

TELEMETRY PACKAGE on one of the Nitehawk 9 rockets scheduled for launch during the total solar eclipse over the South Atlantic Nov. 12 is checked by Adolpho Martinez of Payload Systems Division 9221.

## Rocket Series to be Fired from Brazil for Solar Eclipse Study

Seventeen Sandians will launch a series of five rockets carrying Los Alamos Scientific Laboratory experiments from Rio Grande, Brazil, to obtain data during the total solar eclipse on Nov. 12.

This will be the second group of Sandians participating in scientific expeditions to study the solar eclipse off the coast of Brazil. Another group, as reported in the last issue of the LAB NEWS, will be aboard a high-flying NC-135A jet aircraft studying solar phenomena with a variety of scientific instruments. Both expeditions will conduct experiments similar to those used during the eclipse in the South Pacific in May 1965.

Laboratory-designed Nitehawk-9 rockets will be used to carry the LASL instruments to altitudes of about 175 miles. The rocket system consists of a Nike booster, a Tomahawk second stage, and a nine-inch diameter payload section. The payload section containing the experiment will be positioned toward the sun by means of a Sandia-designed attitude control system.

LASL physicists will conduct the experiments which are designed to measure the solar x-ray source function during the stages of the eclipse to correlate emission line intensities with visible active regions of the solar disk.

Spectrometers in the rockets will act as a sort of camera film and the moon will serve as the camera shutter. It is planned that as the "shutter" moves across the sun the sequential launchings will make it possible to establish the origin of the emission lines.

Two of the five Nitehawk-9 rockets

will be launched about two hours before the total eclipse, two will be fired during totality, and the remaining one will be launched during the partial eclipse following totality.

The rockets will be fired in a south-  
(Continued on Page Five)

## Patent Issued to Laboratory for Invention of Gas Generating Device

A patent for a Gas Generating Device has been issued to Sandia Corporation in the names of James R. Craig (1312) and Daniel J. Sasmor (1134).

The invention relates to gas generators using propellants for gas generating charges. Such generators may provide a source of high pressure combustion in response to a signal from an accelerometer or other environmental sensitive device upon attainment of a predetermined operating condition.

When bridgewires are utilized in the propellant combustion initiator, particles of conductive metals may be eroded from the housing and ignition assembly during combustion and may form a deposit across the bridgewire contact surface area causing re-establishment of the initial contact.

This invention overcomes this unwanted condition by utilizing a layer of material (such as anodized aluminum) around the propellant next to the inner wall of the gas generator housing. When the propellant burns, the material erodes, resulting in a nonconductive deposit across the bridgewire contact surface. This high re-

# SANDIA LAB NEWS



VOL. 18, NO. 18, SEPTEMBER 9, 1966

SANDIA LABORATORIES ALBUQUERQUE, NEW MEXICO OPERATED BY SANDIA CORPORATION FOR  
LIVERMORE, CALIFORNIA THE U. S. ATOMIC ENERGY COMMISSION

## Sandia Laboratory to Open Gates For 'Family Day' Tours Oct. 22

Sandia Laboratory will hold its second "Family Day" on Saturday, Oct. 22.

The event, as on the first Family Day in 1959, will be divided into three visiting periods. In early October employees will receive an Employee Bulletin giving full details and containing a ticket application blank. On this blank, employees can list the names of family members (living in the employee's household) whom they wish to bring with them, and indicate their visiting period preference (morning, mid-day, or afternoon).

Although visitors will be welcomed as they enter the Tech Areas, employees are the real "hosts" on Family Day. They will be responsible for their families at all times within the Tech Areas, and will guide

them to their own work areas and to the "open" buildings.

In addition to individual work areas, most buildings in Areas I, III, and V will be open to all visitors. Exhibits, demonstrations, or guides will be in some of these buildings.

Literature and tour maps will be distributed to all visitors as they enter the Tech Area through various gates. No cameras will be permitted within the Tech Areas, but souvenir booklets (distributed as employees leave) will contain pictures as well as information about Sandia Laboratory's mission and facilities.

General chairman of the steering committee for Family Day is J. W. Galbreath, manager, Public Relations Department 3430. Other members and their assignments include T. B. Sherwin (3431), J. E. Westbrook (9411), R. C. Colgan (3432), J. N. Johnson (3433), invitations and promotions; R. W. Hunnicutt (4544), J. C. Russell (1122), D. W. Ballard (2564), R. M. Jefferson (5224), D. K. Buchanan (7331), plant preparations; E. G. Franzak (1430), W. A. Sherman (2114), W. L. Martin (3154), W. A. Otero (4624), A. G. Carter, Jr. (5613), W. A. Benson (7513), W. N. Caudle (9327), C. E. Jordan (3243), tours.

J. F. Hayes (3463), E. G. Dyllo (4311), E. K. Baker (4212), J. J. Kane (2223), properties and exhibits; W. T. Moffat (7220), F. H. Johnson (3341), M. R. Madsen (1512), R. W. Roberts (2422), E. D. Jones (5151), H. M. Dumas (9233), L. M. Jercinovic (3210), hospitality; W. R. Rosenburg (3240), security; and M. J. Snyder (4135), financial.

## Division 2563 to Conduct VE Workshops for AEC

At the request of the Atomic Energy Commission, Sandia Laboratory will conduct two Value Engineering training courses for AEC and AEC contractor personnel from throughout the country.

Value Engineering and Cost Improvement Division 2563 will conduct the first session of the VE course Sept. 12-16 and the second session Sept. 26-30. There will be 43 participants in the first session and 46 in the second.



INVENTORS J. R. Craig (1312), left, and D. J. Sasmor (1134) examine the diagram of a gas generating device recently patented.

## R. W. Henderson Accepts Positions on National, State Levels



R. W. Henderson, vice president 2000, was appointed Aug. 10 by the General Manager of the Atomic Energy Commission to membership on the AEC's Committee of Senior Reviewers which studies the major technical activities of the AEC program and advises the Commission on classification and declassification matters, making recommendations with respect to the rules and guides for the control of scientific and technical information.

He has served as a Responsible Classification Reviewer, Chairman of the Sandia Classification Board, and as the AEC's Coordinating Organization Director for the Sandia Area in the development and administration of classification policy.

Also, effective Sept. 1, Mr. Henderson will become Chairman of the New Mexico State Board of Registration for Professional Engineers and Land Surveyors. He was appointed to the Board by Governor Campbell in September 1963 and was elected to the Chairmanship at the last meeting of the Board, a five-man group representing the several fields of engineer-

ing practice and education found in the State.

An engineer who progressed into management, Mr. Henderson has never lost touch with his profession. He has been active in technical societies locally and on a national level, honored by the membership grade of Fellow in the American Society of Mechanical Engineers in 1964. He was licensed to practice professional engineering in New Mexico in 1948 and shortly became a member of the National Society of Professional Engineers, a group concerned with achieving uniform requirements among all the states and territories for professional engineering licensing to assure competent practice of the profession and to facilitate relocation of engineers between states.

Since only some 12 percent of the technically qualified engineers in the country are registered, he has become deeply interested in the reasons for this poor showing, and is striving to uprate the professional stature and public value of registration through modernization of registration requirements.

As a member of the New Mexico Board of Registration, Mr. Henderson has worked on a national level with others holding similar positions to provide means of fairly and adequately examining engineers

in advanced specialties—solid state electronics, aero-space, dynamics of materials, etc.—which are beyond the coverage of most present day examinations.

"Engineers today are split into numerous technical societies which specialize in narrow technical fields. Consequently, the profession lacks a national voice which can speak for all engineers on matters of national importance—to the government and to the profession, as is the case with the American Medical Association and the Bar Association," Mr. Henderson says. "The NSPE was designed for this purpose, but its effectiveness has been limited because of registration as a membership requirement. Action is now underway to eliminate this obstacle through recognition of competence with or without the purely legal recognition of the registered status of an engineer."

Paralleling his strong interest in engineering professionalism is Mr. Henderson's concern for the public's acceptance of nuclear energy.

As a 1942 pioneer in the development of nuclear weapons at the Berkeley Radiation Laboratory, Oak Ridge, Los Alamos, and finally Sandia, Mr. Henderson has participated in the most significant scientific and technological achievement in modern history—the utilization of nuclear energy.

"The atom bomb was created in a time of desperate national crisis," he says, "and international pressures have demanded the continued development and production of nuclear weapons. I believe that our nation's deterrent arsenal of nuclear weapons has given us a greater degree of peace and security since the end of World War II than could have been achieved by any other means."

"Continued development can result in weapons whose effects can be limited to specific military tactical objectives, providing flexibility and effectiveness impossible with conventional weapons—and at lower cost per objective."

"The AEC's weapons program, nuclear power development, and production of numerous radioactive isotopes for industrial and medical use have demonstrated that the use of nuclear energy is just beginning. Public acceptance in a routine way of this limitless source of energy is the next big challenge which only time and education can surmount. The AEC's outstanding safety record, becoming more impressive each year with a steadily expanding nuclear energy utilization program, will eventually put the atom side by side with other industrial processes in public acceptance. Sandians can well be proud of their continuing part in this far reaching enterprise."

## Editorial Comment

Noise builds tension. It cuts down on efficiency. It can cause sleeplessness, poor digestion, and nervous strain.

According to the experts, we live in the noisiest country in the world.

Noise is an insidious thing. We're not always conscious of it (a dripping faucet seldom gets to us until the house is quiet and we're trying to go to sleep). But our system is conscious of noise and whether we notice it or not, it does affect us.

At Sandia, our plant engineers cut noises wherever possible. In addition to acoustic tiling, insulation, and equipment maintenance, the operating noise level and the control of such noise is a consideration in the purchase of new equipment.

In the streets, there's not much we can do about the noise; although there are city ordinances against unnecessary noise and faulty mufflers.

We can do something about the noise level at home. Drapes or curtains keep windows and walls from reflecting sound. Carpeting muffles noise. Acoustic tiling in the kitchen and/or playroom absorbs sound.

All of these help, but there's more that can be done and at no expense.

Simply take note at home and ask yourself questions such as these: Does the TV really have to be that loud? Does the kitchen door have to be open when the dishwasher or garbage disposal are running? Does the screen door have to slam when the kids go running out? Does the phone bell have to be on "loud"?

It's worth your time and comfort to check the noise around your home. You'll be surprised at the difference a little quiet makes.

## Emphasis to Continue

# Sandia's 'Plan for Progress' Program Completes Two Successful Years

Two years ago this month Sandia Corporation joined with hundreds of businesses and educational institutions participating in the President's Equal Employment Opportunity program. Sandia President S. P. Schwartz signed Sandia's "Plan for Progress" with President Lyndon B. Johnson on Sept. 14, 1964.

The plan was a reaffirmation of Sandia's continuing policy of hiring and assigning employees on the basis of their qualifications without discrimination because of race, creed, color, sex, or national origin. Sandia promised "affirmative action" toward achieving the nation's goal of full equality of employment opportunity.

Recently, the Company's activities under the Plan for Progress were reviewed by the Atomic Energy Commission's Sandia Area Office.

The report stated:

"Sandia management has developed a very affirmative EEO policy which is conscientiously administered. On the job and recreational facilities are excellent and completely free of segregation. Sandia is accepted as the leader of the community in EEO undertakings . . .

"Sandia is conscientiously implementing its 'Plan for Progress,' is considered a leader in the program locally, and is complying with all aspects of the EEO Program."

Mr. Schwartz, in commenting on the report, said, "I am pleased with our efforts

under the Plan for Progress. Our policy has always been hiring and assigning employees on the basis of their qualifications. We welcome the opportunity to participate in a larger national program.

"In the two years since we adopted the program, much progress has been made. However, much still remains to be done. We cannot permit any relaxation. We need to continue our efforts to fulfill both the spirit and the letter of the commitment we made two years ago. All of us have a responsibility for leadership in the field of human relations and to demonstrate our commitment to the goal of equal opportunity for all Americans."

In addition to expanded recruiting and training efforts by the Company, Sandia personnel participated in a number of community action programs aimed at achieving greater opportunity for employment.

