





Anderholm



Goodman

### Sticky Development

## Anderholm-Goodman Invention Patented

The AEC has been granted a patent for a method invented by Curt Anderholm (5214) and Al Goodman (5323) for measuring adhesion of material bonds. The technique solves a long-standing problem in thin-film technology in determining adhesion of a thin film to its substrate.

The method involves using a laser or electron-beam machine to bombard a surface of one of the materials with radiant energy. This produces a compressive stress wave within the material which reflects from the unbonded surface of the other material and subjects the bond between the materials to the reflected tensile wave. The strength of the bond may be determined by increasing the amplitude of the tensile stress wave to the point of bond failure. Tensile strength is then determined by measuring this amplitude.

Curt has been at Sandia eight years in a number of assignments — field testing, special projects, advanced development and, currently, laser research. He earned his PhD in physics from Northwestern in 1963.

Al first joined Sandia when it was part of LASL (Z Division) and transferred to Albuquerque in September 1949. He has worked in reactor research, technical writing, business methods, fuzing research, microcircuitry, materials, thin films and the vulnerability program. From 1956 to 1960, he worked at LASL doing research on energy levels in bromine isotopes, the subject of his dissertation. He earned his PhD in physics from UNM in 1960 and rejoined Sandia that year. • dg

## Take Note

Pilots and prospective pilots are invited to attend a meeting of Albuquerque Squadron II of the New Mexico Wing, Civil Air Patrol on Nov. 2. The meeting will be held in conjunction with a tour of the Air Route Traffic Control Center, 6900 Los Angeles Dr., NE. The tour will begin at 7:30 p.m. Lt. Harold Roberts (5243) will give a short talk and may be reached on 268-9267 for more information.

\* \* \* \*

Don Mattox, supervisor of Surface Physics and Chemistry Division 5332, has been elected to the Executive Committee of the Thin Film Division of the American Vacuum Society. His two-year term begins this month.

\* \* \* \*

In observation of International Toastmistress Week, Oct. 24-30, the five Albuquerque clubs will hostess a sherry tea on Sunday, Oct. 24, 2-4 p.m. in the Community Room of Albuquerque Federal Savings and Loan, 4901 Central NE. Purpose of Toastmistress Clubs is to improve member's skills in communication. Women interested are invited to attend the tea, and for additional information contact any of the following Sandians: Laurene Dubuque (5622), Bertha Grant (3511), Marcelia Samuelson (4623) or Ann McIntyre (5623).

\* \* \* \*

Jim Johnson (5133) will discuss "Elastic-Plastic Wave Propagation in Anisotropic Media with Application to Single Crystals and Composites" at the 5100 Staff Seminar Tuesday, Nov. 2, at 8:30 p.m. The seminar meets Tuesday mornings in rm. 201 of bldg. 806.



GENE HAERTLING (1335) displays the plaque, appropriately ceramic itself, presented to him by the Electronics Division of the American Ceramic Society. Award for "outstanding paper 1960-1970" recognized paper by Gene on hot pressing of ferroelectric ceramics.

\* \* \* \*

### Unit Pricing Comes to Albuquerque

A few issues back we reported on the practice of "unit pricing" in supermarkets, wherein shelf tags on items show not only the price of the package but also the cost per ounce, pound, quart, pint, square foot, or other unit of measure as applicable. The shopper armed with this information can thus make better value comparisons between like items. Up to now unit pricing was found chiefly in East coast stores, but according to a recent story in the Albuquerque Tribune Foodway Stores here have initiated the practice. It is likely that other chains will follow suit.

**LAB NEWS**  
 Published every other Friday

**SANDIA LABORATORIES**  
 An Equal Opportunity Employer  
 ALBUQUERQUE, NEW MEXICO  
 LIVERMORE, CALIFORNIA  
 TONOPAH, NEVADA

Editorial offices in Albuquerque, N.M.  
 Area 505 264-1053  
 ZIP 87115

In Livermore Area 415 455-2111  
 John Shunny is Editor &  
 Don Graham Ass't. Editor.  
 Norma Taylor Pitches In &  
 Bill Laskar is the Photographer.  
 In Livermore, Matt Connors &  
 Lorena Schneider are  
 Writers, while  
 George Hosoda is the Photographer.



150th MEETING of the Zipper Steering Committee was an occasion for coffee and cake recently as members celebrated. From left are Bob Dougherty (1411), John Lloyd (1532), Emile Bernard (LASL), George Kinoshita (1226) and Les Baggett (LASL). Membership has changed during the committee's 19 years but its concerns are unchanged — the design, development and production of nucleonic devices.

Results of the 1971 Sandia Labs Horseshoe Tournament are as follows:

	Winner	Runner-up
Class A Singles . . .	John Hiller (1332)	Tom Towne (9124)
Class A Doubles	Bill Sweatman (7113)	Leo Bressan (7452)
	Joe Brooks (9463)	Burton Van Sickle (7113)
Class B Singles . . .	Oren Worden (1613)	Dave Poli (7415)
Class B Doubles . . .	Bob Evans (7433)	Ernie Mares (7143)
	Tony Garcia (7142)	Joe Baldonado (7142)
Class C Singles . . .	Wayne Sly (7652)	Joe Baldonado (7142)

Association officers elected for 1972 are: Lyle Kruse (5323), president, and Burton Van Sickle (7113), vice president.

\* \* \*

The annual sighting-in shoot, sponsored by the Sandia Gun Club, will be held from 8 a.m. to noon, Saturday, Oct. 30, at the KAFB Rifle Range. The range is located southwest of the intersection of Pennsylvania and Ordnance Road. All hunters are welcome. For more information call Dick Vivian (1611), tel. 264-4355.

\* \* \*

Final tournament of the Sandia Women's Golf Association was a 36-hole event played on the Los Altos course on the last two weekends in September. Molly Ellis (5643) was low gross winner with Rosalie Crawford (1), runner-up. Low net winner was Pat Anderson (9425) and Betty Chappell (AEC) was runner-up.

