

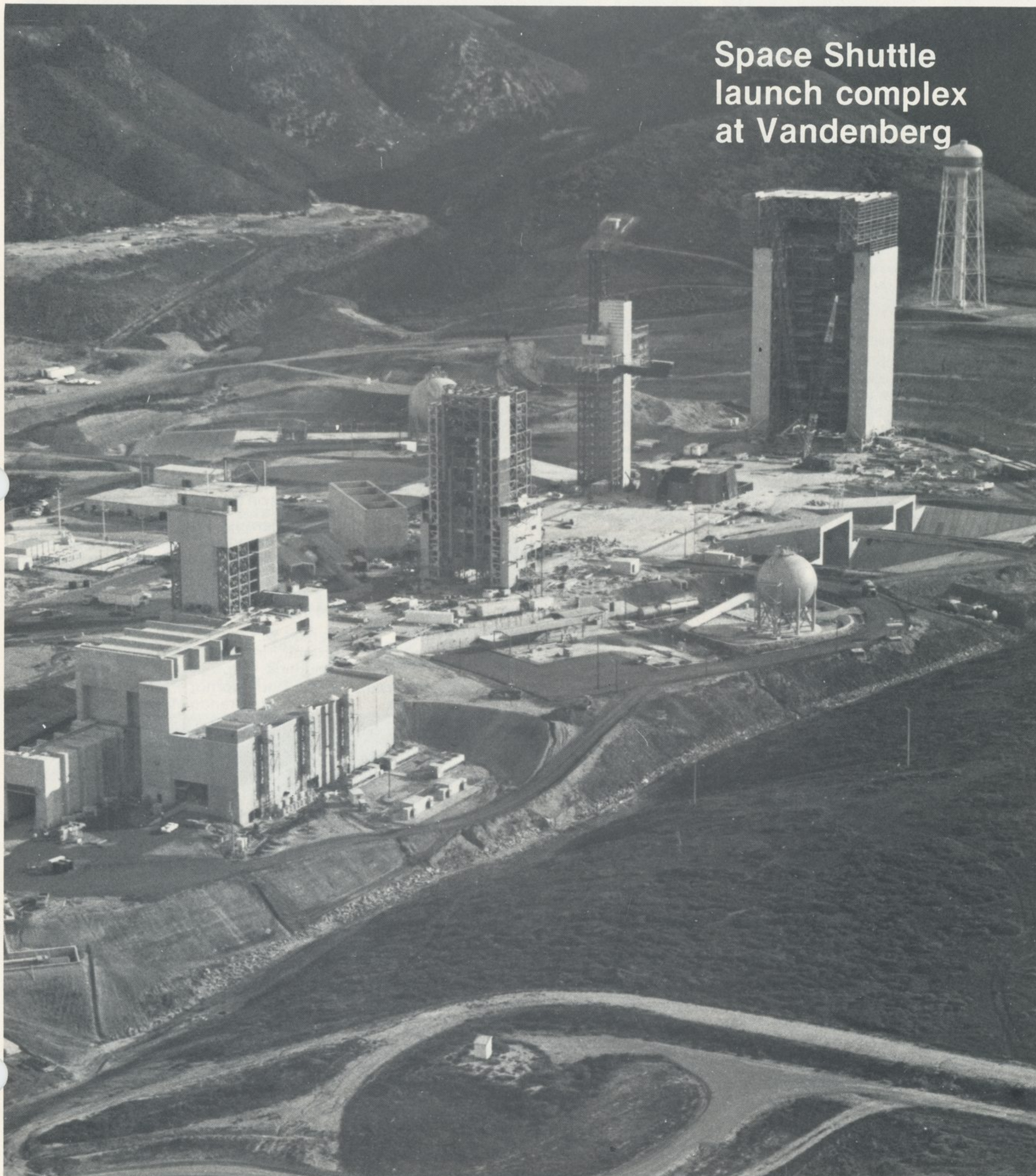
MARTIN MARIETTA

news

DENVER AEROSPACE

NUMBER 6/1983

Space Shuttle
launch complex
at Vandenberg



Ground support system construction nears completion at Vandenberg

From a small beginning in 1976, the Denver Aerospace role in the development of a West Coast Shuttle facility has grown into a major effort scheduled to provide nearly 1800 jobs this year.

The ground support systems (GSS) program for the NASA/DOD Shuttle at Vandenberg Air Force Base, California, is moving from the planning-engineering-construction phase to installation and checkout of operating equipment.