Among these efforts was participation in a Plans for Progress Pilot Vocational Guidance Institute (one of 17 in the nation) at the University of New Mexico this summer for high school counselors and administrators. The steering committee of the VGI was headed by W. G. Funk, manager of Employment and Personnel Department 3150. It is expected to become the base for an Albuquerque Merit Employers' Council.

Sandia's Youth Opportunity Campaign is considered one of the highlights of the Plan for Progress program. The Company employed 80 youngsters during each of the past two summers, offering the opportunity for learning new skills and making it possible for the young people to continue their higher education.

Other activities included Sandia representatives working with school administrators, talking with students, and emphasizing the need for education and preparation when seeking employment with modern industry. Sandians worked with the Manpower Development Program, State Vocational Education organization, and the local Technical Vocational Institute. Sandia also participated in the EEO program on Youth Motivation, a local conference on Civil Rights which preceded and developed information for the June 1-2 White House Conference on Civil Rights, and other community social reform activities.

Walt Dodd of Personnel Processing and Reports Division 3153 is Sandia Laboratory's Plan for Progress coordinator. At Livermore Laboratory, Phil Leiserson of Employment Placement, Training, and Records Division 8212 is the Plan for Progress representative.

## Federated Giving Plan

# Long ECP History Shows Sandians' Concern for Progressive Community

A small group of representative Sandians is now busily engaged in planning an all-employee fund-raising campaign for the Laboratory to start Sept. 26.

Composition of the committee, agency needs, and the goals have changed numerous times since its inauguration nine years ago, but the Employees Contribution Plan (ECP) continues to be just what the name implies—an employee program which receives strong support from the employees, unions, and management.

It was after several years of concerted and persistent effort by a few Sandians that the Laboratory adopted, in the fall of 1957, what was then called an "All Charities" plan for federated giving through year-round payroll deductions.

Employees reasoned that they were solicited for contributions to various national health agencies and local groups almost every week at home or downtown. The majority felt they could not support the agencies with proportionate contributions unless they could contribute by payroll deduction on a year-round basis.

When Sandia Corporation was formed in 1949, a policy was established of conducting only one in-plant solicitation a year for the Albuquerque Community Chest.

Charitable organizations outside of the Albuquerque Community Chest were permitted to distribute coin boxes within the work area, but the results were so disappointing that the practice was discontinued.

In 1954 the local Red Cross chapter joined the Albuquerque Community Chest. The annual campaign was renamed the Albuquerque United Community Fund Campaign in the hope that other non-Chest agencies would join the movement.

When it became apparent that the Albuquerque campaign to include other national health service agencies in the single campaign had little chance of success, the Sandia employee committee began considering various proposals for the establishment of a federated-giving plan within the Company. It was hoped that Sandia's example and a similar plan at ACF would be followed by other major firms in the community.

Employee services and public relations organizations at the Laboratory conducted a preliminary survey in 1955 to determine the basic problems involved.

Action was deferred until the following year (1956). The employee committee for the United Fund campaign then recommended to Sandia management that a

federated-giving plan be established. They suggested that the plan include a specified list of nationally recognized charities to which employees could make contributions by year-round payroll deductions.

Sandia management agreed to the year-round payroll deduction feature (four months had been the maximum for payroll deduction up to that time) for only the United Community Fund agencies. This, it was felt, would encourage non-participating agencies to join UCF.

There was a slight increase in the number of employees electing to contribute by payroll deduction during the 1956 campaign, but there was a 38 percent increase over the total raised during the preceding drive. The increase was attributed to the extended payroll deduction period offered for the first time. It was also an indication of possible success for an expanded plan which would include the other national health agencies.

The 1957 employee committee submitted a new recommendation to Sandia management for the immediate adoption of the "All Charities" federated-giving plan. With the convincing evidence of employee support for year around payroll deductions, management agreed to inauguration of the proposed federated plan, on a trial basis. The committee quickly drafted plans to launch the new program.

To determine the most equitable distribution of the money to be raised, the committee obtained statements on the results of each selected charitable organization's recent fund-raising campaigns in the Albuquerque area. By totaling these amounts and determining the percentage of the total raised by each agency, a formula was agreed upon for the division of the fund. This same procedure has been followed each year since then to determine the allocation of the fund.

Results of the campaign exceeded the expectations of almost everyone and left no doubt of the employees' interest and support of such a plan.

On the basis of this success, it was agreed that the plan should be adopted as a permanent program. Under the dedicated guidance of the committee, the ECP campaigns have been organized and conducted by employees over the years, with steadily improving results and strong employee support. The Corporation provides the service of payroll deduction and necessary accounting and financial assistance, including the preparation of checks for the participating agencies each month.

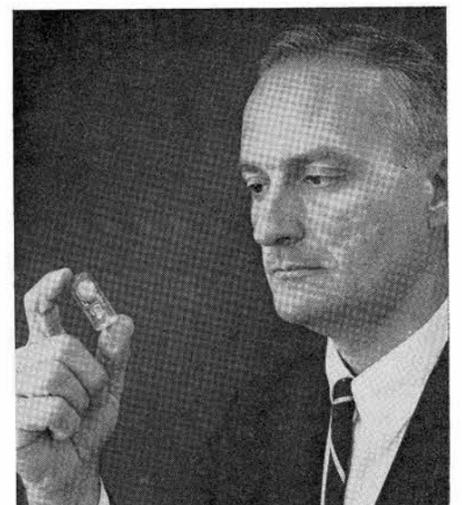
# New Radiation-Tolerant Quartz Resonator Device Issued Patent

A patent for Radiation Insensitive Quartz Crystal Devices has been assigned to Bell Telephone Laboratories, Inc., in the names of James C. King, now with Sandia, and David B. Fraser.

Both this patent and another issued previously to Mr. King describe the development of a quartz resonator for frequency control which can be operated in high-energy radiation environments without suffering a change in frequency. This is achieved through a special selection of the resonator orientation with respect to the quartz crystal from which it is cut. (When certain crystal cuts are subjected to nuclear irradiation, some show a large negative frequency variation, while others exhibit a positive change in frequency. These frequency variations are primarily due to changes in the elastic constants of the quartz which are induced by particle and ionizing radiation.)

The invention has application as a signal generator, radio frequency filters, or as piezoelectric transducers in combination with acoustic devices such as delay lines. These would be operable in missiles or satellites, in ground installations that might be subjected to nuclear radiation, or in space radiation environments.

Mr. King has been assigned to Sandia Laboratory for the past year as manager of Radiation Physics Department 5210. Research for this patent (No. 3,263,103) was performed while he was with BTL's Whippany, N. J., laboratory.



RADIATION INSENSITIVE QUARTZ developed by J. C. King (5210) was used in this precision frequency control resonator. A patent was recently issued on the method for achieving this radiation-tolerant device.

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LAB NEWS

SEPTEMBER 9, 1966

## SANDIA CORPORATION LAB NEWS



ALBUQUERQUE, NEW MEXICO • LIVERMORE, CALIFORNIA

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# LIVERMORE NEWS



SCLL CAMPAIGN COMMITTEE for the 1966 United Bay Area Crusade reviews information brochures which will be used during the forthcoming drive to be conducted at Livermore Laboratory the week of Sept. 26. Committee members (l to r) are R. J. Harks (8161), K. C. Purchase (8213), F. J. Maloney (8112), M. L. Glaze (8243), and M. J. Connors (8213).

## 1966 United Bay Area Crusade Plans Announced at SCLL

Plans for the forthcoming 1966 United Bay Area Crusade have been announced by F. J. (Jerry) Maloney (8112), chairman of the Campaign Committee at Livermore Laboratory. The drive will be held at SCLL during the week of Sept. 26.

According to Jerry, a target of \$21,000 in total employee contributions has been established by the committee as this year's goal.

"I am sure we at Livermore Laboratory have the capacity to meet this goal, and fair share giving is an essential element," says Jerry. "Our efforts will be aimed at promoting an awareness on the part of employees that the Crusade not only helps others, but through it, we are also helping ourselves. A total of over 170 health, wel-

fare, and youth service agencies in the five-county Bay Area are wholly or partially supported by Crusade funds. These endeavors affect and influence the life of each Sandian, his family, friends, and neighbors.

"The particular advantage of contributing to the Crusade is that our support through donations is multiplied by the donation of time by volunteers—doctors for children's clinics, scoutmasters for Boy Scout troops, entertainers for the USO, counselors for juvenile clubs and home service agencies, etc. Thus, our donations are a sharing of the unlucky one's burden, not 'charity' in the welfare sense of the word," he added.

Assisting Jerry as vice chairman is M. L. Glaze (8243). Others serving on the Campaign Committee include K. C. Purchase (8213), treasurer; M. J. Connors (8213), auditor; and R. J. Harks (8161), publicity.

### Livermore Notes

The first meeting of the 1966-67 season of the Mt. Diablo Subsection of the American Society of Mechanical Engineers (ASME) will be held at Castlewood Country Club Sept. 15. Guest speaker at the meeting, Dean Roy Bainer, University of California, Davis Campus, will discuss "The New College of Engineering at Davis."

Social hour will begin at 6 p.m. followed by dinner at 7. For reservations or further information, contact Louie Tallericco (8152), ext. 2579.

Gene Springer (8143) won the first place trophy with a net low score of 68 in the Sandia Employee Golf Club tournament on Aug. 13. The straight handicap tourney was played at Dry Creek Golf Course in Lodi.

Mike Ferrario (8252) took second place award. He tied with Gene for low net score honors, but lost the trophy on a hole-by-hole comparison of scores. Third place awards went to Al Skinrood (8132) and "Gabe" Gabrielson (8144) who tied with net scores of 69.

A special award was also won by Gabe for coming closest to the pin at the No. 5 hole.

Lurl Ostrander, Del Rasmussen, Donald Spencer (all 8231), and Don Van Dyke (8233) have been appointed to serve on a local prescreening jury for the tenth annual San Francisco International Film Festival in November. Dave Abrahams and Hugh O'Dell (both 8233) were re-appointed to this jury.

These six Sandians will review films in the "Film as Communication" division. The local jury is one of several in the Bay Area assigned to prescreen films for final judging. Juries are composed of film makers, educators, artists, writers, and audio-visual experts.

The festival is the only event of its kind recognized by the International Federation of Film Producers Association and is sponsored by the Art Association of the City of San Francisco. Entries are received from countries throughout the world.

American Youth Plan Memberships for air travel may be purchased in LRL Bldg. 205, Rm. 1028. Children between the ages of 12 and 21 planning a trip outside of California can travel on most airlines at one-half price. The membership costs \$3 and is good until the individual reaches the age of 22. For additional information call LRL Personnel Services, Pat Jordan, ext. 7051.

## Self-Instruction Courses For Off-Hours Study Offered by Training

Livermore Laboratory is again offering programmed self-instruction study during off-hours. Seven math and three computer language courses — FORTRAN, COBOL, and APT—are scheduled for Monday and Wednesday; and basic electricity, electronics, and transistors classes will be held on Tuesday and Thursday.

Since self-teaching textbooks and materials are used, class sessions are more like supervised study halls than conventional classes. An instructor is present to assist students, but there are only occasional lecture sessions. This type of study period permits the student to progress at his own pace through individual effort.

Other subjects in self-instruction textbook form are also available, and employees who wish to pursue the discipline of scheduled study are welcome in the after-hours study halls. The instructor is not specially prepared on these subjects; however, in most instances, he could locate material or persons to help the student.

"The courses are not aimed toward obtaining a degree and would not be counted in a degree program," says SCLL Training Specialist Wil Miller (8212). "Rather, they are designed for the individual who desires practical knowledge or review in a specific field, but who cannot attend local schools because of travel, shift work, specialized subjects, etc."

Study halls will be held beginning Sept. 19 in the Personnel interview rooms (Bldg. 911) from 4:20 to 5:50 p.m.

To enroll or for further information, contact Division 8212, ext. 2402.



PLAYING THE LEAD ROLE of an American game hunter, Bob Harks (8161) stumbles across two Scottish lasses from the fantasy town of "Brigadoon." The Oakland Light Opera Association's production of this Lerner and Loewe operetta will be presented at the Woodminster Amphitheater in Joaquin Miller Park, Oakland, Sept. 16-17 and 23-24 beginning at 8 p.m.