\* \* \*

Sandia Basketball A League needs more players. Call Mike Edenburn (1222), tel. 264-6872. Season play begins in early November.

\* \* \*

The Sandia Golf Association played its 1971 Fall Classic on the UNM South Course Sept. 25. Low net flight winners were Joe Trujillo (5411)-69, John Ford (1321)-71, and Paul Blaylock (9132)-69. The overall winner and trophy recipient will be determined in an 18-hole playoff between Joe and Paul.

The East Side Open Tournament, played at Los Altos on Oct. 9, also resulted in a tie (63) between Paul Blaylock (8132) and Charles Smith (7421). They will engage in a

## Events Calendar

- Oct. 22-24, 26-30** - "Plaza Suite," Albuquerque Little Theater, 8 p.m., for reservations 242-4750.
- Oct. 23** - N.M. Mountain Club, annual Aspencade hike to Sandia North Peak, meet at Eastdale at 8 a.m.
- Oct. 23** - Football, Arizona State vs. UNM, Stadium, 1:30 p.m.
- Oct. 23-24** - Albuquerque Children's Theater presents "Beauty and the Beast," Popejoy Hall, tel. 268-6561.
- Oct. 26** - UNM Speakers Program, John Williams, black novelist, Keller Hall, 8 p.m.
- Oct. 31** - N.M. Mountain Club, hike to Osha Spring in North Sandias, meet at Gulf Mart, 8 a.m.
- Nov. 1** UNM Speakers Program, Edward Banfield, urban affairs expert, presidential advisor, Keller Hall, 8 p.m.
- Nov. 4** - Audubon Wildlife Film Series, "British Columbia - Mountains to the Sea," Popejoy Hall, 7:30 p.m.

playoff to determine the trophy winner. Other flight winners were Joe Trujillo (5411)-64, and Paul Robertson (3134)-65.

The next tournament - the South Side Open - will be played Oct. 25 on the UNM South Course.

\* \* \* \*

**Snowmobilers:** The Snowmobile Act, passed by the last session of the legislature and signed into law by Governor King, requires persons operating snowmobiles in New Mexico to register them with the Department of Game and Fish. Registration forms are available from the Department and dealers. Registrations are good for the fiscal year in which the application is received, plus two additional years. Registration fee is \$7.50.

\* \* \* \*

**Fishermen:** A special Kokanee Salmon season is open through Dec. 31 in Navajo Lake and its tributaries, El Vado Lake, and Chama River upstream to the State Hwy. 95 bridge at Parkview. The bag limit is 24 per day. There is no possession limit on Kokanee during this special season and it is lawful to use snag hooks and grappling hooks; spears, gigs and arrows may also be used provided they are not driven by explosives, gas, air or crossbow.

\* \* \* \*

**Bird Hunters:** A second, statewide dove season will be held Nov. 27 through Dec. 26. Limits are 10 per day and 20 in possession, and shooting hours are one-half hour before sunrise to sunset. Hunters in the valley south of Albuquerque are cautioned about shooting near houses, private property and livestock.

\* \* \* \*

**Waterfowl Seasons Established: Ducks** - Pacific Flyway - that portion of the state lying west of the Continental Divide and areas east of the Divide but within the Jicarilla Apache Reservation - Oct. 16 through Jan. 16, 1972.

Central Flyway - Oct. 23 through Jan. 16, 1972.

**Sandhill Crane** - Oct. 30 through Jan. 30, 1972. Open season only in southeastern New Mexico counties of Chavez, Curry, De Baca, Eddy, Lea, Quay and Roosevelt.

**Goose:** Jan. 1-16, 1972 in Sandoval, Sierra, Bernalillo and Socorro Counties and the Central Flyway portion of Valencia County. In the remainder of the Central Flyway, the season will be Oct. 23 through Jan. 16, 1972. Pacific Flyway south of U.S. 66 will be Oct. 16-Jan. 16. The Pacific Flyway portion north of U.S. 66 will be closed to goose hunting.

\* \* \* \*

**Big Game Hunters:** Seasons on elk, antelope, bighorn and Barbary sheep, bear, deer and cougar are coming up. For details, consult the New Mexico 1971 Hunting Proclamation, available from the New Mexico Department of Game and Fish. The Albuquerque area office is located in 6511 Domingo Rd. NE, tel. 268-4374.

-Norma



## Nigel Hey Writes Three Science Books

The second science book for high school students written by Nigel Hey of Public Information Division 3211 will be off the press next month. A manuscript for a third book has been accepted by the publisher.

Titles of the books are "The Mysterious Sun," "How Will We Feed the Hungry Billions?" and "Odyssey to the Outer Planets." They are designed as supplementary reading for high school science classes.

Work on the books was squeezed into a busy after-hours schedule which includes performing in local theatre groups and entertaining a couple of lively youngsters. Nigel played the Fool in the recent production of "King Lear" at Popejoy Hall, a complete personality switch (we guess) since, on the job, Nigel is a rather quiet professional with an Englishman's reserve.

Nigel is a former editor of the Albuquerque News and has worked for newspapers in England and Bermuda. He worked for UPI press service in Salt Lake City. He has been at Sandia since March 1967.

## Sympathy

To Steve Peerman (5132) on the death of his mother, Oct. 7.

To A.P. Montoya (1914) on the death of his mother in Socorro, Oct. 10.

## Congratulations

Mr. and Mrs. Larry Ebinger (9125), a daughter, Julia Christine, Sept. 18.

## Death

Jim Fesler, supervisor of Billing Section 4152-1, died Oct. 15 after a brief illness. He was 57.

He had worked at Sandia Laboratories since August 1950.

Survivors include his widow, a daughter and two grandchildren.



## Supervisory Appointments

Leslie Hill to supervisor, Materials Division 8314, effective Oct. 1.



Les joined Sandia/Albuquerque in October 1967. As a staff member assigned in the Underground Physics Division, he has been involved in creating predictive capabilities to study containment of nuclear tests compatible with the Limited Test Ban Treaty of 1963 and various Plowshare applications.

