NE Heights.

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WAHID HERMINA to supervisor of Aerothermodynamics Div. 1553.

He joined Sandia in June 1982 as a member of the Thermal/Fluid Mechanics Division. He transferred to the Exploratory Technology Division in 1984, and to the Applied Mathematics Division later that year. From April 1985 until his promotion, he was a member of the Computational Mechanics Division. His work has been in computer modeling of packed-bed chemical reactors and Monte Carlo simulation of rarefied flows such as high-altitude rocket plumes, and post-boost-vehicle plume flowfields.

Wahid has a BSE in aerospace and mechanical sciences and engineering physics from Princeton University, and MS and PhD degrees in mechanical engineering from Stanford Univer-



WAHID HERMINA (1553)

sity. He is a member of the American Institute of Aeronautics and Astronautics and an associate member of the American Society of Mechanical Engineers.

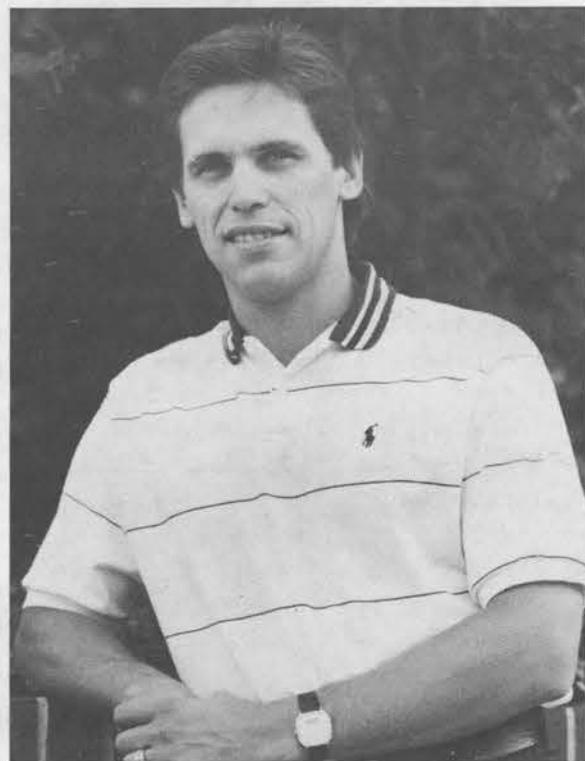
Wahid's spare-time activities include jogging, hiking, and skiing. He lives in Albuquerque.

\*\*\*

JEFFREY DANNEELS to supervisor of Engineering Div. IV 7844.

Jeff joined Sandia's Plant Engineering Division III in January 1985, as a structural engineering designer. He was project and structural engineer for the Bldg. 880 Computer Annex addition and for the Bldg. 887 warehouse renovation for the Purchasing Organization. He was also project engineer for the construction of the Microelectronics Development Laboratory Bldg. 858 and for the occupancy of the Office/Light Laboratory in that building; and project engineer for programming, design, construction, and occupancy of the Computer-Aided Engineering/Rocket Systems Development Laboratory, Bldg. 859.

He has a BS in civil engineering from Michigan State University, an MS in the same field from Louisiana State University, and an MS in management from UNM. Before joining the Labs, he worked for Jacobs Engineering in Houston.



JEFFREY DANNEELS (7844)

Jeff is a New Mexico Registered Professional Engineer and a member of the Sandia Search and Rescue Team.

He enjoys hunting, backpacking, fishing, and skiing. Jeff and his wife Sharon live in the NE Heights.

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WAYNE SHIRLEY to supervisor of Building and Facilities Layout Design Section 7821-1.

In July 1968, Wayne joined Sandia's Design Definition Drafting Division, where he did general drafting; schematics; and tester, miniaturized connector, and coding device designs. He transferred to the CAD/CAM Design Drafting Division in 1976, and worked on printed-wiring-board design.

In 1978, he joined the Layout and Planning Division as a layout designer. He designed second-floor-occupancy layouts for Bldg. 823, was project leader for graphic-computer implementation, and was project coordinator and layout designer for the Bldg. 802 third and fourth floors. In 1988, he became a Facilities Customer Representative.

Wayne has an AS in design and drafting technology from Pennsylvania State University. He is an associate engineering technician member of the National Institute for Certification in Engineering Technologies and is chairperson of the board of directors of St. John's United Methodist Church's Children's Day-Out Program.

He enjoys hiking, camping, gardening, and church activities. Wayne and his wife Joan have three children and live in the NE Heights.



WAYNE SHIRLEY (7821-1)

**All Sandians Invited**

# Labs, AT&T to Mark 40th Anniversary Next Week

Sandia will observe its 40th anniversary next week with a gathering of employees on Wednesday, Oct. 11, 2 to 3 p.m., in the area between Bldgs. 891 and 892. All are invited. A brief ceremony recognizing AT&T's service since it assumed management of Sandia in late 1949 will highlight the observance.

Invited guests include the President of AT&T Technology Systems, Tom Thomsen; Executive Vice-President of Customer Systems at AT&T Bell Laboratories, Solomon "Sol" Buchsbaum, who was Vice-President of Research at Sandia from 1968 to 1971; Senator Pete Domenici; Senator Jeff Bingaman; and DOE Under Secretary, John Tuck. Both Thomsen and Buchsbaum are members of the Sandia Board of Directors.

Former and retired members of Sandia's Small Staff who will attend include former Presidents Morgan Sparks, George Dacey, and Irwin Welber; former Executive Vice-President Jack Howard; former Vice-Presidents Larry Anderson, Dick Bice, Al Clogston, Glenn Fowler, Bob Henderson, Walter MacNair, and Ray Powell.

Also attending will be John Meinhardt, Acting Assistant Secretary for Defense Programs, DOE Headquarters, Washington; Bruce Twining, Manager, DOE/AL; Jim Culpepper, Deputy Manager, DOE/AL; and Al Chernoff, Director of Management Support Division, DOE/AL.

**AT&T Assumes Responsibility Nov. 1, 1949**

AT&T officially assumed responsibility for managing the Labs on Nov. 1, 1949.

The story of Sandia's establishment — the historical background, political negotiations, and prime contract provisos that established the legal framework for the Labs — is recounted in Corporate Historian Necah Furman's (3141-2) *Contracting in the National Interest: Establishing the Legal Framework for the Interaction of Science, Government, and Industry at a Nuclear Weapons Laboratory*. SAND87-1651, April 1988. Copies are available in the Technical Library.