## Slide Rule-Computer Developed To Aid Mechanical Shock Tests

Thanks to Richard S. Jacobson (8113), test engineer at Livermore Laboratory, the time consuming and sometimes complicated task of determining mechanical shock test parameters has been reduced to a relatively simple series of operations on a special slide rule.

The slide rule is a handy Shock Pulse Computer which Dick recently designed. Dick conceived the idea for the computer after compiling a series of nomographs outlining shock-test ranges during a recent survey of SCLL's shock-test equipment. He theorized that if several graphs could be reduced to numerical scales, they could be combined in a slide rule format for convenience and flexibility.

According to Dick, if an engineer is given specific information concerning the shock amplitude, time duration, and pulse shape he is to simulate, he can with the computer

quickly determine: the velocity change necessary to produce the pulse; the free-fall height (assuming no air resistance) required to produce the velocity change; the maximum displacement of the test item during the shock pulse; the shock pulse duration at 10 percent amplitude; and the rise time from 10 percent to 90 percent amplitude. After these parameters are established, he can decide on the kind of shock-test equipment he must use to perform the test.

Computing the same information under the old method of consulting a series of nomographs and applying mathematical formula to the problems would have taken an hour or more, while the computer handles the problems within minutes.

"The computer cannot be used to tell how to generate shock pulses or to define the type of shock programmer, i.e., teflon, honeycomb, rubber, etc., which should be used to obtain a specified pulse," explains Dick. "But, it can be very helpful in selecting the appropriate shock machine for a particular test, in checking the accuracy of shock data collected, and in designing devices used to shape shock pulses."

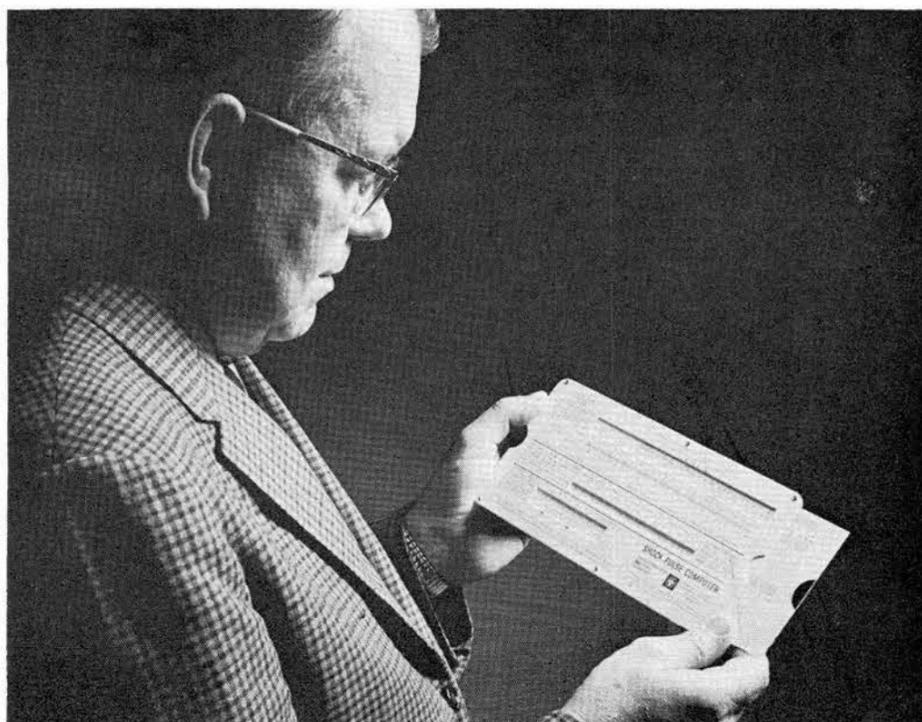
The pulse shapes treated by the computer are the five most commonly used in mechanical shock tests: square, half sine, triangular, haversine, and parabolic cusp. Sandia engineers or technicians can acquire one of these computers from the library in Bldg. 912 at Livermore Laboratory or from R. O. Brooks (7341), Bldg. 882 at Sandia Laboratory.

The computer is also available at a cost of \$1.95 through the Clearinghouse for Federal Scientific and Technical Information, National Bureau of Standards, U.S. Department of Commerce, Springfield, Va.

### Welcome Newcomers

Aug. 13-30

California	
Janet A. Bernacil, Livermore	8235
Robert D. Piper, Redwood City	8222
Arley Turner, Livermore	8223
Lenise E. Wimborough, Livermore	8235
Oregon	
Teresa A. Mata, Klamath Falls	8252
New York	
Omer A. Fettahliogulu, Long Island	8147



SHOCK PULSE COMPUTER—R. S. Jacobson (8113), engineer at Livermore Laboratory, demonstrates the slide rule he designed to aid engineers and test technicians in computing mechanical shock test parameters.

# Sandia USE Program Starts Second Year

Ninety-eight Sandia technical management personnel are alumni of a unique educational institution — Sandia's Unified Science and Engineering (USE) program. After one year of operation, about half of the Company's technical supervisors have completed the six-week concentrated study program. It presents an in-depth survey of engineering, mathematics, physics, and other technical subjects concentrating on the advances of recent years and the particular areas of interest to Sandia Corporation.

After a short summer break, the USE course will start its second year of operation next week with 30 Sandia supervisors in attendance. Classes meet in the classroom facilities in the basement of the Coronado Club and run full time during the course period.

A few companies have similar programs, but Sandia's USE program differs in two fundamental ways from these. The instructors are Company employees rather than "outside" authorities and the facilities are "in-house" rather than a hotel or rented conference facilities.

"The quality of USE instructors compares with the best available," says Orval Jones, supervisor of Dynamic Stress Research Division 5133, who was technical director of the USE program for its first year. "These Sandians, primarily men with PhD degrees working in research activities, are responsible for the success of the program and the enthusiasm of the participants for the course contents."

R. K. Traeger, supervisor of Polymer Chemistry Division 1111, will be technical director of USE for the next year. Continuing as administrators of the program are D. L. Hughes and D. R. Fisher of Organization and Manpower Development Department 3130.

Objectives of the USE program are to increase the supervisor's awareness and appreciation of the rapidly expanding areas of modern engineering and science, to equip the supervisor to better develop his own program of continuing education, and to increase the supervisor's ability in communicating with other supervisors and his own staff.

The course was an outgrowth of a study conducted by Department 3130 in 1963. At that time, many leading educators and industrialists were commenting that rapid advances in technology were "reducing the half-life of an engineer's education to about 10 years."

One of the conclusions of the Sandia study of technical obsolescence was that the technical staff member had ample opportunities available through Sandia education programs to keep technically current, but that these opportunities were not appropriate to the needs of the technical supervisor. The existing courses in the Sandia educational programs were intended to give the student a personal competence in a specific area; however, the engineering supervisor seldom needs the detail inherent in such courses. Instead, the study showed that supervisors needed a broad knowledge covering many areas and a special educational program to help them obtain that knowledge.

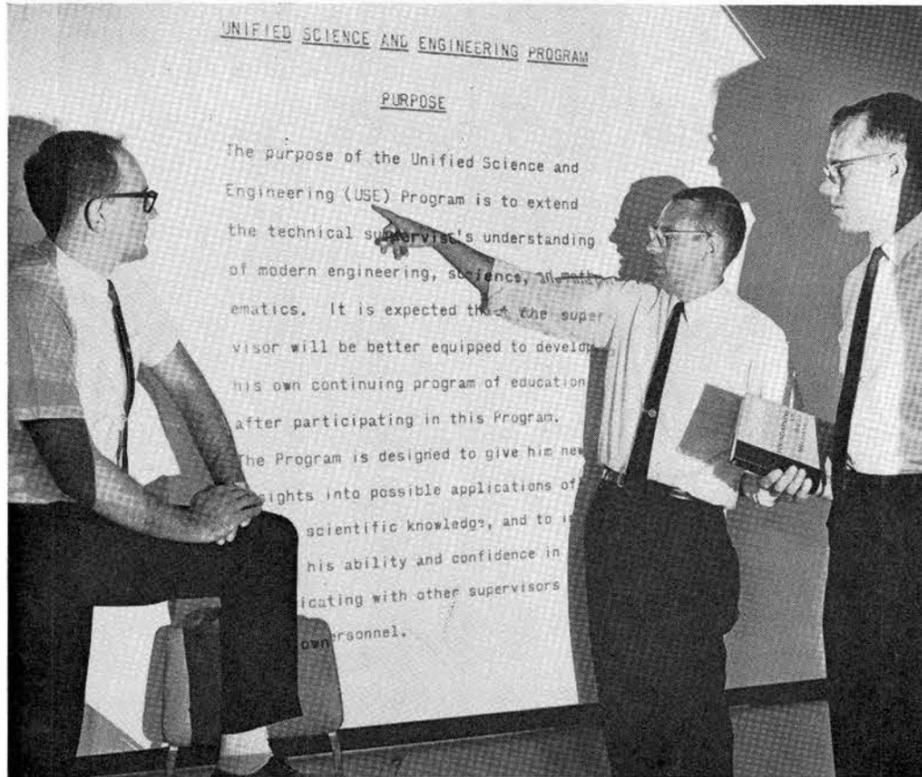
The USE program meets both needs.

The curriculum of the USE program consists of 26 subjects presented by 25 instructors to 30 participants in 177 hours of lecture. These lectures are presented during six weeks of classes with a one-week break between the two three-week segments. Four one-and-one-half-hour lectures are presented each day. USE program participants have indicated that maintenance of a learning climate during such long and concentrated exposure is possible only through the very high quality of the instructor's presentations.

The first two weeks of the USE course are devoted to laying a foundation in mathematics and physics. The curriculum begins at the college level in mathematics and assumes the participants are familiar with the processes of differentiation and integration. Mathematics is carried through partial differential equations and methods of their solution or approximation since they are basic to many of the subsequent lectures. In physics, the lectures initially cover the fundamentals of classical physics and progress to relativistic and quantum physics.

The next two weeks present the theoretical basis of several disciplines including materials science, mechanics, probability, and electromagnetics.

The final two weeks of the course concentrate on applications with emphasis on



DICK TRAEGER (1111), center, discusses Sandia's Unified Science and Engineering Course with Duane Hughes (3134), left, and Orval Jones (5133), right, who initiated the program one year ago. Dick will be technical director of the program for the coming year.

areas having particular significance for Sandia presently and in the future.

The lectures are supported by nightly reading assignments which are made from a library of 23 carefully selected modern textbooks which the participant receives during the program. He is also given a set of notes at the start of each lecture series so that he can devote his full attention to the lecture. The instructor uses projected transparencies of these same notes during the lecture. With the amount of material to be covered during the course, this technique tends to keep the class on schedule and on subject. At the close of a six-week session, participants accumulate more than 2400 pages of notes.

Orval Jones, as technical director of USE, was responsible for the overall design of the USE curriculum. In the early development of the course (which was performed under the pressure of a looming deadline), Orval decided on the courses to be presented, conferred with Sandia technical organizations and incorporated their ideas, interviewed supervisors, selected the instructors for the planned courses, and worked with them in preparing their lectures.

"In all, he did a tremendous selling and organization job for the program," Duane Hughes said. Duane assisted Orval in the academic portion of the program and was also responsible for the selection of participants, development of the orientation, and for obtaining the necessary materials and facilities for a program of this magnitude. During the USE sessions, Don Fisher and

Duane handle the administration and logistics of the program.

Dick Traeger was one of the outstanding lecturers, according to critiques of the participants, and he will continue his lectures on "Polymers" in continuing sessions of USE. In addition, he assumes the responsibilities of technical director of the program and will continually update the content and presentations.

In addition to assimilating the technical content of USE, a number of other benefits have accrued to participants from USE sessions.

These include the association of supervisors from many Sandia organizations discussing their projects and their capabilities with others outside their usual channels of operations. In addition, the program identifies the instructors as technical experts and many valuable consultations on Sandia projects have resulted. Participation in Out-of-Hours courses by technical supervisors has increased.

Sandia's Education Committee, headed by G. A. Fowler, vice president 9000, feels that the USE program is an outstanding success.