Les received a BS in civil engineering from Union College in 1963 and MS and PhD degrees in applied mechanics from Princeton University in 1965 and 1967 respectively. He is a member of Sigma Xi and Tau Beta Pi, the American Geophysical Union, and the American Nuclear Society.

He and his wife Elaine have two children, a son and a daughter.

\* \* \* \*

Edwin Barsis to supervisor, Instrumentation and Development Division 8342, effective Oct. 1.



Since joining Sandia/Livermore in July 1969 as a staff member, Ed's work has involved instrumentation development, primarily in the areas of solid state and shock physics.

Ed received both his Bachelor's and MS degrees in engineering physics from Cornell University, in 1963 and 1965 respectively, and his PhD in applied physics from the same university in 1967. He served from 1967 to 1969 as a captain in the U.S. Army and is a member of the American Physical Society.

He and his wife JoAnn have two sons. They reside at 1071 Innsbruck Street, Livermore.

\* \* \* \*

Duncan Tanner to supervisor, Telemetry Development Division 8182, effective Oct. 1.



Duncan joined Sandia/Livermore in March 1960 as a staff member in the telemetry systems design organization. In the fall of 1962 he transferred to telemetry component development, and in 1964 took a year's leave of absence from Sandia to attend graduate school at Oregon State University. Since his return from leave he has been involved in the design and development of terminal data analyzers in the Telemetry Development Division.

Duncan has a BS degree in electrical engineering from the University of Washington. He is a member of Phi Theta Kappa and the Institute of Electrical and Electronic Engineers.

He and his wife Chris and their two children live at 664 Hazel Street, Livermore.

## Retiring



RUTH FLANAGAN (8212)

## Gutierrez Appointed

Leo Gutierrez (8100) has been appointed by the Livermore City Council to fill a vacancy on the five-member Board of Directors of the Livermore Housing Authority. His appointment expires January 1974. The board is currently awaiting approval from the Department of Housing and Urban Development to advertise for bids on the \$2.8 million Leahy Square low-income housing project. Construction of the new 125-unit project will replace 77 units of "temporary" World War II housing now known as Vila Gulf. Also serving on the board is Jerry Maloney (8432).

## Sympathy

To Rudy Cavitt (8431) for the death of his father-in-law in Bryan, Texas, Sept. 27.

To Bob Coates (8412) for the death of his mother-in-law in Providence, R.I., Oct. 7.

To Dick Finn (8432) for the death of his father-in-law in Turlock, Calif., Sept. 26.

To Bonnie Kaya (8322) for the death of her mother in Struthers, Ohio, Sept. 19.

To Ed Kuroski (8264) for the death of his father in New York City, Sept. 16.

## Long Term Disability Pays First Claim



On Aug. 16, Ralph Freeman (8271) became the first beneficiary under Sandia's Long Term Disability (LTD) program — perhaps a dubious distinction, but one certainly welcomed by the recipient.

At the present time, Ralph's income is made up of LTD payments coupled with Social Security disability benefits, plus Sandia early retirement and the Sandia early retirement adder.

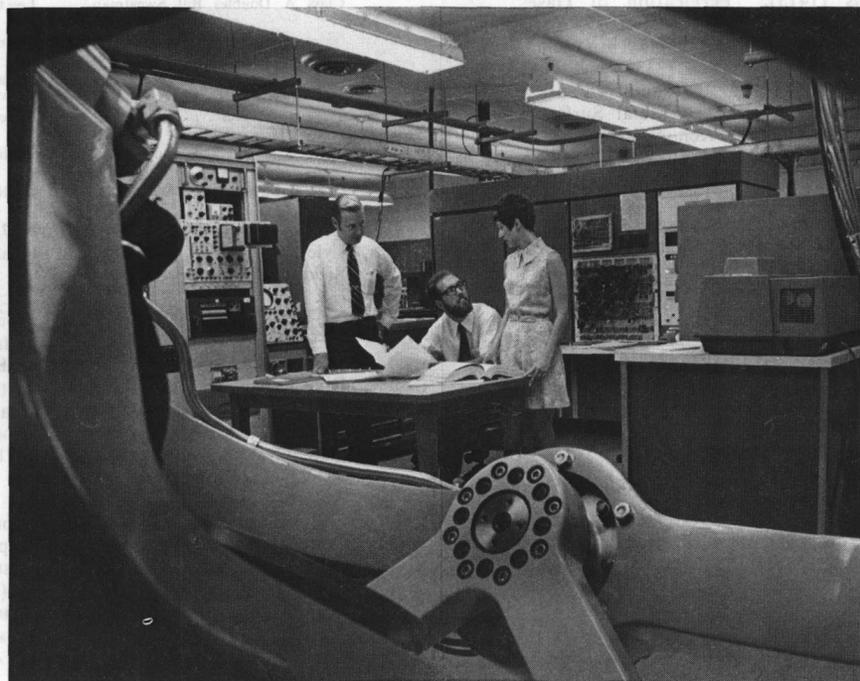
"When I signed up for LTD I didn't think too much about it at the time, but the way things worked out I'm sure glad I had it. I've been through the benefits bit many times. I worked for an aircraft company and other places, but I have never found benefits to compare with those at Sandia," comments Ralph.

# LIVERMORE NEWS

VOL. 23, NO. 21

LIVERMORE LABORATORIES

OCTOBER 22, 1971



SIMULATION of flight of reentry vehicle is now possible in recently operational Flight Dynamics Lab (8121). Equipment includes analog computer, digital functional generator, three-axis angular motion simulator and recording instruments. Ron Saltgaver (8321), Bob Phillips (8176), and Pat Leary (8321) discuss problem.

## Take Note

John Schipper (8341), Bill Wilson (8331), and Walt Bauer (8331) swam in the recent Livermore-sponsored regional Masters Swimming Championships, as members of the Swaybacks team of the Livermore Aquacowboys. The team took first in overall competition and second in the men's division. The three Sandians were among the 500 entries, five of whom were former all-Americans.