Frederick H. Hudoff is the program director. Working with him are Robert R. Cooke, systems and installation engineering; John E. Kimpton, activation; and J. Richard Cook, operations planning and software. Thomas S. Fujiyoshi is implementing the mission success program.

"We made big strides in 1982, and the challenge of 1983 is even greater," says Hudoff. "The transition from the construction phase, by the Corps of Engineers, to the installation phase has begun.

"We will manage the installation and test of all facilities to support the first launch in October 1985," he said. "It's an awesome task. The Air Force is counting on us. In my judgment, we'll make it."

The company has occupied 309,580 square feet of new facilities. The 850,000-gallon liquid hydrogen and the 300,000-gallon liquid oxygen tanks have also been taken over by the company. By the end of the year, another 289,000 square feet of construction will be completed and turned over by the Corps of Engineers.

Concrete has been added to existing runways; 17 miles of roads have been upgraded; and a harbor is being modified for

external tank shipping.

Also scheduled for this year is the modification of the 4000-ton mobile crane; completion of the 245-foot access tower; and completion of the 3000-ton self-propelled payload changeout room and the multilevel payload preparation room.

The installation and checkout phase-in contract was the first major contract acquired by Denver Aerospace in 1983. The remaining installation and checkout tasks have been proposed to the customer, with a target date for go-ahead on July 1. The contract will carry the project through March 1986.

Corporation to hold annual meeting here

The annual meeting of shareholders of the Martin Marietta Corporation will be held in Denver April 28.

It will be held at the Fairmont Hotel beginning at 10:30 a.m.

Shareholders throughout the nation are expected to attend the one-day meeting.

Readers being sought for recordings for the blind

Persons with experience in engineering and computer science are being sought to record textbooks for the blind.

Recording for the Blind, Inc., 305 Milwaukee St., needs volunteer readers and monitors to serve as teams for the weekly two-and-one-half to three-hour sessions.

Special speech training is not required, but volunteers will be asked to audition.

Recording for the Blind is a national organization with a library of more than 55,000 educational texts on cassettes that students at levels in all fields may borrow without charge.

Employees interested in this community service may contact Mrs. Barbara Hays, studio director, 388-6594.

Open House date set

Plans are being made for the 1983 Denver Open House to be held Saturday, June 18, from 8:30 a.m. to 3:30 p.m.

Facilities tours, displays, film and slide presentations, entertainment, and refreshments will be featured this year for employees and their families, retirees, Air Force personnel, and other special guests.

The open house planning committee chairman is Leroy Hollins.



Denver president Norman R. Augustine received an etching by Ron Pittman, space launch systems division, as honorarium for his presentation to 170 members and guests of the Denver Management Association, February 15. Augustine summarized *Augustine's Laws*, his recently published book, and the application of those "laws" to management of a high technology organization.

Tethered satellite system reviewed by participants

Representatives from Italian and American governments and industries met here February 28 through March 2 to review progress on the tethered satellite system.

The system is being developed under a joint government agreement between NASA and the Italian Council for National Research (CNR). Denver Aerospace and the Italian firm Aeritalia are developing the hardware to be used in the project.

Donald S. Crouch, the tethered satellite program manager here, was host for the meetings. Representing CNR were Prof. Carlo Buongiorno, Prof. Giovanni Rum, and Dr. Gianfranco Manarini. From NASA were Mark Nolan of NASA headquarters; Jay Laue, Pete Broussard, Dr. Nobie Stone, and Dick Stein of the Marshall Space Flight Center; and Jerry Lowe of the Johnson Space Center.

Those participating from Aeritalia were Dr. Marcello Vignoli, Ettore Allais, Mohammad Taj, Marco Panighini, and Enrico Lorenzini.

From U. S. industry were Tom DuPont, a consultant; Phil Tannenholtz, Al Kulvinskas, and John Reed, Motorola; and Craig Behrens and Jim Baucum, of SCI.

The tethered satellite system will provide a unique way to explore the upper atmosphere by trolling a "smart" spacecraft from a line attached to the Space Shuttle.

Tethered satellites can be deployed as much as 60 miles from Shuttle, and can provide an economical means of exploring the upper atmosphere where stable orbits are not possible.

The initial flight of the system is expected in the late 1980s.