"Supervisors have responded with enthusiasm," he says. "We have become more aware of the knowledge that newly educated engineers and scientists have at their disposal which was not a part of education 10 years ago. This is a significant number of subjects and 80 percent of supervisors at Sandia have been out of school for at least 10 years. USE is closing this 'education gap' and our technical communication throughout the Laboratories has improved."

## Stoughton Bell Heads UNM Computing Center

Stoughton Bell, supervisor of Systems Analysis Division 5253, has been named director of the University of New Mexico Computing Center, effective Sept. 1.



In his new position, he will be in charge of the development and use of UNM's information processing capabilities. Some 2500 students, faculty members, and administrative employees are expected to use these computer facilities during the coming year.

Mr. Bell was with Sandia 11 years and had also been a visiting lecturer at the University during most of that time. He has AB, MA, and PhD degrees in mathematics from the University of California at Berkeley.

## Supervisory Appointment

JOE D. HANKINS to supervisor of Test Modeling Division 5264, Mathematics Department II, effective Sept. 1.



Joe has been working on systems analysis projects since he came to Sandia in 1954.

Previously he was a mathematics instructor at the University of Missouri for several years.

Joe received a Bachelor's degree in chemical engineering from Missouri School of Mines in 1950, an MS from the University of Missouri in 1951, and a PhD degree in mathematics from the same school in 1954.

From 1946-48 he served in the Army.

He is a member of the American Mathematical Society and the Mathematical Association of America.

## Microscopy Meeting Conducted in Japan

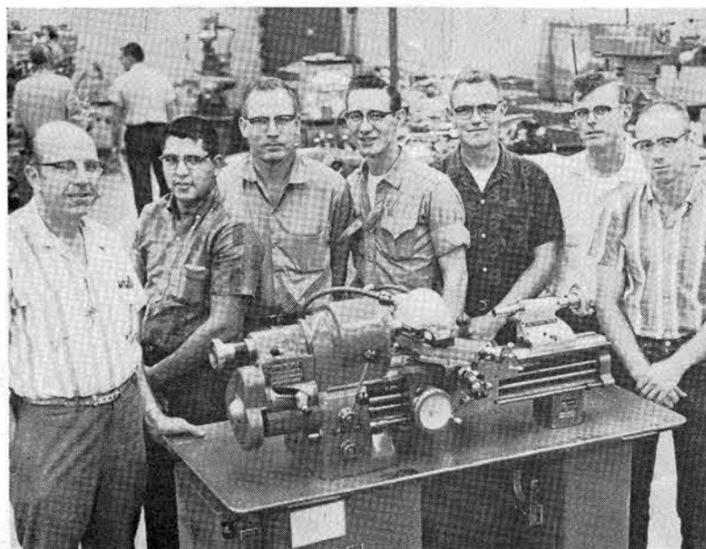
A. W. Mullendore (1123) attended the Sixth International Congress for Electron Microscopy held Aug. 28-Sept. 4 in Kyoto, Japan.

The congress was conducted under the auspices of the International Federation of Societies for Electron Microscopy.

Mr. Mullendore presented a paper, which he co-authored with D. M. Mattox (1123) and W. B. Estill (1122), entitled "Structural Changes in Thin Gold Foils During Heating." He read a second paper written by Charles Stein (1131), entitled "Electron Microscopy Study of the Creep of Aluminum."

Some 1400 participants from 36 countries attended the Congress, and 750 technical papers were presented. The sessions were held in the Kyoto International Conference Hall. Working languages for the congress were English, French, and German.

The last such conference was held in 1962 in Philadelphia.



GROUPED BEHIND A LATHE are members of Sandia's 10th class of graduating apprentice machinists. K. R. Dickerson, supervisor of Apprentice Machine Section (4254-2), left, poses with the new Journeyman Machinists (l to r) Gilbert Padilla, Clyde Townsend, Jerry Brooks, Robert Kehl, Gerald Arnold, and James Hennie.



SANDIA'S THIRD class of electronic apprentices graduated Aug. 29, bringing to 14 the number of men who have completed this program to date. (l to r) Edward W. Roche, Dwayne Little (seated), Edward Rankin, and Charles M. Sanders receive some final instructions from T. A. Allen, supervisor of Section 4233-2.

# Founder of Continuum Mechanics Sets Lectures, Consultation Here

C. M. Truesdell, III, the pioneer and founder of modern continuum mechanics, will present two general lectures, part of Sandia Laboratory's Research Colloquium, on Sept. 12 and 20. Both will be at 1:15 p.m. in Bldg. 815.

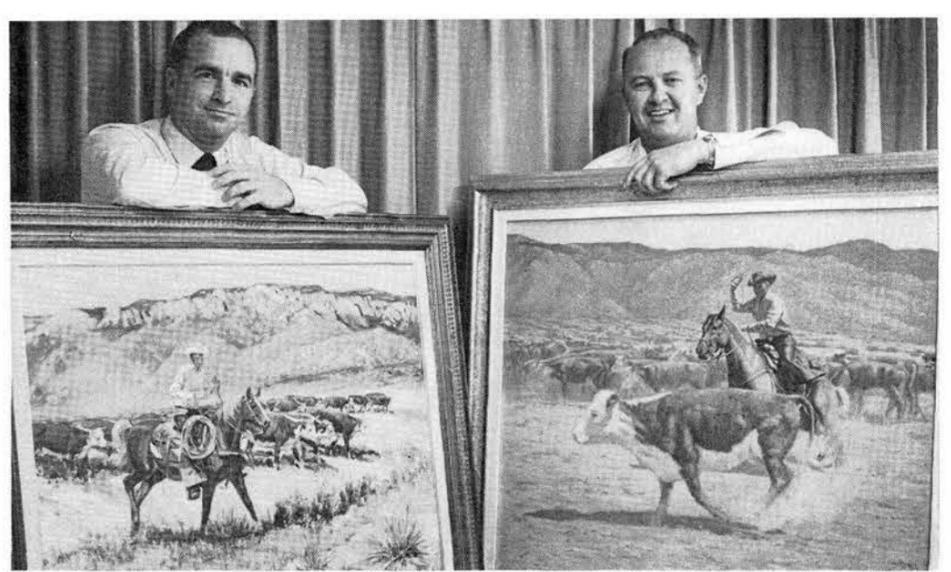
The subjects of these lectures will be "Reactions of Late Baroque Mechanics to Success, Conjecture, Error, and Failure in Newton's PRINCIPIA" and "Continuum Mechanics in the Last Two Decades." The first will discuss the influence of Newton's PRINCIPIA, published in 1686, on the work of Euler, Bernoulli, and others in the subsequent 70-year period.

Prof. Truesdell has been Professor of Rational Mechanics at The Johns Hopkins University since 1961. He is the author of two authoritative texts on the subject of continuum mechanics in ENCYCLOPEDIA OF PHYSICS, the founder of several international technical societies, and the founder and editor of several technical journals. In addition to his reputation as an outstanding teacher, Prof. Truesdell is a recognized authority on the history of mechanics.

He has BS degrees in mathematics and physics, and an MS in mathematics from California Institute of Technology, a Certificate in Mechanics from Brown University, and a PhD degree in mathematics from Princeton University.

While he is at Sandia Prof. Truesdell will present an eight-session course in Continuum Mechanics and Advanced Technology, primarily for employees holding engineering degrees. Additional information may be obtained from Employee Training and Education Division 3132.

Requests for appointments to consult with Prof. Truesdell during his stay at Sandia may be made through Peter Chen (1116), tel. 264-3172.



THESE TWO WESTERN PAINTINGS by Gordon Snidow (left) and George Marks (both 3463) are among those the Sandia artists are displaying at the Cowboy Artists of America Exhibit at the Cowboy Hall of Fame in Oklahoma City.

## Retiring . . .



Harold D. Finch of Division III, 5613, Advanced Systems Development Department I, will retire Sept. 30. Since he joined Sandia in July 1952, Mr. Finch has been project engineer for various programs, done research on

underwater telemetry, and worked on systems studies of telemetry behavior. He was assigned to the Field Test Organization for nine years.

He spent five and a half years in the Navy and during World War II was radio engineer for the 13th Naval District.

Mr. and Mrs. Finch live at 1830 Indiana St. NE, but they won't be spending much time there in the months to come.

"I'm a historian," says Harold, "and I hope to be able to document the early Spanish history of Washington and British Columbia. I'm interested in the years prior to British occupation in 1792." Mr. and Mrs. Finch will make an extended visit to that area after he retires.

Later this fall they will return to Albuquerque to "get organized" and then the work really begins. Harold is trying to gather more information on an early Spanish sea captain, who explored the coast of Washington and British Columbia. He has information that the captain lived in Tepic, Mexico.

This winter, Harold will begin to search the archives of Mexico for information—ships logs, letters, anything written and retained pertaining to this area of Spanish exploration. Their first stop will be San Blas, then inland to Tepic, then on to Mexico City. "This isn't something that I will do in one trip or all at once," Harold says. "In fact it will take several years. I hope, eventually to be able to search the principal archives of Mexico in Sevilla, Spain.

"This isn't work, research is fun, and I'm anxious to get on with it," Harold says.

\* \* \*



How would you like to spend the rest of this year fishing and getting to know the northern area of New Mexico, spending next year traveling coast to coast visiting and renewing old friendships, and then taking a trip to Turkey?

These are the retirement plans of Eric R. Steinig of Design Definition Section B II, 2212-2. He will retire on Sept. 30. Eric has worked in Drafting, checking and designing, since he was employed by Sandia Laboratory in June 1954.

At that time he was living in Chicago, and having spent all his life in the midwest, he had misgivings about moving to Albuquerque. "I really was worried; I thought Albuquerque would be rugged and remote. I was surprised and wouldn't live any place else now. But I still have relatives in the east who believe we are living in an uncivilized area with no industry or modern facilities," Eric says.

Mr. and Mrs. Steinig live at 614 Washington NE. They have two sons, one married and living in northern New Mexico, and the other working in Turkey; and one daughter at home.

"I could just retire and grow old," Eric says, "but I have too many interests, and my daughter keeps me on the ball. I have a lot of fishing partners lined up, we have many friends here, and we are looking forward to traveling."

## Promotions

John A. Snyder (5224) to Staff Associate Technical  
Billie N. Yates (2211) to Staff Associate Drafting  
R. Lynn Ridsdale (4631) to Staff Assistant Technical  
James A. Enlow (7324) to Staff Assistant Technical  
Donald L. Fulton (7324) to Staff Assistant Technical  
Robert R. Horton (7324) to Staff Assistant Technical  
Ben B. Conklin (7341) to Staff Assistant Technical  
R. L. Ledgerwood (7341) to Staff Assistant Technical  
David B. Davis (7342) to Staff Assistant Technical  
Tex E. Samuelson (7342) to Staff Assistant Technical  
Joseph Beltz (8112) to Staff Assistant Technical  
Harvey E. Long (2551) to Staff Assistant Administrative  
Marilyn Little (3126) to Staff Assistant Administrative  
Lorin B. Furrow (4574) to Janitor  
Isaias Gutierrez (4574) to Janitor  
Seldon Jaramillo (4575) to Laborer  
Joe N. Lovato (4575) to Laborer  
Ernest Costales (3234) to Wireman  
Silverio J. Armijo (4574) to Cleaner  
Ponciano Barela (4614) to Utility Operator  
Herman R. Lucero (4233) to Platemaker  
William B. McDowell (4513) to Electrician  
Mason V. Writtenberry (4513) to Electrician  
Charles E. Jenkins (4231) to Technician  
Joan I. Gentry (3126) to Typist Clerk  
Martin A. Gonzales (3415) to Mail Clerk  
Richard J. Orzel (3415) to Mail Clerk  
Thomas A. Sandlin (3415) to Mail Clerk  
Judy Ann Groves (2526) to Teletypewriter Operator  
Margaret R. Romero (4333) to Record Clerk  
Ernest Costales (3415) to Mail Clerk  
Margaret E. Marquez (3126) to Secretary Steno  
O'Donna B. Scalf (3126) to Secretary Steno  
Judith L. Tripp (2232) to Document Clerk  
Catherine Absharie (4135) to Senior Clerk  
Marjorie Michaud (7521) to Record Clerk  
Donald W. Cook (2232) to Microreproduction Equipment Operator  
Domitilia Casares (2234) to Service Clerk  
Winnie Ellis (2234) to Service Clerk  
Bernadine Sullivan (7521) to Typist  
Margaret M. Hansen (3421) to Library Assistant  
Edith A. Worley (3465) to Composer  
Orlando Torres (9411) to Tabulating Equipment Operator  
Larry E. Wilhelm (9411) to Tabulating Equipment Operator  
Ruby H. Rael (2234) to Service Clerk  
Lawrence Verzi (4362) to Expediter  
Seyfred R. Toledo (4555) to Order Detailer  
Robert L. Corey (4613) to Stock Analyst  
Jesse Watts (8245) to Stockkeeper  
Jimmie W. Ackerman (8235) to Messenger  
Shelia G. Signor (8253) to Secretary Typist  
Keith A. Oatney (8111) to Data Reduction Clerk  
Broward J. Moss (8253) to Service Clerk  
Charles A. Hannes (8112) to Laboratory Assistant  
Geraldine Hutchison (2420) to Secretary  
Ann F. Hamilton (5540) to Secretary  
Joseph G. Woodley (7324) to Laboratory Assistant  
Dorothy B. Hoeke (9300) to Secretary  
Rodney D. Aguilar (8223) to Apprentice Machinist

## Local Artists Exhibit Paintings at Cowboy Hall of Fame Show Today

Two Sandia technical illustrators will exhibit paintings at the Cowboy Artists of America Show at the Cowboy Hall of Fame, Oklahoma City, starting Sept. 9. The exhibit will continue for six weeks.