\* \* \* \*

During the recent emergency Blood Bank Drive at Sandia/Livermore, employees donated 74 pints of blood. This was the third time since the Blood Bank was established in 1959 that it became necessary to conduct an emergency drive. Administered by the nonprofit Alameda-Contra Costa County Medical Association, the Sandia Blood Bank account makes blood available without charge to all employees and their families. Employee Benefits Division 8236 coordinated the emergency drive.

\* \* \* \*

Hilary Jones of Materials Division 8314 is the author of a technical article, "A Method for Finding the Equation of State of Liquid Metals," which appeared in the Sept. 15 issue of the JOURNAL OF CHEMICAL PHYSICS. He also presented a paper, "Equation of State of Liquid Sodium," at the American Physical Society meeting held in Seattle, Wash., Aug. 25.

## Congratulations

Mr. and Mrs. Ed Barsis (8342), a son, Benjamin Allen, Sept. 24.

Adelbert Elliott (8176) and Anita Scimeca, married in San Francisco, Sept. 26.

Mary Lee (8168) and Glenn Lattig married in Livermore, Oct. 9.

## Five Year Project

# Sandian Rebuilds Home

"It's been a long haul," sighs Don Benton, supervisor of Data Processing Division 8411, "and I've wondered at times why the house ever attracted me in the first place. But now that the work is nearly finished, my wife Betty, and our four children appreciate its distinctive character. There just isn't another like it."

Fourteen years ago, tract homes in Livermore didn't appeal to the house-hunting Bentons. An older house at 1531 College Avenue did. It was on a big lot and had lots of room. And a few things for a sometime construction man like Don to fix up.

"Sure, it was in disrepair," recalls Don. "Just replaster a few walls; recement two brick fireplaces and three chimneys. Figured we'd live in the house three years and I'd start refurbishing in earnest and complete it in a year. Somehow, nine years passed before the project got underway. And it's gone on for five years. . ."

Working from an architect's plans, the upstairs remodeling began. The old roof was removed. A two-story 10' x 44' addition was built on the rear of the house. New outside walls gave all rooms the same ceiling height. Rearrangement of interior walls eliminated unusable space. New windows and wood casements were installed.

After two heavy rains the Bentons began construction on the new roof. Then came new flooring. The staircase was repositioned from the rear to the front of the house. Heating, air conditioning and humidifying systems and electronic air-filtering units and their duct work were completed as was a fire detection system. Wiring and lighting fixtures were modernized. A contracted job — the tile work in three bathrooms, one with a sunken tub — marked the final stages of the upstairs work. Downstairs activity followed a similar pattern and included the installation of an ultra-modern kitchen. White vinyl plastic siding covers the house outside.

"Except for the roofing, wallboard and tile

work," says Don, "I was part of every job. Many friends helped. The kids were a great help crawling into tight places and shoveling dirt. And Betty — she became a walking encyclopedia of 'where to get it.' She selected and ordered most of the materials. Some from as far away as Colorado, Iowa and Wisconsin. There isn't a mill works, a foundry or wholesale plumbing firm in the Bay Area unknown to her. Yet she had time to manage our kids, take courses at Chabot College and teach in a nursery school.

"Things remain to be done. And rumor has it that some of the more experienced carpenters who helped me over the years accuse me of letting my tolerances slip from 1/16" to 1/4". But it just isn't so." • mc



FINISHING TOUCHES are made by Don. Stairway was relocated during rebuilding.



LIVERMORE HOME REBUILT by Don Benton (8411) as it looks today and did five years ago (inset).

## Authors

P.J. Brannon (5215) and J.M. Hoffman (5233), "Molecular Oxygen Density Measurements from 80 to 140 kilometers," Vol. 76, No. 19, JOURNAL OF GEOPHYSICAL RESEARCH; P.J. Brannon, "Scanning Fabry-Perot Interferometer for Field Use," Vol. 10, No. 8, Letters to the Editor, APPLIED OPTICS.

R.L. Gerlach (5332), "Ionization Spectroscopy of Contaminated Metal Surfaces," Vol. 8, No. 4, JOURNAL OF VACUUM SCIENCE AND TECHNOLOGY.

R.R. Sowell (5332), M.M. Karnowsky (5531) and L.C. Walters (former Sandian), "The Transitions in Phases II-III-IV in High Purity Ammonium Nitrate," Vol. 3, No. 2, JOURNAL OF THERMAL ANALYSIS.

## Conference on Surface Studies Held at Sandia Laboratories

The third annual Conference on Surface Studies was held at the Laboratories Sept. 8-10. Conference chairman was Dick Schwoebel, manager of Ceramics and Surface Science Research Department 5330. In addition to papers presented by Sandians, seven other major laboratories were represented on the program. Chairmen of the various sessions were: C.M. Tapp (1430), A.R. DuCharme (5331), R.G. Musket (8313), R.O. Adams (Dow-Rocky Flats) and R.L. Schwoebel.

Sandia papers presented were: R.J. Eagan (5334), "Glass-Ceramics: A Review"; W.G. Perkins (1413), "Permeation of Gases Through Tube Envelope Materials"; W.A. Stark (5335), "Helium Solubility in Calcium Fluoride"; W.D. Wilson (8331) and G.E. Laramore (5151), "Dissociation of a Hydrogen Molecule at a Metal Surface"; D.M. Mattox and G.J. Kominiak (both 5332), "Structure Modification by Ion Bombardment During Deposition"; G.J. Thomas (5522) and W. Bauer (8331), "Temperature Dependence of Surface Features in Helium Implanted Palladium"; J.C. Crawford (1410), "Field Effect Measurements on Semiconducting Thin Films During Deposition"; E.P. EerNisse (5112), "Simultaneous Thin Film Stress and Mass Change Measurements Using Quartz Resonators"; J.L. Wurtz, P.E. Pierce (both 1413) and C.M. Tapp (1430), "Secondary Electron Emission Measurements of Characterized Surfaces."