On the cover

Construction on the launch complex for the Department of Defense space transportation system is scheduled to be complete this year. Support equipment installation has begun. In this photo, the payload preparation room is in the foreground and to its right is the 3000-ton self-propelled payload changeout room. The narrow structure to its right is the access tower with the launch mount at the base. The 4000-ton self-propelled mobile service tower in the next structure is on the right.

Martin Marietta Foundation selects 17 f

Seventeen high school seniors whose parents are Denver Aerospace employees have been awarded 1983/84 scholarships by the Martin Marietta Foundation.

Fourteen of the students are from the Denver area, two are from Vandenberg operations, and one is from the Michoud division. Each will receive a \$3000 scholarship renewable for three additional years based on academic achievement.

The selection was made by a committee not associated with Martin Marietta.

More than 160 students applied for the scholarships.

Those chosen:

Robert J. Bush is the son of Mr. and Mrs. Robert L. Bush. His father is a chief in accounting. Young Bush plans to major in aeronautical engineering at the University of Colorado after graduation from Heritage High School in Littleton. He played on the football team and is active in musical groups, including the choir that took first place in a European competition.

A degree in chemical engineering from the University of Colorado is the goal of Elizabeth A. Carroll. The Columbine High School senior is the daughter of Mr. and Mrs. Joe L. Carroll. Her father is a manager in product assurance. She has been active in dramatics and serves as assistant editor of the high school yearbook.

Lisa J. Cox plans to attend the Colorado School of Mines and will major in engineering. She is the daughter of Mr. and Mr. William B. Cox and is a senior at Littleton High School. Her father is a staff engineer. She is a member of the National Honor Society; has been active in athletics both as participant and as a trainer; and is a musician. Her hobbies include games involving mathematical and logic abilities.

Chosen from Vandenberg operations was James M. Krueger. He is the son of Mr. and Mrs. Bernard F. Krueger and is a senior at Cabrillo High School in Lompoc. His father is a chief in engineering. Aerospace engineering will be his major at Stanford University. In high school he received numerous academic awards and has been involved in a variety of extracurricular activities, including music.

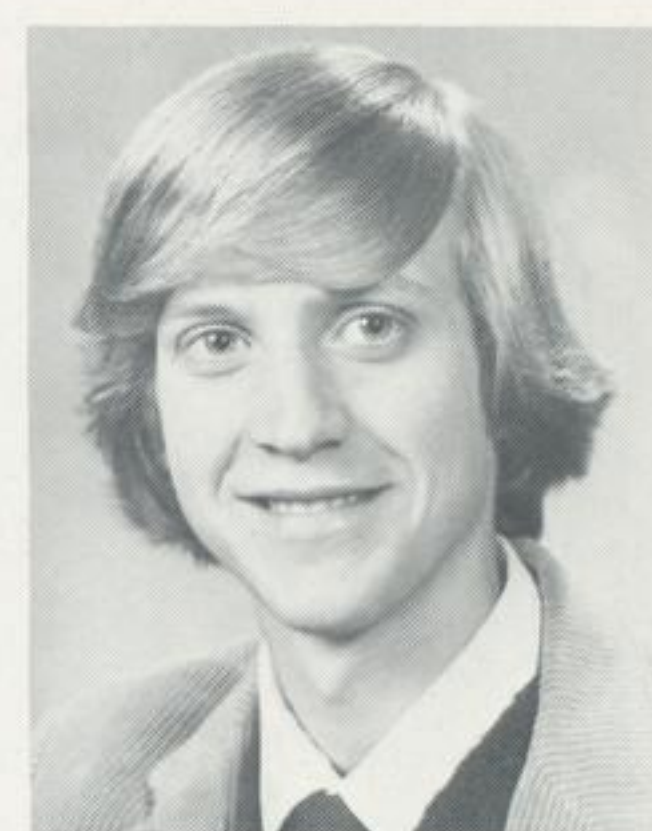
Gregory S. Mathews is a senior at Bear Creek High School. He will pursue a major in either genetics or electrical engineering at the California Institute of Technology in Pasadena. His father, John W. Mathews, is a senior group engineer, and his mother, Carolyn S. Mathews, is a senior software engineer. He has been in the honors program in social studies, English, mathematics, French, and science, and expects to continue in school until he has earned a doctorate. He has been active as a debater and in the Scouting program.