Gordon Snidow (3463-3) will show four oil paintings depicting cowboys in different work situations — riding herd in the rain, carrying a newborn foal to safety, huddling around the campfire during a "norther," and a miniature watercolor of a cowboy on horseback following a small herd of cattle.

George Marks (3463-2) will hang two watercolors and three oils. These western paintings depict a cattle drive, roping a calf, and three different scenes of riders and pack horses or mules.

Both men have garnered a number of honors for their off-the-job paintings as well as for their on-the-job illustrations, pamphlets, and posters.

George's painting "Odd Man Out" won the purchase award at the 1964 New Mexico State Fair and it is now in the permanent State Fair Art Exhibit. His leisure work in portraits and western scenes is mainly on commission.

Gordon has sold paintings for reproduction as covers on NEW MEXICO OUTDOORSMAN and WESTERN HORSEMAN. Other paintings are in the permanent collection of Thomas Gilcrease Museum of Western Art and History in Tulsa and the W. B. Davis Museum in Duncan, Okla.

The Cowboy Hall of Fame show is limited to members of Cowboy Artists of America. The object of this group is to perpetuate the memory and culture of the old west as typified by the late Frederic Remington, Charles Russell, and others, to insure authentic representation of life in the west, and to maintain standards of quality in contemporary western painting, drawing, and sculpture.

Members must be professional fine artists specializing in cowboy, Indian, pioneer, or horse subjects, in the form of painting, etching, lithography, drawing, or sculpture.

The only other members of the Cowboy Artists of America residing in New Mexico are Fred Harman of Albuquerque, charter member and director, and Charles Sawyer of Melrose, an associate member.

## Albert Narath Speaker At NATO Institute

Albert Narath, manager of Solid State Research Department 5150, was an invited lecturer at a NATO Advanced Study Institute on Hyperfine Interactions in Matter held at Aix-en-Provence, France, Aug. 15-26.

Mr. Narath's presentation was entitled "Nuclear Magnetic Resonance in Solids."

There were about a dozen other lecturers including R. L. Mossbauer of the Technische Hochschule in Munich, Germany, and Prof. I. Rabi of Columbia University, both Nobel laureates in physics. Four other Americans participated in the program. They were from Bell Telephone Laboratories, MIT's National Magnet Laboratory, and two from Brookhaven National Laboratory.

## Scientist Participates in UCLA Defense Seminar

J. M. Hoffman (5242) was among three dozen civilian and government scientists and military officers invited to participate in the Third Annual UCLA Defense Science Seminar, Aug. 1-26.

The seminar, sponsored under an Advanced Research Project Agency contract, included a series of lectures on a wide variety of current and relevant scientific-technical-military subjects, and field trips to Vandenberg AFB, the Naval Ordnance Test Station at China Lake, Calif., Picatinny Arsenal in Maryland, Field Command/DASA here, and NORAD in Colorado Springs.

Purpose of the seminar is "to develop a new generation of responsible people, knowledgeable in the scientific-technical problems of defense and government, as a base from which might be drawn new technical committee members, counselors, and, occasionally, government administrators."

E. H. Beckner (5142) and A. J. Chabai (5623) attended the seminar last year.



REPRESENTATIVES of Frankford Arsenal visited Sandia Laboratory recently to study the Company's True Position Dimensioning System for possible incorporation into the Arsenal's drawing standards. From left are R. F. Utter (3132), who led Sandia's development of a programmed dimensioning textbook; Julian Luczak, Chief, Frankford Engineering Design Branch; Howard MacGrady, Frankford project engineer; and Paul Gehris of Design Definition Division A, 2211.

Continued from Page One . . .

## ROCKET SERIES

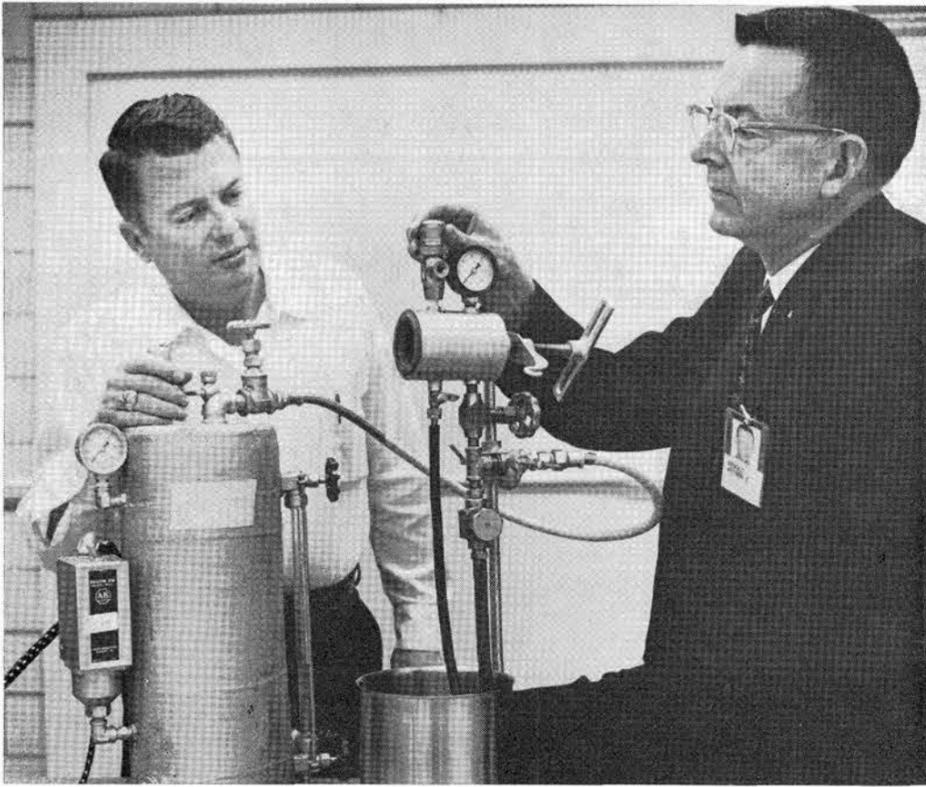
easterly direction over the South Atlantic from four launchers on the beach near Rio Grande, which is in the extreme southeastern corner of Brazil.

Sandia will also provide the launchers, telemetry, data acquisition, and supporting ground facilities.

National Aeronautics and Space Administration and the Defense Atomic Support Agency will also launch rockets with scientific payloads from the Rio Grande area during the eclipse.

W. E. Walker (9224) is the Sandia project manager. Other Sandians scheduled to participate in the launch operations are F. W. Christensen, A. A. Young, A. Martinez, K. V. Nixon (all 9221), L. M. Bossart, M. R. Zimmerman (both 9226), E. T. Ronan, V. T. Strascina (both 9224), W. R. Barton and D. Q. Matejka (both 9324).

Rounding out the Sandia launch crew are R. L. Hostetler, J. E. Malloch (both 9222), P. D. Seward, R. C. Rivera (both 2551), and D. P. Fifield (7223).



NEW PAINT TESTER, patented this month, is demonstrated by inventors S. D. Holmes (1133), left, and V. E. Arnold (2564). The device speeds up time required for determining adherence characteristics of paint coatings.

## New Paint Tester Invented by Two Sandians Granted Patent

A paint testing device patented by two Sandians speeds up time required for humidity testing of paint coatings. Within a few minutes, the new tester can produce characteristics of exposure formerly requiring 500 hours or more in a humidity cabinet.

The tester, invented by V. E. Arnold (2564) and S. D. Holmes (1133), uses steam under closely controlled conditions. Not only does the steam application method indicate the ability of a paint system to withstand the degrading action of high humidity, it also indicates if a proven paint system has been properly applied. Tests have clearly shown coating defects such as lack of cure, improper cleaning, retention of contaminant in anodized film, different formulations, and different quality levels. The degree of failure is a function of the quality of the coating system, the duration of the exposure to test conditions, and the steam pressure used.

### Sandia Authors

E. P. Eer Nisse (5142), "Coupled Mode Approach to Elastic Vibration Analysis: I Cartesian Coordinates and the Rectangular Plate," October issue, JOURNAL OF THE ACOUSTICAL SOCIETY OF AMERICA.

E. S. Roth (2565), "Functional Gaging," August issue, WESTERN MACHINERY.

Bruno Morosin (5151), "The Crystal Structure of  $\text{Cr}(\text{H}_2\text{O})_4\text{Cl} \cdot 2\text{H}_2\text{O}$ ," Vol. 21, page 280, ACTA CRYSTALLOGRAPHICA; "A Reinvestigation of the Crystal Structure of  $\text{LiIO}_3$ ," Vol. 20, page 75A, ACTA CRYSTALLOGRAPHICA.

P. B. Bailey (5261), P. E. Waltman (former Sandian), and L. F. Shampine (5262), "Iteration and Two Point Boundary Value Problems," Vol. 21, No. 4, ARCHIVE FOR RATIONAL MECHANICS AND ANALYSIS; "Nonlinear Second Order Boundary Value Problems: Existence and Regions of Uniqueness," August issue, JOURNAL OF MATHEMATICAL ANALYSIS AND APPLICATIONS.

G. W. Arnold (5211), "Radiative Recombination in Annealed Electron Irradiated GaAs," Sept. 15 issue, PHYSICAL REVIEW.

G. W. McClure (5121), "Electron Transfer in Proton-Hydrogen Atom Collisions: 2-117 keV," August issue, PHYSICAL REVIEW.

### Sandia Speakers

G. J. Simmons (5612), "Iterative Storage of Multi-dimensional Function in Discrete Distributed Memories," Second Computer and Information Sciences Symposium, Aug. 22-24, Columbus, Ohio.

W. B. Estill (1122) and J. C. Moody (2411), "Electron Microscopy of Micro-Scratches in Gold," 24th annual meeting of the Electron Microscope Society of America, Aug. 22-26, San Francisco. At the same meeting there was a scientific exhibit of five photographic plates showing gold single crystals grown from vapor by R. L. Schwoebel and J. C. Tidmore, Jr. (both 5123).

The tester consists of a cylindrical chamber with an adaptor which accommodates either a flat or a contoured test surface. The chamber is held snugly to the item to be tested with a strap. A gasket provides a tight seal.

During a test, steam introduced into the chamber at controlled pressure contacts the painted surface being tested. The test area is two inches in diameter. A small amount of steam is continuously released from the tester through a pressure relief valve. This provides an escape for some of the volatiles that may come out of the paint and also facilitates maintenance of a constant pressure within the chamber.