J.A. Panitz (5331), "Surface Breakdown Spectrometry"; R.E. Cuthrell (5331), "Thin Films on Electrical Contacts"; G.E. Laramore (5151), "Prospects for Using LEED to Obtain Quantitative Information about Crystal Surfaces"; R.B. Pettit (5324), "The Dispersion of Surface Plasmons in Evaporated Aluminum Films"; R.R. Sowell, N.J. DeLollis, H.J. Gregory and O. Montoya (all 5332), "Effects of RF Gas Discharge on Silicone and Polyethylene Wetting and Bonding"; L.J. Weirick (8313), "Effect of Annealing Treatment on Surface Condition of 304L," and "Oxidation of Thorium: Oxide Stresses."

J.W. Guthrie (1413), "Ion Microprobe Studies of Thin Film Erbium Oxide"; D.H. Loescher and C.T. Fuller (both 5153), "The Oxidation of Erbium and Scandium"; R.A. Sallach (5531), "Scandium Oxidation"; H.S. Levine (5324), "Formation of Vapor Nuclei in High Temperature Melts"; A.R. DuCharme (5331) and R.L. Gerlach (5332), "Cross Sections for Electron Induced Inner Shell Ionization of Surface Atoms"; R.L. Park (5331) and J.E. Houston (5332), "Recent Developments in Soft X-Ray Appearance Potential Spectroscopy"; R.G. Musket (8313), "Studies of Stainless Steel Surfaces by Auger Electron Spectroscopy and Appearance Potential Spectroscopy," and with W. Bauer (8331), "Surface Characterization of Stainless Steel Using Proton-Induced X-Rays."

R.S. Blewer (1413), "Surface Microtopography and Characterization of Helium Implanted Erbium and Erbium Hydride Films"; E.J. McGuire (5234), "M-Shell Auger and Radiative Transition Rates, Fluorescence Yields, Coster-Kronig Yields and Electron Spectra"; S.T. Picraux (5111), "Ion Dechanneling Studies of Epitaxial Layers"; F.L. Vook (5110), G.W. Arnold and S.T. Picraux (both 5111), "Anomalous Diffusion from Ion Implanted GaAs Surface Layers"; J.A. Borders (5111), "Ion Backscattering Studies of Thermoelectric Semiconductor Surfaces," and R.F. Whan (5522) and G.W. Arnold (5111), "Radiation Induced Expansion and Enhanced Etching in Ion Bombarded Semiconductors." • nt

## Retiring

CHARLES SMITH (4514)



IDA NELSON (4136)



RITA HODGEN (3313)



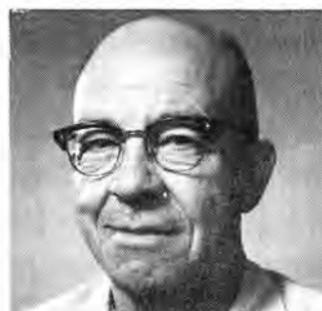
ROMA KESSLER (7412)



ED FISHER (7511)



LOIS CALKINS (9425)



HARVEY HARTER (7511)



WILLIAM MOULDS (4518)

# Roy Allison Heads ASQC National Committee to Help Youth Groups

Roy Allison (1832), a Sandia field representative working in Tulsa, Okla., was recently named chairman of the National Services Committee of the American Society for Quality Control. Roy sort of created the job for himself since it grew out of his activities for the past several years with Junior Achievement organizations.

Junior Achievement is a national program which helps high school students organize a business. They sell stock, manufacture a product, sell it and, hopefully, make a profit and declare a dividend. Adults offer counseling services.

In any manufacturing activity, quality control is the key to both sales and profit. As a field inspector for Sandia, Roy is involved in some of the most stringent quality activities in industry. It was only natural that he urged Junior Achievement companies to install a quality program in their businesses and appoint quality managers as part of their organizations.

Roy was chairman of the Joplin, Mo., chapter of ASQC before transferring to Tulsa in 1969. He started his program in Joplin. Results were gratifying. ASQC members made useful contributions to the youth groups. Roy wrote an inspection and quality manual for the Junior companies to use.

When he moved to Tulsa, he continued the activity, convincing the Tulsa ASQC to take on local Junior Achievement groups to counsel. Another manual was written, more success for the Junior companies and more "education" activities for ASQC followed. Any professional group enjoys encouraging youngsters in its own specialty. Careers for young people begin that way.

"It was such a natural association," Roy says, "that I started promoting the ASQC involvement with Junior Achievement on a national level. Last year we were successful in establishing a national contest sponsored by ASQC to recognize the outstanding quality managers of Junior Achievement companies.



I was honored to present the awards at the national convention in Bloomington last month."

ASQC has since adopted the idea as a national program and Roy will continue to implement it in his job as chairman of the national committee. • dg

## • SHOPPING CENTER •

**CLASSIFIED ADVERTISING**  
Deadline: Friday noon prior to week of publication unless changed by holiday.  
A maximum of 125 ads will be accepted for each issue.

**RULES**

1. Limit: 20 words
2. One ad per issue per person
3. Must be submitted in writing
4. Use home telephone numbers
5. For Sandia Laboratories and AEC employees only
6. No commercial ads, please
7. Include name and organization
8. Housing listed here for rent or sale is available for occupancy without regard to race, creed, color, or national origin.

### FOR SALE MISCELLANEOUS

CAMPER, "Sport King" 8 1/2', full cab-over. Tyson, 256-7663.

BUTANE BOTTLES & racks, \$30. Sullivan, 6623 Broadway NE, 344-7547.

SIMMONS "Deep Sleep" mattress, twin bed size, extra firm. Brown, 296-5949.

BEDROOM SUITE: db. bed, dresser w/attached round mirror, bedside table, \$75. Stark, 8212 Pickard Ct. NE, 299-5953.