Elizabeth H. Sholes



Stuart R. Spath



David C. Mudie



Louise E. McNally



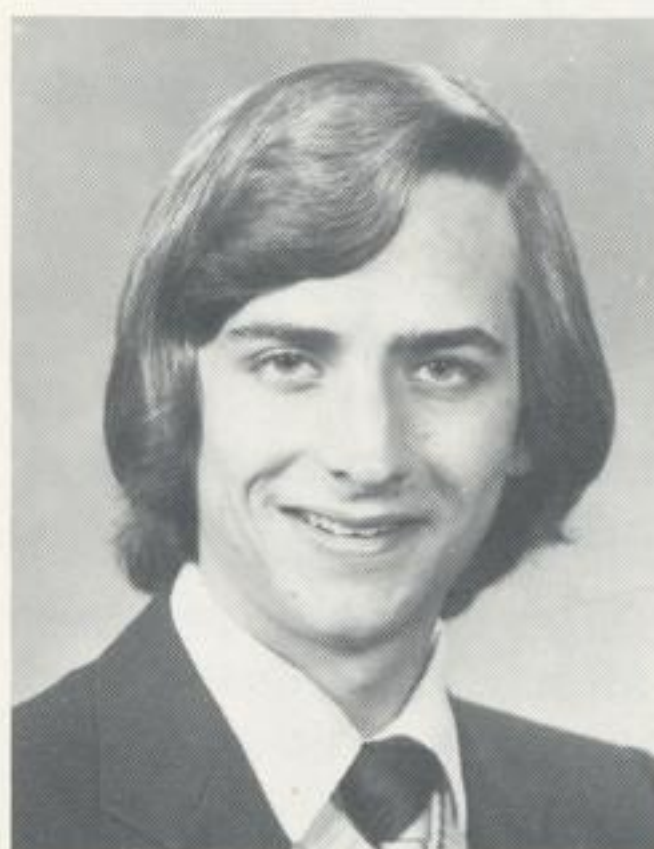
Lisa J. Cox



Kenneth D. Ritchart



Gregory S. Mathews



James M. Krueger



Robert J. Bush

Louise E. McNally, a senior at Slidell High School, is undecided about a college major, but plans to attend Swarthmore College with the goal of doctorate and a college teaching career. She is the daughter of Mr. and Mrs. John P. McNally. Her father is a senior engineer in manufacturing at the Michoud division. She has been active in student council, music, drama, and was poetry editor of the school's literary magazine.

The University of Denver is the choice of Janet Meleney for her college work in the natural sciences or business. She is the daughter of Mr. and Mrs. Richard H. Meleney. Her father is a program chief in finance. The Heritage High School student attended the Frontiers of Science Summer Institute. She was a member of the varsity cross country team and the varsity track team; Student Council; Pep Club; and Key Club. She has been in the honors program.

David C. Mudie is the son of John D. Mudie, a senior field engineer at Vandenberg operations. He is a senior at Lompoc High School and plans to major in computer science at Stanford University. His interest in computers has included design and construction as well as programming. He has been active in choral

music groups and in dramatics.

Bear Creek High School senior Stephen L. Oldham expects to major in business management at Brigham Young University. His parents are Mr. and Mrs. Lloyd P. Oldham. His father is a program manager in advanced systems. He was drum major of his high school band and was a participant in the All-State Choir. He has also been active in Scouting.

A degree in architecture from the University of Michigan is the objective of Christopher H. Park. The Columbine High School senior is the son of Mr. and Mrs. A. Colton Park, Jr. His father is a staff engineer. His interests include drafting, construction projects, model building, and photography. He participates in golf and racquetball.

Susan C. Porter is a senior at Littleton High School and is the daughter of Mr. and Mrs. James D. Porter. He is a principal staff engineer. A degree in biological sciences from Colorado State University is her goal. She holds a blue belt in Kwon-Do (Korean karate), and is a classical pianist. Susan also creates in stained glass. She is a swimmer and plays tennis.

With three published books on computer

or scholarships



McNally



Susan C. Porter



Elizabeth A. Carroll



Jonathan J. Silver

The photo of David M. Zampino was delayed in the mail.



Janet Meleney



Kristal Sedar



Stephen L. Oldham



Christopher H. Park

gaming to his credit, Kenneth D. Ritchart wants to earn a degree in electrical engineering and computer sciences at the University of Colorado. The son of Mr. and Mrs. Donald C. Ritchart, the Fairview High School senior operates his own computer business in Boulder. He is also writing a novel. His father is a senior group engineer.