Until then, Sandia had existed as "Z Division," a small ordnance facility established on the outskirts of Albuquerque in 1945 by Los Alamos Scientific Laboratory — managed then, as now, by the University of California.

The University asked to be relieved of the ordnance engineering responsibility, and Atomic Energy Commission Chairman David Lilienthal and representatives of the military recommended on May 10, 1949, that AT&T (the Bell System) assume the task of managing the facility. They felt that AT&T — with its strong manufacturing arm, Western Electric, and the research orientation of Bell Telephone Laboratories — would provide the right management of Sandia.

**Truman Appeals to AT&T's Patriotism**

For help in approaching AT&T with the proposal, Lilienthal enlisted President Harry Truman. In letters dated May 13, 1949, Truman informed AT&T President Leroy Wilson and Bell Telephone President Oliver Buckley that the Atomic Energy Commission planned to ask AT&T to manage Sandia.

Truman made a strong case for the government position: "This operation," he said, "which is a vital segment of the Atomic Weapons program, is of extreme importance and urgency in the national defense, and should have the best technical direction. I hope that after you have heard more in detail from the Atomic Energy Commission, your organization will find it possible to undertake this task."

Truman then appealed to AT&T's patriotism: "In my opinion, you have here an opportunity to render an exceptional service in the national interest."

**Sandia Corporation is Born**

After a period of negotiating, Leroy Wilson formally accepted a contract with the AEC on July 1, 1949, saying in a letter to Lilienthal that the "Bell System has always stood ready to do its part in the national defense by undertaking work for which it is particularly fitted."

He agreed that the Bell System and its methods of operation gave it the special qualifications required. "For these reasons," he stated, "we are willing to undertake the project."

Wilson insisted, however, that the work be done under a no-fee, no-profit contract.

On Sept. 29, 1949, Western Electric executives H. C. Beal, Fred Lack, and Walter Brown signed the Certificate of Incorporation creating Sandia Corporation.

The operating contract was partially executed by the Atomic Energy Commission in Washington on the afternoon of Oct. 4, 1949, the Certificate of Incorporation was filed in the state of Delaware the following day, and on the 6th, the contract was transmitted to Western Electric in New York, where it was signed at the first meeting of the Sandia Corporation's Board of Directors.

Active management of Sandia began on Nov. 1. There were 1742 employees.

In the case of inclement weather, the ceremony will be held in the Technology Transfer Center, Bldg. 825. Seating will be on a first-come, first-served basis. ●DR

## Welcome

*Albuquerque*

- Marsha Bouchard (154)
- Dianne Freeman (154)
- Han Wei Lin (2811)

*Arizona*

- Scot Swanson (2146)

*Illinois*

- Robert Schwartz (1842)

*Minnesota*

- Thomas Omstead (2131)
- Randall Schunk (1511)

*New Jersey*

- Robert Timon (2131)

*Ohio*

- Jeffrey Jackson (5147)

*Texas*

- Elizabeth Aronsson (3532)
- Timothy Bielek (2345)
- Leland Clise (121)
- Charles Evans (2833)
- Lynn Sloan (2175)

*Virginia*

- Carol Yarnall (5220)

## Retiring



Retiring, but not shown in LAB NEWS photos, are Clayton Erickson (DMTS, 5265), Hilario Garcia (7413), Lloyd Merrell (5131), George Saviteer (7412), and Leslie Shope (2564).



Paul Stickler (5233) 38



Paul Bailey (1422) 27



Corliss Fenimore 28 (131)



Ben Conklin (6452) 30



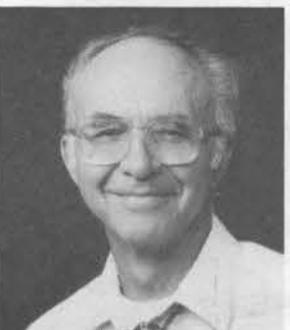
Buzz Babcock 40 (3155)



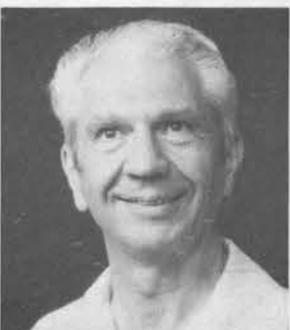
Ted Baggett (3155) 32



Gene Shipley (2834) 31



Bill Geck (3153) 28



Carl Bailey (2634) 28



Zelma Beisinger 35 (1523)

**Service to Our Sponsoring Agencies**

# Sandians Serve as Technical Advisors in Washington

Four more Sandians — Don Adolphson, Dave Nokes, Tom Priddy, and Lynn Tyler (all 400) — have been assigned temporary duties in Washington, D.C.

Technical experts from the national laboratories are regularly loaned to DOE Headquarters, the Department of Defense (DoD), and other Washington agencies, says Arlyn Blackwell, Director of Management Staff 400.

"Through the loan of qualified experts, we provide program managers and policymakers with technical input in matters pertaining to their programs. And, of course, Sandia also benefits — through improved working relationships and better communication with DOE Headquarters and others who sponsor our work.

"We send highly motivated people with proven track records and place them in positions where their experience and talents are of the greatest service," Arlyn continues. "Sandia is represented by people who are highly regarded by their hosts and bring to the sponsoring agency useful technical insight and program expertise."

### Who's Doing What

Assignments are for one year, with a possible one-year extension.



*Don Adolphson* is assigned to the Office of Weapon Production in DOE's Military Application branch. Don is providing design information to the staff in the Office of Weapon Production.

"I'll be advising the Office of Weapon Production when questions arise concerning the effect of changes in materials processes on the production process and associated costs and schedules," says Don. "I'm also hoping to become involved with environmental health and safety — a major issue facing the DOE production agencies."

For the last five years, Don was project leader for the development and fabrication of advanced polymer laser materials for the LLNL x-ray laser program and was involved in various advanced

materials projects at Livermore and Albuquerque. He was named Distinguished Member of Technical Staff in March.



*Dave Nokes* is assigned to the Office of Assistant to the Secretary of Defense for Atomic Energy. "I'll be responsible, among other things, for assisting in the annual stockpile improvement program reviews, for transportation safety studies, and for the annual Surety Report that goes to the President," says Dave. He will also coordinate DoD's safety rules for stockpiled weapons with DOE and update DoD directives for safety studies and reviews of nuclear weapon systems.