LHASA APSO puppies, small Tibetan palace dogs, AKC reg., extensive championship background, personality plus. White, 299-6411.

SKIS; boots, size 9 1/2; bowling ball & bag; dbl. dresser; chairs; clothing; ladies cashmere coat w/fox collar, size 10; hair dryer; razor; make up mirror. Chandler, 296-3323.

SPRINGFIELD 1873 rifle, 45/70 cal., trade for old swords, daggers or knives. Smitha, 299-1096.

SEAR'S 9 x 12 tent, outside frame, single side room, \$50; tent trailer; needs minor repair, haul away as is for \$125. Worrell, 299-0381.

RIFLE, .22 cal. 8-shot repeater, used once, \$22. Massick, 299-3086.

GIRL'S spyder bike, blue/green, w/white plastic basket, 3 yrs. old, \$30. Gentry, 296-5876.

ACCORDIAN, 120 bass buttons, 5 shifts, carrying case, sheet music, Italian make, \$80 or trade for equal value. Stang, 256-7793.

'67 HONDA 305 scrambler, \$400. Mortensen, 298-5348.

SWEETLAND practice piano, \$125; sofa-bed, 3/4 size, \$25. Manhart, 268-3017.

PENNY'S car air conditioner, used 2 summers, cost \$170, sell for \$80, all parts included, 6-blade fan. Eaves, 299-7728.

'70 100B Honda w/2200 miles, \$325; '70 120 Suzuki w/4200 miles, \$350. Swier, 256-0113.

'67 MODEL Alaskan camper, \$900, boat rack & jacks included. Baca, 256-2931 after 5.

8-TRACK STEREO tape deck, 14 tapes, headphones, 45 watts, \$75. Gallagher, 268-1988.

'68 PIPER CHEROKEE Narco Mark 12A, 90-channel VOA-4, Genave marker beacons, 1/3 share or full, price \$6500. Reed, 299-1684.

EUROPEAN HEALTH SPA membership, assume 16-mo. contract at savings, below current rate. Hill, 298-6669.

BROWNING Light-12 automatic shotgun w/two interchangeable barrels: 26" ventilated rib, cylinder, & 28" smooth barrel, improved-modified, \$200. Deverman, 296-8317.

FOOTBALL SHOES, size 10. Scheiber, 299-4743.

RELOADING EQUIP., complete outfit, Pacific press, Lyman scales, Cal. 270, 30-06, .357 (.38); Polaroid land camera model J-33, make offer. Kirchmeier, 344-5783 after 5.

TWO-HORSE TRAILER, tack storage, single axle, tongue, jack, center divider, \$250. Souder, 282-3121.

6-SPEED BLENDER, \$13. Rogers, 268-8682.

MAPLE CRIB & MATTRESS, \$25; metal hi-chair, \$8; both for \$30. Duvall, 299-8744.

'70 HONDA CL 350, low mileage, \$650. Pipher, 268-2556.

DISHWASHER, under counter std. size, '70 Modern Maid, harvest gold panels; used 6 mos., \$75. Luxford, 243-1693.

MUD & SNOW tires, w/wheels, 4-ply, F-78-14 replaces 7.75x14, \$50. Martinez, 299-1918 after 5.

K2 competition skis w/Look Nevada bindings, used twice, \$180 or best offer. Benson, 268-9727.

283 CHEVY MOTOR, completely rebuilt rings, cam, bearings, valves, heads surfaced, never run. Hindi, 299-8996.

VW TIRE CHAINS, lug reinforced, \$8; VW ski rack w/lock, \$7.50; VW car top rack, needs fasteners, \$3. Otoski, 256-2898.

HALLICRAFTERS SX-111 selectable sideband receiver w/matching speaker, in orig. carton, \$100. Ashworth, 296-9126.

600 SHARES of Computer Consultants Inc. stock, 90 cents a share;

lg. metal drum w/lid, clean, \$4. Gholson, 299-2663.

POKER TABLE, round w/felt top, folding legs, & 8 metal ash trays, \$25. Garcia, 298-9186.

AQUARIUMS: 3, 5, 10 & 15-gal., heaters, filters, pumps, tops w/lamps, swordtails, barbs, guppies. Barth, 345-0172.

BICYCLE, Sear's boy's 26", 3-spd., \$25. Weart, 298-0614.

3-GAL. aquarium w/pump, \$4; girl's ice skates, size 6, \$3.50; folding play pen, \$7.50; bird cage, bird bath, \$2.50; 2 tricycles, \$1 & \$2; Magic Hostess salad chef, \$4.50. Maxwell, 299-2027.

STEREO; refrig; gas dryer; shop equip.; other household items, most items are new. Cockrell, 296-4623.

FLIGHT to Portland, Spokane, Seattle for Thanksgiving; leaving Nov. 24, returning Nov. 28, share fuel & oil cost, IFR plane & pilot. Nelson, 282-5203.

GIRL'S bike, 20"; car top carrier; elec. trailer brake control; differential from '65 Ford. Sasser, 298-1439.

ALUM. camper shell fits SWB cab high, \$100, may be seen at 1042 Marcella NE. Hitchcock, 299-2581.

THOMASVILLE dining room set, fruitwood, 9' table, 6 chairs, loby chest, glass front cabinet. Maydew, 265-6332.

'70 HONDA trail bike, model CT90, low mileage, 8 speeds, \$265. Smith, 298-9092.

REFRIGERATOR; beds; mattresses; dinette table; dinette chairs; reasonable offer will be accepted. Campbell, 256-1015.

DANISH MODERN COUCHES, chair, Kay's breakfast set w/4 deluxe chairs, coffee table, end tables, floor polisher, dishes, misc. Maginnis, 255-5725.

**CARS & TRUCKS**

'64 CORVAIR MONZA, 2-dr., green, \$275. Zucskie, 255-1340.

'66 PONTIAC Catalina 4-dr. HT, PB, PS, AT, AC, white w/green interior, new tires, \$1075. Ross, 265-4990.