Failure of the paint is indicated by blistering or other loss of adherence, peeling, discoloration, or other damage incurred as a result of exposure. A coating system with high film integrity and good adherence will not be destroyed by normal testing. Trial testing can establish the limits of the paint; then, during production of the item, a somewhat milder exposure can be given to production parts to assure that they meet minimum requirements.

The new tester was developed for use in a Sandia program. Final design of the production model of the paint tester was the work of G. J. Hof (2565).

The inventors applied for and were granted a release under which they were allowed to file a private patent application and take other steps to exploit the invention. The release reserves to the government and Western Electric Company royalty free license.

Patent No. 3,266,306 was issued to the inventors Aug. 16.

## John Dickinson Heads State Fair Horse Show for Past 10 Years

For the past 10 years John R. Dickinson (7251) has taken his vacation during the New Mexico State Fair. He trades his Field Testing duties for those of superintendent of the Fair's outstanding Horse Show.

Hundreds of horses on the entry lists from all parts of the West and Southwest indicate all horse breeds will be represented in the forthcoming Fair—Sept. 15-25. Some \$25,000 will be paid in premiums to winning exhibitors.

John loves horses, as his long association with the Horse Show indicates, but he does not own any. His job at the Fair enables him to keep abreast of developments in the breeds and to continue his association with the men who are most interested in horses.

John's interest started early. His father was a New Mexico dairyman and horse-breeder and John grew up with "working" horses. He feels that "pleasure" horses for weekend riding are not for him.

John's interest started early. His father was a New Mexico dairyman and horse-breeder and John grew up with "working" horses. He feels that "pleasure" horses for weekend riding are not for him.

As Horse Show superintendent, John has year around activity with the Horse Breeders' Associations coordinating their ideas for the competitions with the Fair management until the final plans are formulated. He assists in the selection of judges and arranges the schedule for the 11 days of exhibition and competition. During the show, he makes all on-the-spot decisions and is the focal point for the conduct of the show.

Breeds shown during the Fair include Appaloosas, Arabians, Quarter Horses, Palominos, Morgans, and saddlebred horses.

A special feature of the show this year will be the celebration of the 25th anniversary of Palomino competition at the New Mexico State Fair.

"It's my hobby," John says, "and like all hobbyists, I find satisfaction in the activity."

## Actor Carstens Tackles One-Character Play

The one-character play requires the utmost acting ability. There is the difficulty in conveying action and in developing the character's personality without the assistance of other players. Worst of all, if the play is a "turkey," there's only one actor to blame.

Bill Carstens (3410) has accepted such an acting challenge. He's appearing through Sept. 11 in the Old Town Studio's production of Samuel Beckett's "Krapp's Last Tape." The second one-act play to be offered on the same program is Edward Albee's "The Zoo Story." The two characters in the latter play are portrayed by Bill and his 18-year-old son Chris.

"The first play is virtually plotless. Krapp is a man who on his 69th birthday is listening to the playback of a tape recording made on his 39th birthday," Bill explains. "Each birthday recording was sort of an annual report of highlights of recent months and his impressions."

A table is the only item of furniture on the stage and the one character moves into and out of a darkened section. The taped comments are interspersed with pantomime, a Chaplinesque-type of humor, and a growing realization of Krapp's degeneration over the 30-year period.

"The Zoo Story" features a middle-aged small-time publishing executive (played by Bill), and a younger man (played by Chris) who is full of psychological-psychopathic problems. The two begin conversing on a park bench on a Sunday afternoon.

The similarity of the two men's problems is emphasized rather than the dissimilarity of youth versus age. The play deals with the inability of one man to communicate and associate with the world.

"In neither role does the individual have a pat answer on life," Bill notes, "but then this is a characteristic of modern theater and Albee and Beckett are among the half dozen outstanding contemporary dramatists."

The director of such plays (Jim Morley in this instance) has an easier job in utilizing the stage area, but the challenge for both director and actor is in providing sufficient variety in the role to keep the audience interested.

Chris Carstens is a graduate of Valley High School who will study drama at the University of Albuquerque this fall. He has had acting experience with both the Albuquerque Little Theatre and the Corrales Adobe Theater.

## Take Note

The current exhibit in the lobby of Sandia's Technical Library features several prize-winning Sandia entries in the recent International Technical Art Exhibit held in Fort Worth.

The three second-place winners were an airbrush cutaway and/or exploded color entry by George B. Marks; a maintenance handbook entry by Joe Mickey; and a commercial art—semi technical color continuous tone entry by Gordon Snidow. All are in Technical Art Division 3463.

The exhibit was arranged by John L. Gardner (3421-1).

A number of special interest courses will be offered by the YWCA evenings this fall for both members and non-members. The subjects include: Japanese culture, bridge, sewing, French, ballroom dancing, culinary art, furniture refinishing, painting and sketching, Christmas workshop (plastics and papier-mache), auto workings, and keeping fit.

Further information regarding schedule of classes and fees may be obtained from the YWCA, tel. 247-8841.

Professor R. H. Crawford, head of the Department of Engineering Graphics and Machine Design at the University of Colorado, will be the featured speaker at a joint dinner meeting of the AIEE and ASQC at 7 p.m. Tuesday, Sept. 20, at the Kirtland Officers Club.

Prof. Crawford, who is a consultant in accident cases to isolate the cause of the accident—operator and/or automobile, will speak on "Auto Accidents Cause and Effect." He is also National Education Committee Chairman for the ASTM and active in professional engineer registration.

Members and their guests are invited to attend the meeting which starts with a social hour at 6:15 p.m. Tickets may be obtained from R. J. Burnett (2546).

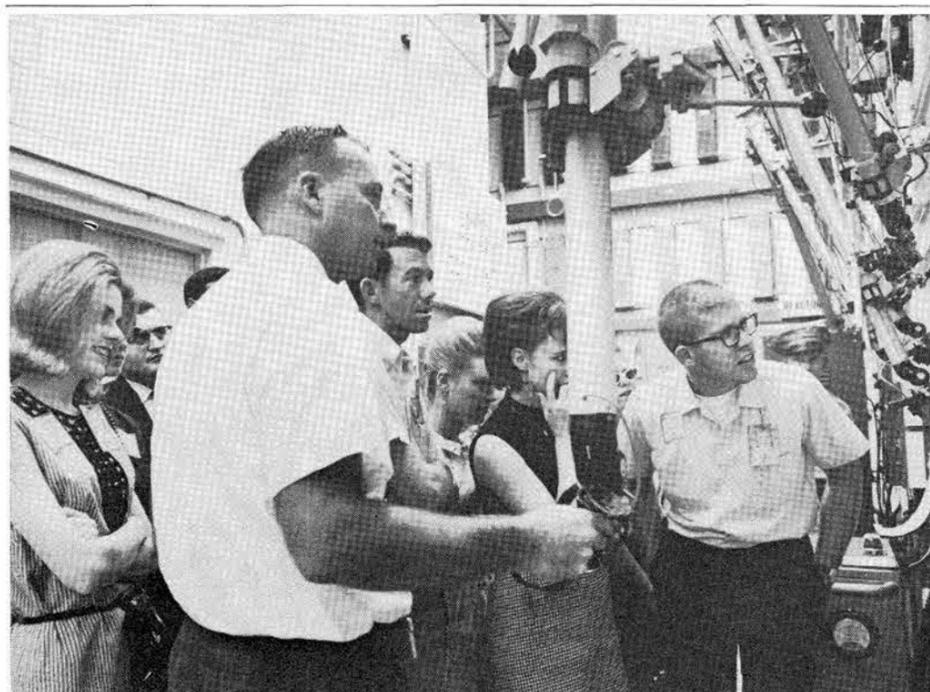
## Congratulations

Mr. and Mrs. Charles G. Sain (7336), a daughter, Margaret Aileen, Aug. 4.

Mr. and Mrs. Al Hachigian (7513), a son, David Jon, Aug. 9.

## Sympathy

To Norm Wagner (8163) for the death of his mother-in-law in Modesto, Aug. 9.



SCIENCE AND MATHEMATICS TEACHERS new to the Albuquerque schools recently toured Laboratory facilities and the Sphere of Science as part of Business-Education Day. R. M. Jefferson (5224) is shown explaining the master slave manipulators in the Sandia Engineering Reactor Facility to a portion of the 30 Sandia visitors. Sponsored by the Albuquerque Chamber of Commerce and the local schools, the annual event is designed to acquaint new teachers with business and industry in Albuquerque.

PAGE SIX

LAB NEWS

SEPTEMBER 9, 1966

# Service Awards

## 15 Years



Bertha Barnes  
6021



H. H. Brueggemann  
1521



Guy Denton  
4518



H. D. Doro  
9212



W. C. Elder  
4254

## 20 Years



L. A. Hopkins  
1300



J. F. Shoup  
1330

## 10 Years



W. F. Gamberale  
4545



A. T. Garcia  
4573



Perfecto Garcia  
4573



J. J. Lang  
5622



A. V. Luhrs  
2562



G. W. Marney  
4622



J. G. Marsh  
3414



L. D. Moritz  
9211



E. S. Roth  
2565



D. H. Rushing  
4213



A. E. Sensel  
1525



M. A. Serna  
4514



R. S. Tarbell  
2565



H. R. Vaughn  
9321



R. L. Whitlow  
4516

## State Group Formed to Promote Aviation Here

New Mexico Aviation Association, a month-old fledgling organization of pilots, aircraft owners, and aviation enthusiasts, has increased its membership to about 100 since Austin V. Glover (2121) and Richard T. Dillon (5590) and a handful of other pilots formed the group in August.

The Association's broad purpose is to promote general aviation within the state. More specifically its members are interested in promoting air safety as well as the educational and scientific advancement of general aviation. NMAA also provides a pool of experienced pilots, personnel, and aircraft to assist state and local agencies in the event of an emergency.

Five hundred members from all parts of the state are expected to be enrolled in the Association. The non-profit organization's membership fees are \$12 annually.

In the near future, the membership will be divided into five area groups—northwest, northeast, southwest, southeast, and Albuquerque. Area coordinators, appointed by area members, will work directly under the state board of directors.

Sandians interested in obtaining additional information on the Association may contact either Dick or Austin, who are both members of NMAA's board of directors.



CLASSIFIED CATS? Perhaps since they were born inside Tech Area I. Harold Payne (4221-2) found the mother cat and her kittens in the assembly storage yard alongside Bldg. 840. Displaying the many-hued felines are (l to r) Jim Tichenor with "Mr. Ego," Thomas Spindle with "Kay" and "Midnight" (naturally), and Marion Apodaca with "Mitzi." The men work in the Ceramics Shop (4224-1). These cats are probably related to the dynasties of felines under Bldg. 818 cared for by Catherine Norton (3411).

## Air Force Association Holds Membership Drive

The Albuquerque chapter of the Air Force Association is conducting a membership drive prior to its first fall meeting (Oct. 11), which will feature a talk by Edward Teller.

The association is a non-profit organization which has as its objective "adequate aerospace power for national security and world peace." Membership in the organization is open to any U.S. citizen—present or previous service in the Air Force or Army Air Corps is not a requirement.

The AFA was organized in 1946 following a proposal by General "Hap" Arnold, and total membership is more than 80,000. The Albuquerque chapter was organized in 1962 and is the largest of the four chapters in New Mexico with about 240 members. The current president is Major General Daniel E. Hooks, AF, ret., who was former Commander, Office of Aero Space Research, Washington, D. C.

The local chapter customarily holds four dinner meetings a year (to which wives are also invited) with speeches by Air Force staff officers or scientists. Albuquerque residents who belong to AFA chapters in other locations are urged to transfer their affiliation to the local chapter.

Additional information may be obtained from Harold G. Jeblick, home tel. 298-9513.