Dave has 14 years' experience in weapon development, including supervising the W81

**"We send highly motivated people with proven track records and place them . . . where their experience and expertise are of the greatest service."**

Development Division and the Phase I and Phase II Division in Advanced Weapon Systems Dept. 5160.

"Now, working with DoD, I'll be getting a view from the customer end of the business," he says.



*Tom Priddy* is assigned to the office of Deputy Assistant Secretary for Military Application. "I'll be serving as technical advisor in nuclear weapon safety to James Turner, Associate Director of Weapon Programs Safety," says Tom. Turner

reports to Rear Admiral Jon 'Mike' Barr, Deputy Assistant Secretary for Military Application," he notes.

"Turner is charged with ensuring that the nuclear weapon stockpile encompasses high-quality command-and-control and safety features. I'll be assisting him in coordinating initiatives, criteria, and standards with all three national labs, DOE's Albuquerque Operations Office, and DoD." Tom will also prepare papers documenting the positions taken by DOE Headquarters on these issues.

Tom has been providing technical support for the research and development of nuclear weapons for 26 years — the first 20 in engineering analysis, the past six in environmental testing of weapon assemblies. He has also served on numerous problem-solving and safety committees.



*Lynn Tyler* is assigned to the Office of Civilian Radioactive Waste Management. "I'll be looking at the adequacy of the testing program that will provide input for a performance assessment of Yucca Mountain," says Lynn. Yucca Mountain at

Nevada Test Site is a candidate repository site for storing nuclear waste from commercial nuclear power reactors. The assessment is required, Lynn says, to provide input for an Environmental Impact Statement on Yucca Mountain and eventual application to the Nuclear Regulatory Commission for an operating license.

"I'll also be involved in assessments of DOE Headquarters' compliance program, especially the Resource Conservation and Recovery Act and the Environmental Protection Agency's standards concerning disposal of radioactive wastes," notes Lynn.

Lynn has ten years' experience in waste management. From 1978 to 1984, he supervised experimental field testing and performance assessment studies for the Yucca Mountain project, and for the last five years was involved in similar work for the Waste Isolation Pilot Plant, under development near Carlsbad.

About 24 Sandians are currently on temporary assignment in Washington and elsewhere. •DR

### Medical Corner

## Alcohol Abuse in Home Has Lasting Effects

By Steve Anderson  
Director of Sandia's Alcohol and Other Drug Abuse Program

Children of alcoholics often learn to cope with unhappy childhoods in ways that cause problems for them much later in life. Sometimes they react by becoming super-responsible miniature adults — or trouble-makers — or the family clown or peacemaker.

Those roles often carry over into adulthood: Super-responsible children often become adults who demand perfection. The family clown may grow up to be entertaining, but irresponsible. The child who used to adjust to anything may be passive and withdrawn later in life.

Children of alcoholics often believe they're all alone, that no other families have these problems, or that it's up to them to cure mom or dad. They may take the blame for a parent's alcoholism — or be blamed by the parent.

As a result, many not only feel unloved, but unlovable. Because life at home is full of disappointments, broken promises, and lies, the child learns not to trust, not to get too close to anyone, and not to communicate in healthy ways.

Adult children of alcoholics who carry these or other reminders of a painful childhood to the

workplace often face tremendous problems as a result. Help is available, however. Our program on Oct. 19 (see box) covers some of these problems and how to cope with them.

For more information, contact Sandia family counselor Florence Parnegg on 4-3993.

### Exploring Workplace Difficulties Of Adult Children of Alcoholics

On Oct. 19, from 12 noon to 1 p.m. in Bldg. 815 (outside the area), psychologist Bruce Fischer, an adjunct professor at the University of Minnesota, will speak about "Dynamics of Adult Children of Alcoholics in the Workplace." He will review the impacts of growing up in an alcohol- or drug-abusing family and ways to handle workplace problems experienced by adult children of alcoholics. The program is sponsored by Sandia's Alcohol and Other Drug Abuse Program.

## Take Note

John Lorenz (6253) is going back to school as an American Association of Petroleum Geologists' 1989-90 visiting petroleum geologist. He'll be visiting colleges and universities that request speakers from the AAPG to talk about petroleum geology careers. John lectures about research opportunities in the petroleum industry.

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All Faiths Receiving Home Auxiliary's 26th annual Apple Festival is Oct. 20 at First Presbyterian Church (215 Locust NE) from 10 a.m. to 2 p.m. Activities include a craft bazaar, bake sale, art sale, raffle, and lunch (at 11 a.m.), served by KGGM-TV news anchor Linda Thorne. Lunch tickets are \$3.50, and may be purchased at the door or in advance by calling 345-8938.

A London theater week for two, including transportation, will be raffled. Raffle tickets are \$10 (3 for \$25), and may be purchased from auxiliary members in advance or at the festival. The winner will be announced the day of the festival.

Proceeds go to All Faiths Receiving Home to purchase clothing, furniture, household items, and toys for children who live there. The nonprofit organization provides temporary and emergency shelter and care for abused, neglected, and abandoned children. For information, contact Ann Riley (3714) on 6-9882.



VP-3000 DENNIS ROTH (left) welcomes Glenn Taylor (Chief, Weapon Data Policy Branch of DOE's Office of Weapons Research, Development, and Testing) to DOE's first Visitor Access Control Workshop, hosted by Sandia in September. Looking on is Phil Rivera, supervisor of Visitor Access and Administration Sec. 3437-1. The workshop was intended primarily for visitor-access-control staff of DOE, weapon-complex contractors, and DoD agencies that interact with DOE. The agenda included personnel security and clearances, DOE badge specifications, control of access to weapon data, requirements for control of classified visits, visits by foreigners, classified mail channels, DoD concerns, and similar topics. Phil says, "The workshop provided an unprecedented opportunity to discuss policies, procedures, problems, and solutions. Many people who interact on a regular basis and who are responsible for making the system work within DOE and DoD met face-to-face. Because of the overwhelming response this workshop received, we anticipate that it will become an annual event."