'60 BUICK LeSabre, 2-dr., AC, make offer. Lannon, 255-8959.

'59 DODGE pickup, 318 V-8, \$400. Maestas, 242-6196.

'64 JEEP Wagoneer, 4-wd, w/292-6 Chev. engine, equipped to pull trailer, \$1100. Hillman, 299-8438.

'66 FORD XL, 352, V-8, AT, PS, 56,000 miles, make offer. Grimsloy, 268-1427.

'66 FALCON 2-dr. 6, std. trans., R&H, \$850. Whalen, 298-1330 after 6.

'63 CORVAIR. Smeltzer, 256-3908 after 5:30.

'69 OPEL sta. wag., 1900 cc engine, AT, radio, AC, 34,000 miles, \$1795. Schmierer, 299-2352.

'67 CHEV. II, 2-dr., std. trans., \$550. Sanchez, 242-3625.

'70 FORD Torino Brougham, 4-dr. HT, factory air, all power, elec. seat & windows, low mileage, retail book. Grant, 255-6105.

'63 PONTIAC Catalina, 4-dr., AT, AC, new brakes. Braasch, 268-8416.

'68 CHEV. pickup, 1/2-ton, 4-spd., V8, long wide box, 6-ply tires, \$1300. Aubuchon, Los Lunas, 865-7790.

'68 CHEVROLET, 3/4 ton Suburban station wagon, V8, 4-spd. trans., custom exterior & trim, orig. owner. Jones, 299-6542.

'65 FORD Country Squire wagon, 8-pass., air, AT, PS, PB, below book price. Beauchamp, 298-6552.

'66 BUICK Custom Sportwagon, AC, PS, PB, AT, \$1200. Huff, 296-7977.

'68 RAMBLER Rebel, 4-dr., AT, factory air, PS, V8, \$1400. Stephenson, 299-3914.

'67 SPORT FURY conv., 383 cu. in. eng., bucket seats, AT, AC, R&H, PB, PS, lt. yellow, 45,000 miles, \$1395. Ray, 298-0408.

'58 FORD wagon, new tires; misc. '71 Duster-Dart parts, tires, axle consider gas welder trade. Workhoven, 282-3246.

**REAL ESTATE**

10 ACRES, 9 miles so. of Belen between old hi-way 85 and Freeway, small community of Sabinal, Socorro County. Chavez, 299-2392 after 5.

4 1/2 ACRES, home site, 1/2 mile east & 1/4 mile south of Peralta P.O. Shuman, 636-2618.

SANDIA HEIGHTS LOT, 1/2 mile from tram station, panoramic view of mountains, 0.82 acres. McBride, 299-4347.

**WANTED**

USED autoharp, good condition. Bishop, 255-5765 after 6.

TRADE pair of oxy-acety regulators

for 5-watt CB radio, portable preferred. Flowers, 282-3458.

PORTABLE typing table. Morton, 296-6108.

BUY OR COPY owner's instructions for Garrard Lab-80 turntable. Scheiber, 299-4743.

MATHEMATICAL handbook for scientists & engineers by Korn & Korn. Biggs, 265-4661.

6-VOLT radio AM or AM/FM for VW bug. Roberts, 298-3062.

RIDE from vicinity Girard & Constitution. Vytlicil, 265-0435.

SCHWINN sting ray bicycle, 2 or more speeds. Cericala, 298-2426.

USED rug for use in school room at little or no cost. Souder, 282-3121.

SOMEONE to share subscription to Ayn Rand letter. Howard, 282-5279.

INFLATABLE, bag - type overloads for 1962 Chevy 1/2-ton. Zucskie, 268-3105.

LOW MILEAGE (20,000) '67 to '69 VW bug, Toyota or Datsun. Shunny, 265-1620.

**WORK WANTED**

NURSING WANTED, RN private duty. Huston, 842-5068.

**FOR RENT**

FURNISHED one-bdr. mobile home, unobstructed view of Sandias, available Nov. 1 to March 15. Kersten, 345-0995.

HUNTERS: lg., modern cabin at Canjilon, N.M. for rent for hunting season, sleeps 7, write Jolly, P.O. Box 518, Canjilon, N.M.