Kristal K. Sedar is a senior at Ranum High School in Westminster. She is the daughter of Mr. and Mrs. Frank V. Costey. He is a senior engineer. She plans to pursue either pre-medicine or veterinary medicine at Stanford University. She is a member of the National Honor Society; is a member of the Young Artists Orchestra of Denver; and participated in the Colorado All-State Orchestra as well as state solo and ensemble competitions.

Elizabeth H. Sholes is the daughter of Mr. and Mrs. F. Gordon Sholes, Jr. She is a senior at Columbine High School and plans to attend Lehigh University to major in chemical engineering. Her father is a senior group engineer. She is vice president of the National Honor Society and a member of Key Club. She is active in community service projects.

A combined program at Yeshiva University and Columbia University in electrical engineering and computer science is the

college career goal of Jonathan J. Silver. The son of Mr. and Mrs. Aaron N. Silver, he is a senior at Yeshiva Toras Chaim in Denver. He has operated a repair service for small electrical and digital devices; has built his own personal computer; and organized a computer club at his school. He has also been a mathematics tutor. His father is a senior staff engineer.

Stuart R. Spath is a former Frontiers of Science Summer Institute participant who intends to major in aeronautical engineering at Stanford University. He is a senior at Littleton High School and the son of Mr. and Mrs. Charles R. Spath. His father is an engineering manager. Stuart is a National Honor Society member; competes with the debate team; plays golf, tennis, soccer, and basketball; plays the guitar; and is a member of the Chess Club, Computer Club, and the National Forensics League.

David M. Zampino is a senior at Westlake High School in Westlake Village, California. He is the son of Mr. and Mrs. John M. Zampino. His father is currently in Denver as a senior group engineer. David plans to attend Stanford University to major in chemistry or aeronautical engineering. He is working towards his private pilot's license. He has built his own microcomputer and is developing software he hopes to market.

Logistics head honored by defense college

An employee who has been a guest lecturer at the Defense Systems Management College four times has been named honorary professor at the institution.

W. E. Rogers, acting director of logistics, has presented an industry view of life-cycle cost management at the college.

"With military, government, and industry program managers in the course, the sessions provide a valuable interchange between government and industry representatives," Rogers said. "I attempt to teach them how logistics and life-cycle cost analysis can be used to assess the true long-term cost of a program."

Rogers conducts life-cycle cost analysis workshops for the Society of Logistics Engineers and teaches a Logistics course for employees in the evening education program.

Recreation

Exercise—A six-week session of exercise classes for women by Melissa Arrajj held Monday and Wednesday evenings from 5:00 to 6:00 p.m. DSC room 200K will begin April 4. \$12 registration is due to recreation April 1.

Photo—Platte Canyon Photo Club is planning a Durango-Silverton railroad trip Memorial Day. Reservations are being taken now for seats on a private gondola car or commercial bus, with rooms at the Strater Hotel in Durango. For information and reservations, call William Privatsky, Ext 5920.

Ballet—Plan ahead to attend the Colorado Ballet performances April 8 or 9 and save 20 percent on tickets. Performances are at 8:00 p.m. at Denver Auditorium Theater. The program includes Act III, Sleeping Beauty, and Incident at Black Briar. Completed order forms and payment are due March 25.

Running—The sprint track team needs men and women participants for these 1983 Denver Corporate Games events: 100 meter run, 800 meter coed relay, 400 meter coed relay, 200 meter run, 1600 meter relay, 200 meter shuttle relay, and long jump. For information, call Clifford Lovejoy, Ext 3507.

Hunting—Raymond Mueller teaches a seven-session hunter education course at DSC. Classes are 7:00 to 9:30 p.m. beginning April 12. Cost is \$5. For information call Mueller, Ext 4866 or Richard Benson, Ext 3728.

Alpine—An outdoor equipment seminar highlights the March general membership meeting of Rocky Mountain Alpine Club March 25 at 7:00 p.m. The open meeting will be at 12234 Saratoga Avenue. For directions and information, call Marc Brideau, Ext 8189 or Brian Gallagher, Ext 7281.

Martin Marietta completes Sodyeco, cement sales

Martin Marietta has completed the sale of the Sodyeco division to Sandoz Ltd. of Basel, Switzerland. The purchase price was approximately \$72 million subject to accounting adjustments.

Sodyeco manufactured textile dyestuff and organic chemical intermediates.