JULIA GABALDON (3511, left) greets Bernard Ortiz del Montellano, professor of anthropology, Wayne State University, who spoke recently at a Cultural Diversity Colloquia in the TTC. Author of many articles on the Aztec culture, Montellano spoke about "The Conquest of Mexico Through Aztec Eyes." The Cultural Diversity Colloquia program, sponsored by Equal Employment Opportunity and Affirmative Action Dept. 3510, brings speakers to Sandia every other month to promote understanding and appreciation of a diversity of cultures.



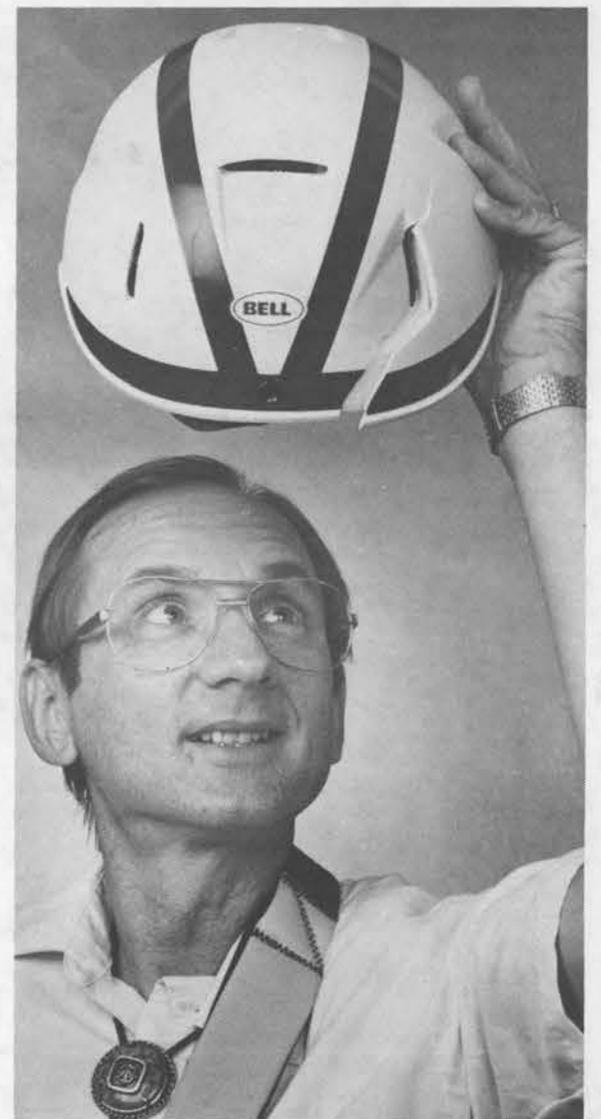
DIVISION 7813 CHAMPS win "bragging rights" trophy — again. Competing in the Maintenance/Operation Dept.'s softball tournament held annually were teams from Divisions 7811, 7812, 7814, 7815, 7816, and 7818. Members of this year's winning Div. 7813 team, which also bagged the trophy last year, are (front row, from left) Steve Trujillo, Bob Whittet (coach), Rick Pierson (assistant coach) and Doug Wilfon. Back row: Jim Winter, Robert Lujan, Mike Kehoe, Robert Griego, Bernard Alexander, and Charles Dusing. Not shown: Chris Knight, Steve Schneider, Lonnie Trujillo, and Eugene Wade.

## Favorite Old Photo



MY MATERNAL GRANDFATHER, Emmett R. Knight, is on the far right of this photo, which was taken near Colorado Springs in the '20s. He's leaning on a motorcycle that he built himself. During WWI, he served as a balloon pilot. After the war, he and a friend built their own airplane and barnstormed across the country. During WWII, he worked on the Manhattan Project as a plumber and was at Trinity Site for the first atomic bomb explosion. He retired near Los Alamos in a house he built himself. I like this photo because I share many of my grandfather's interests, particularly motorcycles.

— Clay Pryor (2626)



TESTIMONIAL FOR BIKING HELMETS — Tom Sullivan's (9133) biking helmet just may have saved his life during the Turquoise Trail Bicycle Tour on Sept. 17. Tom hit a rough spot of pavement while going through Madrid, N.M., and took a bad spill. He suffered a broken clavicle and a slight bruise on the head, but it could have been much worse. He landed directly on the helmet, which obviously cracked, but stayed intact, probably saving Tom's life.



# MILEPOSTS

## LAB NEWS

October 1989



Joe Treml (8451) 30



Ed English (8442) 25



Marv Loll (8163) 25



Harold Rarrick (7540)

40



Mike Stephenson (8132) 25



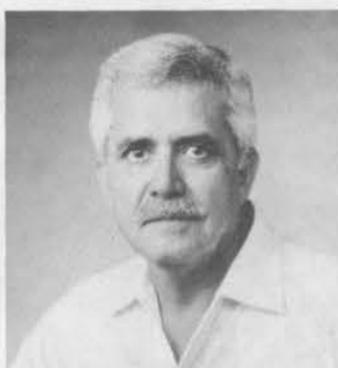
Bobbie Welch (3423) 20



Stan Reynolds (7535) 40



Larry Miller (2542) 30



Bill Costales (7485) 15



Karen Andersen (1520) 15



Arlyn Blackwell (400) 30



John Gardner (3153) 25



Jess Rehberg (9214) 40



Bob Hawk (7482) 20



Hoss Hostetler (9234) 35



Tom Picraux (1110) 20



Pat Brinkley (7543) 25



Walter Herrmann (1500) 25



Frank Gerstle (7476)

20



Len Beavis (7471) 35



Bill Talley (5234) 25



Cleo Kerr (3000) 20

# Feed Back

**Q.** The sidewalk on the east side of 9th St. between "L" and "M" streets in Area I is in sorry shape. Cracks in the blacktop are 1-1/2 to 2 inches wide. Doesn't anyone recognize that the sidewalk is unsafe? When will it be resurfaced or replaced?

**A.** Facilities Engineering Div. 7845 recognizes that this sidewalk needs some repair work. The existing asphalt in that area will be replaced with a new concrete sidewalk, plus new curb and gutter. The construction should be complete by Dec. 31.

Ward Hunnicutt — 7800

**Q.** Water contamination is a concern of many Albuquerque residents; recently, it was reported that "millions of dollars" would be spent on a cleanup at Sandia Labs. Has there ever been a test for water contaminants here? If so, where can I see the results? If not, why not?