## Welcome Newcomers

Aug. 22 - Sept. 2

Albuquerque	California	Colorado	Florida	Michigan	Ohio	Oklahoma	South Dakota	Texas
Consuelo S. Baca	James E. See, Covina	Joseph P. Brannen, Fort Collins	John C. Golden, Jr., Jacksonville	Thomas E. Gerst, Muskegon	Larry A. Harrah, Yellow Springs	David L. Cook, Oklahoma City	Jack E. Houston, Rapid City	Michael E. Gadberry, Houston
Daniel J. Bernard	Gary A. Carlson, Albany				Charles N. Viitioe, Athens	Don L. Poage, Oklahoma City		
Judy E. Boucher								
Richard C. Bryant								
Edwin N. Bush								
Kenneth W. Campbell, Jr.								
Judith A. Dvorak								
Meredith H. Gower								
Gary M. Graham								
Cherelaine A. Gullick								
Robert E. Johnson								
Virginia J. Johnson								
Adrian K. Jones								
Lester D. Lambert								
Margaret C. Lucas								
Gary M. Maltby								
Keith B. McGinnis								
E. Keith Mote								
R. Ernest Sandoval								
Peggy L. Schmidt								
Judith A. Schoudt								
Billie Jo Slade								
Carolyn S. Van Haven								
Clifford L. Whitten								

## 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 Corporation 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**

TOY POODLE, male, 4 mos., has all shots, good w/children, will weigh about 6 lbs., \$75. Sauter, 282-3841.

HEAVY DUTY utility trailer w/two ball hitches. Baxter, 344-7601.

'66 FORD VICTORIA, '56 Olds engine, Chevy trans., Mercury rear-end, 8" slicks, \$1200 invested, sell for \$400. Schofield, 268-0956.

OUTSIDE MIRROR FOR VW bus: 6v transistor push-button radio for '63 VW sedan; overload springs for '55 Chev. pickup. King, 282-3186.

'58 OLDS, PB, PS, AC, \$325, 13012 Chico Rd. Sumlin, 299-6137 after 5.

'56 OLDSMOBILE 4-dr. HT sedan, R&H, \$285 cash or charge. Syroid, 299-8256.

NE, 2-bdr., carpet, carpet, drapes, walled yard, near schools, patio, AC, near shopping, \$300 down, \$80/mo., no qualifying, immediate move-in. Cotter, 265-8631.

'56 CHEV., AT, power pack, V8, \$400. Gross, 256-1041.

CLARINET, Bundy, B-flat, \$50. Johnson, 299-8891.

'63 JEEP WAGONEER, 4-dr. Custom, white, 4-wd, R&H, hubs, etc., mud and snow tires. Hickerson, 268-7605.

'61 CHEVROLET IMPALA 2-dr. HT, R&H, PS, AT, Cook, 282-3846.

THERMOS 2-burner camping stove, \$5; bed springs, twin size, \$5. Graeber, 298-0662.

KENMORE 3-room humidifier, \$30. Stephens, 296-2530.

ORCHARD SPRAYER, Myers 50-gal., 100' hose, used only for 10 sprays; five padlocks keyed alike. Illing, 299-7378.

'64 FORD, Custom, std. shift, R&H, 2-dr., \$1150. Freedman, 298-2177.

TRANSMITTER, WRL Globe King, 540 watts AM/CW, \$150; Mosley trap vertical w/80 meter loading coil, \$20. Grab, 299-0015.

'56 CHEV or parts; floor furnace; water heater; wall heater; '49 FORD pickup parts; small room heater. West, 282-3460.

GARDEN CULTIVATOR (manual) w/attachments, \$7.50; regulation pingpong table, \$25; cartop carrier, 32x32, that fits most cars, \$7.50. Galbreath, 898-0644.

'55 JEEP STATION WAGON, 4-wd, Warn hubs, motor 6000 miles, good transmission, transfer case, \$495. George, 255-2086.

GO-KART racer w/W.B. 610 engine modified to go, all parts aircraft quality, \$135. Lenz, 298-3872.

KEG BEER REFRIGERATOR, complete w/tap and CO<sub>2</sub> bottle, \$60. Clement, 298-0240.

KENMORE WASHER, about 7 yrs. old, automatic w/full and half-load cycles, \$25. Syme, 1401 Espanola NE, 268-1334.

COLDSPOT 14 cu. ft. chest freezer, \$100; matched pair of Golden Invidia 3-speed bicycles, \$70; Stenotype machine w/stand, \$75. Richards, 298-1594.

'51 CHEVROLET 2-dr., R&H; free kittens, 6 wks., grey striped, white paws, ready to take home. Lynes, 268-0144.

MALE CANARY and cage, \$10; fish tank, 10-gal., fish and pump, \$25. Slesinger, 299-4625.

WALNUT TWIN BEDS, box springs and mattresses; maple twin beds, box springs and mattresses; girl's 24" bicycle; tricycle. Roy, 256-1938 after 5.

'59 SIMCA, R&H, two new tires, \$200 or reasonable offer, or trade for pickup. Garcia, 242-1182.

FLUTE, Conn. student model w/case, \$60. Holmes, 299-4167.

'57 CADILLAC Coupe De Ville, all power, AC, R&H, w/w, \$495. Wilson, 298-0049.

16" TRICYCLE, \$10; size 8, long beige formal, original cost \$120, sell for \$35. Bishop, 299-0649 after 5.

6-YEAR-OLD black mare, right size for children, will deliver, \$165. Causey, 299-0089.

REMINGTON MODEL 870 ADL 16 gauge, mod. choke, \$60. Wessel, 296-2526.

HOOVER washing machine w/extractor, stainless tub, for apt. or area w/low water pressure. Gauerke, 299-5806.

SELL OR TRADE; standard size pickup frame and canvas cover, \$35. Smith, 344-0361.

'51 PLYMOUTH 4-dr., 6-cyl, R&H, \$75 w/radio, \$50/w. Mackay, 298-1972.

DESK, 22x57, homemade, \$10; '62 Chev. shop manuals, \$3; steel casement window, 4x3, 2 crank, 53"x50", \$15; 2 porch lights, \$1 ea. Roberts, 255-9527.

SLIDE PROJECTOR, TDC vivid 500 watt, tray change w/16 metal trays, \$30. Mattox, 296-4149.

'59 RENAULT 4-dr., \$100. Chavez, 242-6078.

GERMAN 9mm Luger, \$60; Ruger .22 single action, Frontier, new; trade for old hunting knives. Smitha, 299-1096.

BOB-TAIL CALICO KITTENS. Mehl, 344-9103.

TANGERINE SOFA w/striped bolster, 2 walnut end tables, 2 topaz base table lamps, combined, \$35. Glaze, 299-4340.

3-BDR. MANKIN, den w/fp, 1 1/4 bath, all electric built-in kitchen, new rugs and drapes, near Los Altos golf course, \$16,500. Davis, 298-3277.

CHILD'S 9-dwr. chest, \$7; station wagon pad, grey/blue cover, \$3; shop manual for '57 MG-Magnette, \$2. Gentry, 256-1957.

23-GAL. fiberglass water tank for camping, 12 x 12x39 inches, \$10. Esterly, 256-9251.

DROP LEAF DINING TABLE, 4 chairs and 1 leaf, limed oak, \$75; RCA 21" console TV, limed oak, \$75; red nubby textured chair, \$25. Davis, 298-6944.

BRONZE naugahyde couch; crib mattress and pad; 2 tires, 7.75x14; film developing kit; ice chest and juv. Levine, 255-7601.

TWO DUMBELLS, 16 lbs. ea., w/removable weights, \$6. DeLollis, 299-5384.

STRING BASS w/cover and bow, \$250. Ray, 299-1253 after 6.

LEAVING STATE, will sacrifice equity, 3-bdr., 1 1/4 bath, pitched roof, built-ins, on Cul-De-Sac, low down, assume mortgage. Brossard, 298-7783.

CORNET w/case, \$35; beginners 3/4 violin w/case, \$30; 10x13 sideroom umbrella tent, waterproof, sew-in floor, zipper screen, \$109 new, take \$50. Brinegar, 299-7887 after 5:30.

'53 CHEVROLET Bel-Air 4-dr., Power Glide, heater, mud tires on rear, \$195. Flichum, 344-1072.

SLIDE PROJECTOR, 35mm, blower-cooled tower (Sear's) projector and spare lamp, \$22.95. Stark, 299-5953.

ASSUME GI MORTGAGE, 3-bdr., family & service rms., carpeting, drapes, landscaped, near schools-shopping, near Eubank-Comanche, \$16,775. Sektan, 298-0373.

POODLE, 3 mos. old, white, AKC reg.; boy's ice skates, size 9. Sandy, 299-0980.

COUCH, wrought iron chair and swivel rocker. Shaum, 299-5333.

AKC COLLIES, reg., males and females, sables and tris., quality, show potential, terms to suit. Stubben, 298-6116 after 5.

MINIATURE DUTCH RABBIT and new hutch, \$10; short wave radio receiver, \$15; Weber, 299-1389.

250cc YAMAHA motorcycle, 4-spd., electric start, 5200 actual miles, see at 3435-B, Smith SE, \$375 cash. Heaustess, 256-6377.

'64 BMW motorcycle, 250cc, w/extras, low mileage, \$700 or best offer. Tucker, 877-9405.

9'x12' NYLON RUG w/pad, brown, \$10. Carlson, 299-7253.

LOT, 75 ft. frontage, 1121 Glorietta NE, in Los Altos area, all walled in. Cordova, 299-1652.

STUDENT 3/4 violin, \$35. Kishbaugh, 268-0670.

HEATER, portable electric, 1300/1600 watt, \$10; Heathkit FM receiver, needs tuning, \$8. Church, 282-3853.

VIOLIN w/case, bow, music stand, books; full size, \$60; small gas engines, Adams, 268-5943.

HORSE: gentle, old buckskin gelding for children, \$20. Schuett, 282-3486.

'63 Vespa 150cc motor scooter, \$200; Wright auto air cooler, 12-volt, \$10; set of 4 Baby Moon hub caps, \$5. Gluvna, 299-8027.

GE 2-cycle washing machine, \$50; Gardner, 296-1314 after 5.

'62 VW CAMPER, fully equipped including auxiliary heater, refrigerator, and side tent, engine recently rebuilt, 2 new tires, Adams, 344-8274.

ACCORDION, 120-bass, full-size, w/music, chest pad, stand and case, black and white, \$125. Hodyke, 268-5210.

'60 DODGE conv., \$600. Gallegos, 268-9387.

'59 SUNBEAM Rapier compact, bucket seats, 4 forward speeds. Vigil, 299-7191.

'57 PLYMOUTH Belvedere 4-dr., AT, R&H, AC, \$225. Palkovic, 255-4084 after 5.

FEMALE, black AKC registered poodle puppy, 4 mos. old, has won a ribbon in Dog Show, excellent pedigree. Schafer, 299-4634 after 4:30.

CLARINET, Selmar student w/stand, \$65; chrome wheels, pair \$20. Denney, 268-0004.

'59 FORD pickup, 6' w/bed, new tires, 4-spd., \$475. Stronach, 5500 Arvilla NE.

'49 FORD 3/4-t. pickup, recently overhauled; '56 Oldsmobile 4-dr. Somermeyer, 299-9271 after 5.

'44 MAGNUM Ruger carbine, will throw in 20 shells. Apodaca, 298-1288.

BUFFET CLARINET, used 1 yr., \$75; girl's bicycle, 26" w/basket, \$10. Coleman, 299-8321.

'65 500 POLARA 4-spd., floor shift, 16,000 miles, \$2100. Morgan, 7427 Leah Dr. NE.

3-BDR. ROBERSON, 1 1/4 bath, Dining-family rm. w/fp., heated gar., AC, sprinklers, wardrobe closets, drapes, range, near bus-schools-shops, 9624 Shoshone NE. Leeman, 299-9149.

17" TV, table model, \$40. Keith, 298-7134.

PATIO SALE, Sat. Sept. 10: TV, bowling ball, pool cue, toaster, Stauffer, typewriter and table, etc. Hayes, 2905 Alcazar NE.

'58 BUICK 4-dr. HT, 50,000 actual miles, \$250. Hammonds, 298-1453.

'55 PONTIAC station wagon, AT, \$150. Farner, 299-6007.

5" SCOPE; sig. tracer; RF sig. generator; VTVM meter; tube tester. Kutzler, 255-3572.

MYNAB BIRD, \$20 including cage. Miller, 298-3578.