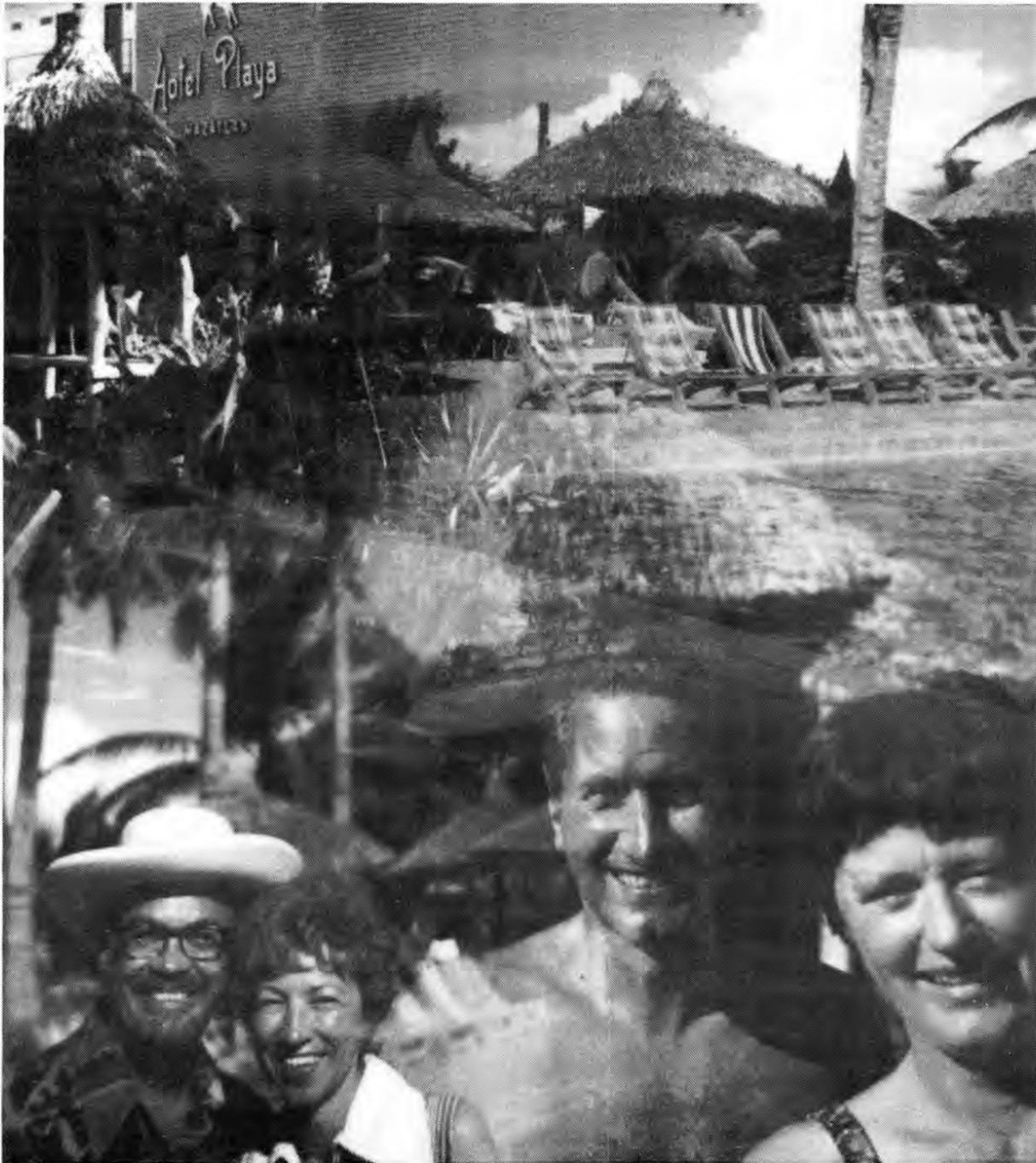
DUPLEX, furnished, attached garage, utilities paid, no pets, available approx. Oct. 25, 607 San Pablo SE. Berger, 255-0265.

2-BDR. HOUSE, furnished, convenient location near Freeway & Coronado. Picroux, 265-4192 after Monday.

**LOST AND FOUND**

LOST—Safety sunglasses in black case, house key, bifocal safety glasses w/black frames, 4 keys on lg. ring, 2 keys in clam shell case, 3 keys in black case, 5 keys on chain. LOST AND FOUND, tel. 264-2757, Bldg. 832.

FOUND—Brown pocket knife, set of 6 keys w/nameplate "Mart-Inez", silver bracelet w/6 stones, pearl coat button, safety glasses w/grey frames, 2 keys on silver ring, Ford key. LOST AND FOUND, tel. 264-2757, Bldg. 832.



MAZATLAN MOOD for a group of 120 Coronado Club members was a combination of many things, mostly holidays — swimming, fishing, boating, shopping and eating seafood for eight days. Doug Ballard (9461) with wife Pat (5160), lower left, managed to capture the idea with this montage photo. At right are Pat Quigley (7623) and Mary Harrison (3133).

HAPPY HOUR tonight will see Frank Chewiwie on the bandstand and ol' Smilin' Jim Noonan's special Italian food on the buffet. Speaking of inexpensive night's out, the buffet costs \$1.25 for adults, \$1 for kids and you can buy a bourbon highball for two-bits, a martini for 30 cents. Late in the 20th century, that's like getting a 5-cent beer.

Hey, remember the great show Graciela Flores did last week? This personable entertainer (good looking too) held a Happy Hour crowd spellbound through a selection of ballads and then broke them up with some rousing rancho tunes. Graciela will be back next Friday for another show at 7 p.m. Sol Chavez will play for dancing and barbecued chicken will be the buffet feature.

On Friday, Nov. 5, a traveling group — they've been to glittering Las Vegas, exciting Santa Rosa and solid Carlsbad — called Jay and the Splendors will preside at a special four-hour Happy Hour. This group played here last year before the biggest Friday night crowd of the year. A seafood menu featuring rainbow trout will be spread for the buffet for the same old fantastic price of \$1.25 for adults, \$1 for kids.

\* \* \* \*

SOUL SESSION this month is set for Saturday, Oct. 30, with a group called "Earth" booked for the event. Happy Hour prices will be in effect from 8:30 to 12:30 and super sandwiches will be available. Admission is free to members, 50 cents for guests.

## Coronado Club Activities

For want of a better name, tomorrow's event at the Coronado Club is called Vaudeville Night. The bill features a magician, Paul Britt, assisted by Marjorie, and a couple of young folksingers named Steve and Brad. But it also includes a monster movie called "Frankenstein Conquers the World" and the beginning of a new serial called "Shadow of the Eagle." In addition, starting at 6 p.m., the Club's famous super sandwiches will be available and Happy Hour prices will prevail. The show should get underway about 7 p.m. Seems like it should be called something like "Monster Movie with Stage Show, Singers, Super Sandwiches, Eagle Shadows and Happy Hour Prices" but you can't write headlines with that. Anyway, it's free to members and families and kids dig this kind of stuff.

\* \* \* \*

LOBSTER, New England style, is scheduled for Saturday, Nov. 13. This event features the spiny delicacy plus king crab cocktail, baked potato, salad, etc., and will be preceded by a wine taste. Tickets are \$6 for members, \$7 for guests. Deadline for picking up tickets is Thursday, Nov. 4. This early deadline is to insure that the lobsters can be ordered and flown in for the event. The Top Hats will play for dancing.

\* \* \* \*

### "FRANKENSTEIN CONQUERS THE WORLD"

Movie & Magic Show  
Oct. 23



Ed Spriggs  
(3155)

Claudia Garlick  
(5314)