**A.** Drinking water for the technical areas at Sandia, Albuquerque, is supplied from the Kirtland Air Force Base drinking-water system. As required by the Safe Drinking Water regulations, the water quality is monitored on a regular basis by the appro-

priate agencies, including KAFB's Environmental Engineering Service; these data are available from that office on 4-9786.

In addition, if requests are made for special concerns, Industrial Hygiene/Toxicology Div. 3211 may initiate monitoring. For example, the concentration of lead in drinking fountains has been monitored on a case-by-case basis. These data are available from Div. 3211 on 6-9623.

Nestor Ortiz — 3200

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**

CARPET REMNANT, new, silver gray, 23" wide x 10' long. Wagner, 823-9323.

APPLE IIc COMPUTER, monitor, extra disk drive, printer, AppleWorks integrated software, \$750; Fisher-Price high chair, \$20. Davis, 281-2429.

H&H MAGNUM 300, w/scope, ammunition, and dies, \$550 or trade for 2-axle trailer. Gallegos, 293-8885.

DOGHOUSE, for small to medium-size dog, price negotiable, can be seen on Base. Dean, 281-3489.

CB ANTENNA, 16', w/8' ground plane. Reese, 828-0113.

MAGNAVOX CONSOLE STEREO, \$150 OBO. Heifetz, 275-2648 leave message.

ULTRALIGHT FISHING ROD AND REEL, Diawa closed-face spinning system, cost \$40, sell for \$20. Montoya, 296-4268.

ELECTRIC CHAIN SAW, 14"; dot-matrix printer for Commodore computer. Kureczko, 281-8206.

MAMIYA C33 CAMERA, \$350; CPM computer, Morrow MD2/3, w/printer, \$650; RCA 50" projection TV, \$995; typewriter, \$55. Straub, 298-9270.

CAR BIKE RACK, \$10; CompuAdd keyboard drawer, \$30; Sears carpet barrier, \$20. Webb, 828-2271.

FOUR TIRES: 225/75-15, Michelin radial XH, 50% tread, \$100. Shapnek, 281-5913.

UPRIGHT PIANO, mahogany finish, \$300. Jones, 881-8341.

BUCKET SEATS, from '80 International Scout, \$85. Nichols, 821-8213.

UTILITY TRAILER, 14' x 6', tandem axle, \$550. Gluvna, 884-5251.

HIGH-BACK OVERSTUFFED SOFA, chair, ottoman, wood trim, \$550/all. French, 298-9292.

ROPER DISHWASHER, \$20; gas stove, oven doesn't work, \$20. Garcia, 293-3937.

ROLLAWAY BED, set of end tables, coffee table. Maestas, 831-4072 after 5.

MICROWAVE, Amana Radar Range, 10-level Touchmatic, \$125; microwave cart, \$25. Crowder, 821-9126.

TIRES: P215/75R15, mounted on 6-hole wheels, \$20/ea., 3 for \$50; 7:00-15, mounted on 5-hole Ford wheel, \$15. Falacy, 293-2517.

COMPUTER DESK, 6 upper and lower shelves, swing-out door for printer and paper, breadboard for keyboard, \$600. Seyfer, 292-0179.

SYLVANIA SUPERSET COLOR TV, 19", remote control, \$175. Fleming, 881-2223 or 888-0744.

BUTCHER BLOCK AND CHROME TABLE, 4 chairs, heavy-gauge square steel tubing, \$100. Patrick, 265-4569.

GARAGE SALE: girl's clothes (size 7-14), fireplace screen, electric mower, ATC electric, girl's bicycle, stainless sink faucet, Oct. 5-8. Smith, 9608 Robin NE.

WOMAN'S RACCOON JACKET, 3/4 length, by Gucci, custom hat to match, size 12, cost \$2400, sell for \$225. Burstein, 821-6688.

KING-SIZE WATER BED, baffled, w/heater and frame, \$100; lawn mower, self-propelled, \$30. Carlson, 897-1850.

SEARS UPRIGHT FREEZER, new, 11 cu. ft., vacuum door, lock, almond, \$250; Sears 3.7/20" gasoline chain saw, w/case, \$300. Walton, 898-5042.

FIREWOOD, dimensional scrap lumber, make offer. Liguori, 256-3613.

30/30 MARLIN, reconditioned, \$150; riding boots, size 8/8-1/2, Vibram sole, \$125. Pryor, 294-6980.

DRESSER, 9-drawer, w/mirror and bedside table, \$135; PC/terminal computer stand on casters, \$25. Schubeck, 821-3133.

PLUSH CARPET and pad, light wine color, 36 sq. yds., \$60. Guidotti, 884-7594.

MOVING BOXES, free. Jung, 292-8245.

SATELLITE SYSTEM, 55", \$300; 14" chain saw w/case, \$125; 600-watt Honda generator, \$300; Coleman catalytic heater, \$30. Taylor, 293-7053.

QUEEN-SIZE BED SET, w/frame, Sealy firm, \$175; rowing machine, \$25. Royer, 293-2350.

FOUR BLACK MODULAR RIMS, w/T215/60-14 radials, fit Mustang II and most 4-lug Ford and Mercury, \$325. Bordlemay, 883-4926.

CONTEMPORARY LIVING ROOM COUCH and love seat, silver gray, 4 months old, \$625 OBO. Gallegos, 344-3290 or 897-0763.

EMERALD RING, custom-made, w/5 diamonds, 18K gold, \$700. Tomek, 299-0471.

NEIGHBORHOOD GARAGE SALE: furniture, refrigerator, TV, baby items, clothes, household goods, Oct. 7, 9 a.m.-3 p.m., 10908 Elvin NE (Juan Tabo & Menaul). Morrison, 299-4757.

DRAFTING TABLE, fully adjustable professional model, 4' x 5' maple top, \$150; playpen, portable, fold-up, w/pads, \$20. Costin, 821-4951.

TORO LAWN MOWER, 2 years old, 18", rear-bagger, \$150. White, 293-2219 after 5.

POOL TABLE, Brunswick Ranchero, 4' x 8", gold-color cloth, \$450 OBO. Beeler, 822-9463.

FRENCH HORN, single F, w/case, \$400; bunk bed, \$50. Shefelbine, 298-1674.