ENGLISH SPRINGER SPANIEL puppies, registered; mobile home steel entry steps; '54 DeSoto station wagon, \$50. Barth, 345-0172.

'65 TR-4 independent rear suspension, convertible, white, red leather interior, wire wheels, never raced, below book. Bagu, 898-2539.

PARADE DRUM and music stand; set of Golden Encyclopedia for children; boy's nylon car coat, size 12. Proffitt, 820 Ortiz Dr. NE.

CABINET TYPE Singer sewing machine, \$15; red-wood picnic table and benches, \$12; upright vacuum cleaner w/attachments, \$7.50. Sublett, 298-1004.

'64 CHEVY IMPALA 9-pass. station wagon, full power and factory air, may trade for VW. Gallegos, 296-3535.

COLOR TV, '59 model RCA, \$90; 2 yr. old AQHA reg. gelding, \$450; Western saddle, \$40. Wise, 112-636-2611.

5000 CFM air conditioner, 2-spd., one month old, \$100; 2 bar stools, \$5 ea. Cyrus, 344-9538.

'30-06 REMINGTON, K-2.5 scope, sling, case, \$90; girl's 24" bike w/accessories, \$10. Corwin, 256-0779.

'64 4-dr. FAIRLANE, 27,000 miles, still under warranty, 4 new tires, \$1495. England, 296-1367 or 299-0464.

'65 VOLKSWAGEN MICROBUS, deluxe model, sun-roof, radio, 14,000 miles, book, \$2300, make offer. Benson, 296-1056.

BATHINETTE, Pride brand, \$8; rose custom child seat belt, \$3; boy's suede fringed jacket, size 10-12, \$4. Shepherd, 299-9066.

'55 PONTIAC, Blakey, 298-0511.

## WANTED

USED BAND SAW. Roberts, 255-9527.

RIDERS for car pool originating vicinity Dartmouth NE, between Lomas and Central, have two riders, need up to three more. Johnson, 256-3473.

BABY SITTING during vacations and evenings, help w/new babies and help while mother is convalescing. Atwater, 242-4319 or 296-3375.

RIDE from vicinity of Alta Monte and San Pedro to Bldg. 892, Vetter, 255-9066.

BACHELOR to share apt., must be neat and orderly, have stereo and TV, 1101 Palomas SE. Lemmons, 255-3029.

RIDER for car pool from vicinity of Copper and Juan Tabo NE to Bldg. 860 parking lot. Rhyne, 299-4813.

GOOD DOUBLE GARAGE DOOR w/hardware. Patterson, 877-3158.

SET of encyclopedia suitable for highschool age. Proffitt, 820 Ortiz Dr. NE.

BABY SITTING in my home, part or full time, NE Heights area, walled yard, only mins. from base. Orth, 296-3236.

SOUTH VALLEY CAR POOL needs driver-riders from Adobe Acres or Rio Bravo-Isleta Blvd. area to Bldgs. 805-806-807-802, etc.; driver leaves about 6:40 a.m. to start pickup. Looby, 877-2742.

## FOR RENT

3-BDR. HOME, \$110 mo. or will sell, small down payment, no qualifying, balance like rent. Wolfe, 243-7311.

2-BDR. DOWNSTAIRS APT. in NE Heights, heated swimming pool, all utilities paid, children welcome, fr. copperline refrig. and stove w/garbage disposal, drapes, carpeting. Jamison, 298-4283 or 298-0448.

SPACIOUS 2-bdr. apt., ample closets, electric kitchen, carpeting, drapes, utilities paid, \$115, near Sandia. Berynk, 299-9171.

FURNISHED 2-bdr., SE Heights, near bases, \$120/mo. Stephenson, 256-9192 evenings.

## LOST AND FOUND

LOST—Keys in dual-end black leather key case, red plaid Botany 500 tobacco pouch, ladies Zippo cigarette lighter, prescription sunglasses in carrying case, man's Timex watch, S.C. safety glasses in case, clip-on sun glasses in tan case, Schaefer pencil w/maroon barrel silver cap. LOST AND FOUND, tel. 264-2757, Bldg. 610.

FOUND—Man's Helbert watch w/expansion band, key. LOST AND FOUND, tel. 264-2757, Bldg. 610.

# Out-of-Hours Course Enrollment Tops 1500 As Fall Term Starts

Enrollment in Sandia Laboratory's Out-of-Hours courses reached 1500 when the deadline rolled around last week. The term starts Sept. 12.

The number of courses offered and the size of the classes is limited mainly by available classrooms, according to M. A. McCutchan, supervisor of Employee Training and Education Division 3132.

"The climate for training exists. Our employees are interested in their own development," he adds.

The courses are offered in a variety of subjects to help keep Sandia's employees up to date on the latest changes in sciences, technologies, and skills. There is no charge for the instruction; however, the classes are all scheduled on the employees' own time, during the noon-hour or after normal working hours. All of the offerings are job-related courses. All offerings are of a specialty type and will not duplicate courses made by the University of New Mexico or other local schools.

Some 84 courses are offered, and the majority of the Sandia instructors are experienced teachers.

The subject matter ranges from basic reading courses and self-improvement English to the most complex post-graduate courses. A large number of the high school

level courses utilize programmed textbooks or machine teaching aids. Other types of visual aids are also available (closed circuit TV, taped slides, etc.)

"One evening course in modern physics is limited to supervisors, and we've had 50 enroll," Mr. McCutchan says. "It will include new knowledge in this field as well as up-dating in depth."

The Sandia program started in 1956 with a trades and secretarial curriculum. In 1959 the program was reorganized on a more technical-educational basis. Since then, the number of advanced engineering and highly scientific courses has gradually increased. This year the greatest emphasis is in engineering fields.

Three technical institute-level courses are being offered at Highland High School in cooperation with the Bernalillo County Technical-Vocational Institute. The subjects are college math, college physics, and technical English. In addition, four Sandia apprentice related courses will be offered at the TVI for the first time this fall. The subjects are: industrial math I (mech.), mechanical measurement, blueprint reading, and electronics drafting and sketching. A high school completion certificate or equivalent is a prerequisite. Interested persons other than Sandia employees may also enroll in these classes.

## Guard Unit Headed By Sandian Earns Top State Award



Capt. Montoya

For the sixth time, members of Battery B, Third Automatic Weapons Battalion, New Mexico National Guard, have earned the Eisenhower Trophy, coveted by each of the 48 Guard units in the State.

Commanding officer of Battery B is Capt. Orelia Montoya (1133), who has headed the unit since 1963. Other Sandians serving on the administrative staff include 1st. Sgt. Tony Gabaldon (4516), Plt. Sgt. Tom C. Garcia (4631), Sgt. Frank Chavez (4574), Spec. 4 Robert Courtney (1112), and SFC Hiram Martinez (AEC).

The trophy will be presented to the unit during ceremonies Sept. 18 at 2 p.m. on the Sandia Base Parade Ground. Maj. Gen. John P. Jolly, Adjutant General of New Mexico, will make the presentation to Capt. Montoya and his unit.

The award recognizes efficiency in training during the past year. Factors considered include unit strength and attendance of personnel.

## Sanado Club Luncheon to Honor Mrs. S. P. Schwartz

Mrs. S. P. Schwartz, wife of Sandia Corporation's president, will be honored at a Sanado Woman's Club sherry luncheon Tuesday, Sept. 13, at 1:30 p.m. at the Coronado Club. Mrs. Schwartz has been an honorary member of the Sanado Board and has served on the reservations committee.

Sam Fresco, recording artist, will present a selection of songs with guitar accompaniment. Decorations will include arrangements of Mexican paper flowers in pottery containers.

Reservations should be made today with Mrs. E. E. Bylander, 3303 Tiley Dr. NE.

## Events Calendar

- Sept. 9-11—Albuquerque Little Theatre production of "Absence of a Cello," 224 San Pasquale SW.
- Sept. 9-11—"Krapp's Last Tape" and "The Zoo Story," Old Town Studio, 1208 Rio Grande NW. For reservations tel. 242-4602.
- Sept. 10-11—North Sandia Peak. New Mexico Mountain Club, leader Don Mattox, tel. 268-5554.
- Sept. 9-Oct. 13—Exhibit of paintings by Georgia O'Keeffe, UNM Fine Arts Center.
- Sept. 15-25—New Mexico State Fair, Albuquerque.
- Sept. 17-18—Mount Wheeler. New Mexico Mountain Club, leader A. H. Zachmann, tel. 299-6871.



THEATER NIGHT—Featured players from the cast of "Guys and Dolls" will perform at the Coronado Club Sept. 17. From left are Phil Mead (3412), Gene Ives (5621), and Marji Tucker. Dinner precedes the entertainment and dancing to the Lamplighters follows. Reservations must be made by Sept. 16.

## Coronado Club Activities

### 'Guys and Dolls' Cast to Perform At Coronado Club's Theater Night

Theater Night at the Coronado Club Sept. 17 is one of the highlights of this month's schedule of activities. Members of the Albuquerque Light Opera Company cast of "Guys and Dolls" will present outstanding numbers from the show at the Club at 8:30 p.m.

The show will be preceded with a buffet featuring braised tenderloin tips starting at 7 p.m. Following the entertainment, dancing to the Lamplighters is scheduled until 1 a.m.

Featured in the "Guys and Dolls" cast will be Gene Ives (5621), Phil Mead (3412), and Marji Tucker.

Cost to members is \$2.50, guests \$3. Tickets must be picked up at the Club office by 9 p.m. Sept. 16.

Tomorrow night, the teenagers will go go with the Eternal Nothings on the bandstand from 7:30 until 10:30 p.m. Admission is two bits each.

Dance instruction begins Monday evening at the Coronado Club with beginners starting at 7 and the advanced class at 8:30. Enrollment for the 10-week courses can be accomplished any time before the classes start. Fee is \$20 per couple. Both American and Latin dances will be taught.

## Social Hour

Tonight Bud Fisher will provide the hap-

py music for the Mexican buffet. Cost for adults is \$1.25, \$1 for children.

On Friday, Sept. 16, the seafood buffet will be featured with Sol Chavez and the Bernalillo Brass on the bandstand.

Rex Elder will play Friday, Sept. 23, and the big chuckwagon roast beef and shrimp buffet will be served. For this one, the price goes up to \$1.75 for adults, \$1.50 for kids.

Today is the deadline for signing up for the Coronado Club combined men and women's individual handicap bowling tournament. They roll tomorrow at 2 p.m. at the Lomas Bowl. If interested in participating, call Betty Schroeder, 296-2925, right now.

## Swimming Rate Ruling

The Coronado Club Board of Directors recently approved a change relating to eligibility of members for reduced swimming fees next summer and in subsequent years. This eligibility is now defined as follows:

"Members who on June 1, 1967, have had 'continuous membership' since the preceding September 1, 1966, will be eligible for the special reduced fee for swimming. Criteria of eligibility for reduced swimming fees in subsequent years will be based upon 'continuous membership' since the preceding September 1."

Formerly, "continuous membership" encompassed the year June 1 to June 1.



OCTAVIO TRUJEQUE (4573) who drives the Sandia Laboratory Tech Area I bus, receives a "Certificate of Appreciation" from the women of Typing Services Section 3126-5, represented by Susan Colp, left. The award says Octavio is a "champion in the art of kindness to secretaries."

## Automobile Accident Downs Sandia Lab Safety Record

An employee was injured in an automobile accident Aug. 26 while performing Company business at Kirtland Air Force Base. The brakes on an oncoming vehicle failed and the Sandian's vehicle was struck head on. The employee suffered a possible concussion, laceration of knees and right ankle, and injury to his left arm, left hip, and nose.

He was taken by ambulance to a hospital for emergency treatment. He was released from the hospital a few days later and is now recuperating at home.

At the time of the accident, Sandia Laboratory employees had worked 23 days or 800,000 man-hours without a lost time injury.

PAGE EIGHT

LAB NEWS

SEPTEMBER 9, 1966

# Sandia's Safety Scoreboard

**Sandia Laboratory:**

13 DAYS

455,000 MAN HOURS

WITHOUT A

DISABLING INJURY

**Livermore Laboratory:**

85 DAYS

402,800 MAN HOURS

WITHOUT A

DISABLING INJURY