SMITH & WESSON 357s (new): model 581, \$220; model 27, \$350; model 19 Texas Ranger, \$400; H&R 22/22-mag., \$110; lightweight 30-06, \$350. Aheron, 884-1628.

VELVET SOFA, furniture, household items, 35mm projector, slide trays, 22-cu.-ft. refrigerator; two 15" tires mounted on rims, \$40. Pilat, 292-4727.

HOOVER UPRIGHT VACUUM

CLEANER; 8-shelf heavy-steel storage unit, 12" x 30" x 60"; microwave stand. Myers, 294-7316.

AUSTRALIAN SHEPHERD PUPPIES, 7 weeks old, have had first shots, tails docked, \$50. Babb, 865-6843.

PUPPIES: 1/2 collie, male & female, \$10; Lowrey keyboard, \$400 OBO; Schwinn bike frames, \$10. Williams, 1-864-3617.

SLUMP ROCK, 4" x 4" x 16", cream, new, 35¢/ea. or \$200/all (700). Sanchez, 255-5515.

SPACE SAVER file and storage cabinet, w/pull-down desk, \$99; automatic stereo turntable, plays 6 records, \$79. Brooks, 298-8448.

HIDE-A-BED COUCH, 6 mos. old, sleeper never used, \$200; dinnerware set for 8, never used, \$35. Soto, 298-4072.

TAI CHI CHIH VIDEOTAPE, exercise demonstrations, full practice session, \$34; audio cassette of harp music for exercises/relaxation, \$8. Caskey, 298-6428.

**TRANSPORTATION**

'72 KAWASAKI F8A 250 ENDURO, 1.8K miles, \$800; '81 Honda XL80S, \$300; '67 Honda 305, restored, \$600. Salmen, 881-8612.

'86 CHEROKEE LAREDO, 4x4, 2.5L, all options, 33K miles, tinted windows, 4-dr., \$11,000. Garcia, 898-2605.

SCHWINN 10-SPD. BICYCLE, \$70. Gluvna, 884-5251.

WOMAN'S 12-SPD. DIAMONDBACK BIKE, mountain style, new, \$175. Andersen, 294-8624.

'86 TOYOTA CELICA GT, 4 new tires, PS, PB, AT, AC, \$8200. DiMarzio, 291-9225.

'78 HONDA ACCORD LX, AC, PS, PB, 5-spd., second owner, \$1650 OBO. McMahon, 822-1301.

'87 HONDA ACCORD LX, 4-dr., 5-spd., light brown, 17K miles, loaded. Straub, 298-9270.

'87 GMC JIMMY S-15, 4x4, Sierra Classic package, all extras, \$9690. Hall, 299-0009.

'82 CHEV. MALIBU CLASSIC SW, 75K miles, records, \$3000. Mancini, 821-4039 evenings.

'63 FORD GALAXY SW, runs, parts for XL restoration, \$500 OBO. Shapnek, 281-5913.

'87 NISSAN PULSAR, 39K miles, AC, PS, T-top, Yamaha AM/FM cassette, 6 speakers, code alarm, refinanced balance, \$10,500. Sanchez, 873-0219.

'84 COACHMAN LEPRECHAUN MMH, loaded, trade considered for Suburban and trailer, \$22,500 OBO. Garcia, 293-3937.

'85 CHRYSLER FIFTH AVENUE, loaded, mag wheels, new tires, \$7000. McCutcheon, 298-7740.

15-SPD. GITANE TANDEM BICYCLE, frame size 24" in front, 21" in rear, cantilever brakes plus drum, \$320. Krieg, 298-2895.

'88 ALL-TERRAIN BIKE, 18-spd., blue, chrome, racing or touring, 21", 2 cages, more. Forsythe, 884-4778.

MOUNTAIN BICYCLE, Wards Omega, w/extras, 18-spd., thumb-operated Shimano shifters, 26x2.125 dual-pressure tires, cost \$220, sell for \$150. Schkade, 292-5126.

'31 FORD MODEL "A" COUPE, rumble seat, rebuilt engine, new brakes, needs body work, \$5500 OBO. Stuart, 294-1590.

'81 CHEV. BLAZER K5, Silverado pack-

age, AT, AC, 5L, new brakes and tires. Schwoebel, 298-4295.

'84 VW RABBIT, gasoline-powered, 2-dr., sunroof, original owner, new tires, more, \$2800. Pryor, 294-6980.

BICYCLE, 12-spd. Free Spirit, red. Carlson, 897-1850.

'86 CHEV. BLAZER, red, one owner, V-6, 4-WD, AT, AC, cruise, tilt, AM/FM cassette, 67K miles. Judd, 281-9707.

'70 VW BUG, \$1200; '80 VW diesel Rabbit, \$500. Garner, 299-6134.

'80 FORD FAIRMONT SW, 6-cyl., standard, AC, one owner, \$1200 OBO. Kromer, 298-3073.

'86 TOYOTA COROLLA SR5, 3-dr. lift-back, red, tinted windows, extended warranty, cruise, AC, power sunroof, more. Holling, 899-1918.

'75 MUSTANG, red, 45K miles, one owner, \$2500. Edmonds, 884-4249.

'85 TOYOTA CRESSIDA, sunroof, AT, leather interior, \$7000. Vivian, 281-5206.

BIKE, \$30. Royer, 293-2350.

TAKARA OLYMPIAN BIKE, Cr-Mo frame, Shimano light-action shift, 19" frame, bumper bike rack. Spray, 884-8453.

WOODEN BOAT, 14', mahogany top, fiberglass hull, w/trailer, \$450. Marquez, 836-5153.

MONGOOSE BMX BIKE, 20", \$100; Vetta Turbo Trainer, \$70. Schroeder, 296-1011.

'74 OLDS. CUTLASS, \$275 OBO. Weber, 293-8196.

GIRL'S SCHWINN BIKE, 20", w/training wheels, \$45 OBO. Dandini, 296-4975.

'86 CORVETTE, white, upgraded suspension, Delco Bose stereo. Sanchez, 255-5515.

'73 CADILLAC COUPE DE VILLE, 85K miles, \$3000. Soto, 298-4072.

'84 MONTE CARLO CL, loaded, \$5900. Padilla, 296-6455.

BICYCLE-BUILT-FOR-TWO, Schwinn, \$150. Krenz, 298-0619.

'86 SUZUKI SAMURAI, soft top, AC, AM/FM cassette. Prew, 296-3815.

**REAL ESTATE**

2.5 IRRIGATED ACRES, El Cerro Loop in Los Lunas, 161' well, septic system, phone, electricity, fenced, cannot be divided, \$35,000. Cox, 344-2221.

3-BDR. SW HOME, remodeled, 2360 sq. ft., office, LR, den, 2 baths, on 1/2 acre, w/horse facilities, \$95,000 OBO. Scharrer, 883-8670.

3-BDR. TOWNHOUSE, 2-1/2 baths, 1750 sq. ft., Sandia Heights, 2 decks, views, \$93,900. Renlund, 296-2350.

12' x 60' MARLETTE MOBILE HOME, in Elephant Butte, must be moved, \$5500 OBO. Liguori, 256-3613.

12' x 60' MOBILE HOME, set up in mobile home park, carport, awning, \$6500. Rosenberg, 296-1346 or 299-9628.

CABIN SITES: 2.7 acres in Brazos, \$20,000; 10 acres in Mora, \$8000; both wooded. Garcia, 293-3937.

3-BDR. HOME, 1 bath, formal DR, country kitchen, FP, hardwood floors, landscaped, shade trees, 720 Indiana SE, \$64,900. Nelson, 881-7281.

4-BDR. HERITAGE EAST HOME, 3 yrs. old, LR, DR, FR w/FP, 2 baths, kitchen w/nook, R.O. water system, landscaped, sprinklers front, 1915 sq. ft., \$142,000. Dobias, 822-0013.

1-BDR. MOBILE HOME, '74 model, 12' x 44', redecorated interior, sky-

light, furnished, all appliances (including washer/dryer), \$4495. Lindsay, 884-8744 or 881-0709.

**WANTED**

HOUSEMATE, to share NE Heights home, Candelaria & Comanche area, nonsmoker preferred, \$300/mo., utilities paid. Leal, 298-8661.

HOUSEMATE, to share SE Heights townhome, Wyoming & Zuni area, nonsmoker preferred, \$250/mo. plus 1/2 utilities. Ramos, 262-0003.

EXERCISE MACHINE, Schwinn Air-Dyne. Prew, 296-3815.

POP-UP TENT TRAILER, in good condition, must have 1 king-size bed, soft-canvas-type sides. Miller, 822-0008.

GERMAN WWI & II SOUVENIRS: helmets, medals, guns, etc. Greene, 299-4163.

BEAM ANTENNA, for 10 meters, or CB beam antenna, broken antennas OK for parts; also need 2-meter rig. Ludwick, 296-6447.

SCUBA WET SUIT, 1/4" or 3/8" thickness, large size for man 5'9" and 179 lbs. (no pot belly). Bronson, 281-1606 leave message.

TWO NIGHTS' LODGING in Fairfield Pagosa condo, for 5 people, on or about Dec. 28-29. Borgman, 299-6010.

DRIVER NEEDED in October or November to transport car from Albuquerque to Washington, D.C., gas provided. Merritt, 703-549-1986 leave message.

MO-PED, in good condition. Epperson, 299-0789 leave message.

TO BUY: "Baby Jogger" baby stroller, baby furniture (changing table, chest of drawers, etc.). Banks, 299-0874.

STEEL RIMS for Mustang/Capri/Fairmont/Thunderbird, 4-bolt on 4-1/4" BC x 5-1/2" W x 14" diameter. Romesberg, 291-0212.

AIR COMPRESSOR, 1 to 2 hp, oil-less, w/tank. Balk, 281-9083.

LARGE-BREED PUPPY OR DOG (Newfoundland, Saint Bernard, Great Pyrenees, cross) for South 14 home. Clark, 281-1243.

ICE SKATES, woman's size 8, good shape, reasonably priced. Richards, 296-2272.

WINDOW W/CARRIER for '69 Mustang hardtop fastback, driver's side, for student. Baker, 888-0792.

OUTSIDE MAGAZINE, November 1988 issue. Hickerson, 281-2598.

GUITAR CASE, for high-school student studying guitar. Torres, 299-5789.

HERCULES GRAPHICS CARD, monochrome monitor, IBM-PC hard card (internal hard disk). Schroeder, 296-1011.

PLAYGROUND SET, swings, slide. Carrick, 266-0191.

**WORK WANTED**

HOUSESITTING, 17-year-old girl, responsible, can give references. Caskey, 294-3218.

**SHARE-A-RIDE**

VANPOOL SEATS AVAILABLE, along N-14 and Frost Rd., \$34/mo., ride every day. Rentzsch (281-5017) or Burns (281-3922).

**Coronado Club Activities**

# Get Along, Little Dogies — It's Western Whoopee Time

DUE TO POPULAR DEMAND, free country/western dance lessons are available tonight (from 6 to 7 p.m.) — and several other evenings in October — if you have a Friday-night dinner reservation. Be sure to ask for your dance-lesson coupon as you're seated. Speaking of dinner, there's some mighty good chuck-wagon fare available tonight at El Rancho Coronado: N.Y. sirloin strip topped with sautéed mushrooms (\$7.95) or stuffed shrimp (\$6.95). After the c/w lessons, try out your new stomp skills from 8 p.m. until midnight, with accompaniment by Billy Glenn & Texas Sand (yep, that's right — Sand, not Mesquite). Dinner reservations are recommended (265-6791).

**BALLOONS AND BRUNCH** — an unbeatable combination. You can get your fill of both this Sunday (Oct. 8). Brunch starts an hour early on this special day (at 9 a.m., rather than 10), so you can head for the Club right after that last wave of balloons in the mass ascension. A special balloon-watchers menu — served until 1 p.m. — is on tap: roast turkey, baron of beef, fried chicken, ham and cheese omelets, scrambled eggs, mashed potatoes and gravy, hash browns, pancakes, tossed and fruit salads, and a complimentary glass of champagne — the traditional thirst-quencher for dedicated balloonists. All of this costs just \$6.95/adults, \$3.50/children ages 3 through 11, and free/tiny balloon fans under 3. Bring along your official 1989 Balloon Fiesta program and get a \$2 discount (one discount per family).

**FOR A REAL KICK**, join the rest of the Monday-night football fans starting next week (Oct. 9) in the main lounge. You won't miss a play, because the big-screen TV boasts two monitors, ensuring a good seat anywhere. Pigskin parties are planned every Monday night this month.

**FRIDAY THE 13TH** is coming up next week, but it's your lucky day if you make reservations for BBQ Night that evening. Enjoy barbecued ribs and chicken for just \$6.95/plate or BBQ beef for \$5.95. Once again, free c/w dance lessons are scheduled after dinner (6-7 p.m.). Trio Grande

provides the sagebrush-shuffle music from 8 p.m. until midnight.

**CORONADO SKI CLUB** members will ponder precipitation when they get together for their monthly meeting on Tuesday, Oct. 17. The fun-loving slope-schussers — true to their reputation — will socialize from 7 to 7:30 p.m., when the meeting begins. Kevin Kilpatrick of Purgatory Ski Resort will report on what's new at that popular skiing site.

**MORE FUN AND GAMES** are on the agenda when the T-Bird card sharks go back into action on Thursday, Oct. 19, starting at 10 a.m. in the Fiesta Room. Better not miss this one: Dauntless dealer Jim McCutcheon just might wear his 1989 Halloween costume.

**MORE THUNDERBIRD NEWS:** The travel program (open to C-Club members, as well as retirees) is now in full swing. Make your deposit now for the trip to Canyon De Chelly Oct. 29-30 (\$125/person, double occupancy). And here comes the one everyone's been waiting for — Mazatlan! Head south of the border Jan. 25-30 for just \$499 (\$481 for seniors). The price includes round-trip airfare from Albuquerque, five nights at the Playa de Mazatlan (known to some as Coronado Club South), a cocktail party, and all transfers, taxes, and tips. More info on all trips is available from Bob Butler on 275-2037.

**IT'S VARIETY "AFTERNOON"** (rather than "night") this month. A free movie, "Oliver and Company," lights up the big screen at 2 p.m. on Sunday, Oct. 15. Oliver, by the way, is the smartest cat this side of Garfield. Before the show, enjoy some reasonably priced, kid-pleasin' chow between 1 and 2. Free popcorn during the movie.

**AN ARTS AND CRAFTS FAIR**, sponsored by the Sanado Women's Club, is scheduled Oct. 10 in the C-Club ballroom from 10 a.m. to 2 p.m. A variety of paintings — all sizes and media — and a selection of handcrafts and food items will be available.

# Fun & Games

**Boating** — Coast Guard Auxiliary power-boating and sailboating safety courses began on Sept. 27, but late enrollments are still possible. Classes are held at 7 p.m. Wednesdays for approximately 10 more weeks. Each session lasts 1-1/2 to 2 hours. Cost for text and work sheets is \$10 for the first family member and \$3 for work sheets for each additional family member. Courses are taught at the Armed Forces Reserve Center at 400 Wyoming NE. For information, call Ben Gardiner (7411) on 298-0116, Earl Livingston on 298-5926, or Ed Williams on 821-2060.

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**Basketball** — Sandia basketball leagues (for both men and women) are forming now. This year, the Sandia league is considering combining with the military league. The possible changes that would result: League play would start in November, and everyone working on KAFB would be eligible to play without any fee beyond the team fee. A league-discussion meeting will be held Oct. 10 at 4:45 p.m. at the Coronado Club.

The women's league had relatively few teams last year, but the proposed changes may attract more people this year. If you are interested in this league and are not associated with a team, call the Sandia Recreation Office on 4-8486 by Oct. 13, if possible, or attend the Oct. 10 meeting. Captains of established teams are also asked to call the Recreation Office.

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**Fun Run** — The third annual Chaparral Girl Scouts Fun Run/Walk is Saturday, Oct. 21, starting and finishing in front of the Chaparral Girl Scout Service Center (500 Tijeras NW). The 5K race starts at 9; the one-mile walk/run, at 9:45 a.m. Registration is open to the public. Forms are available at Gil's Runners Shoe World and Chaparral Girl Scout Council. Fee is \$8/pre-registration and \$10/on-site. Special fees are available for those who don't want a T-shirt. Awards will be given. For information, call the Chaparral Girl Scout Service Center on 243-9581.

# Congratulations

To Joy Lioliadis and Don Nelson (7124), married in Las Vegas, May 5.

To Janet and Don (3211) Bridgers, a son, Aaron, Aug. 23.

To Sheri Jacobus and Mark Richards (5145), married in Albuquerque, Aug. 26.

# July 1989 Earnings Factors

| Savings Plan for Salaried Employees (SPSE)                      | Earnings Factors |
|---|------------------|
| AT&T Shares   | 1.1580           |
| Government Obligations  | 1.0138           |
| Equity Portfolio  | 1.0833           |
| Guaranteed Interest Fund  | 1.0073           |
| South Africa Restricted Fund                                    | 1.0701           |
| Diversified Telephone Portfolio                                 |                  |
| Unrealized Appreciation   | 1.0974           |
| Realized Appreciation   | .0073*           |
| <b>Savings and Security Plan — Non-Salaried Employees (SSP)</b> |                  |
| AT&T Shares   | 1.1592           |
| Guaranteed Interest Fund  | 1.0073           |
| South Africa Restricted Fund                                    | 1.0833           |
| Diversified Telephone Portfolio                                 |                  |
| Unrealized Appreciation   | 1.0966           |
| Realized Appreciation   | .0072*           |

\* The 1 has been removed from the earnings factor. Current month's DTP earnings may be calculated directly: Earnings Factor x DTP Current Worth = Current Month's Earnings.



**SOFTBALL CHAMPS** — The Naturals, shown here, recently won the city-sponsored 1989 Hall of Fame Tournament (Red Division). They qualified for the tournament by winning the Sandia A-League regular-season championship — the team's third consecutive title and fourth out of the last five years. Another Sandia team, the Fat Cats, also qualified for the city tournament by winning the A-League's end-of-season tournament. Naturals team members are (front row, from left) coach Tim Mooney (contractor), Bruce Gunckel (3423), Paul Fleming (3215), Rob Turner (2315), Brian Schwaner (9113). Back row: Jeff Rickey (2852), Rick Givler (1511), Dan Lucero (6422), Chris Robertson (5212), Bob Padilla (6419), and Ron Simon (2341). Not shown: Dave Johnson (6215), Rich Kruetzfeld (5111), Ron Kulju (2312), and Chuck Yagow (2853).