Martin Marietta also has completed the sale, for \$10 million, of the assets of its Thomason, Maine, cement plant to Cianbro Corporation of Pittsfield, Maine.

The Corporation also has reached agreement in principle to sell four cement manufacturing plants to Blue Circle Industries Group of the United Kingdom and Cementia Holdings AG of Zurich.

Sale price of the four properties will be in excess of \$150 million.

The Martin Marietta Cement properties involved are at Tulsa, Oklahoma; Davenport, Iowa; Roberta, Alabama; and Atlanta, Georgia.

NASA cites employees for new technology

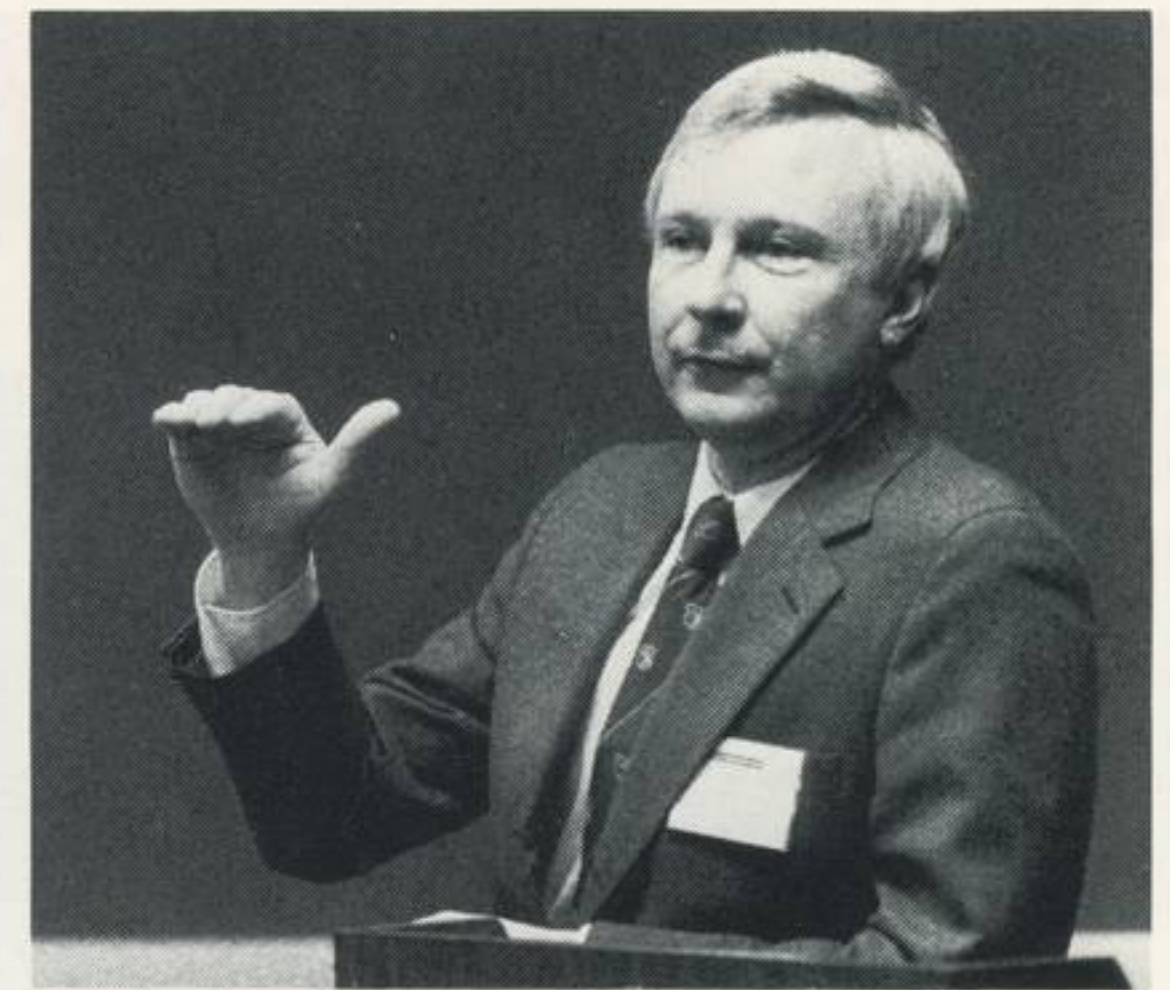
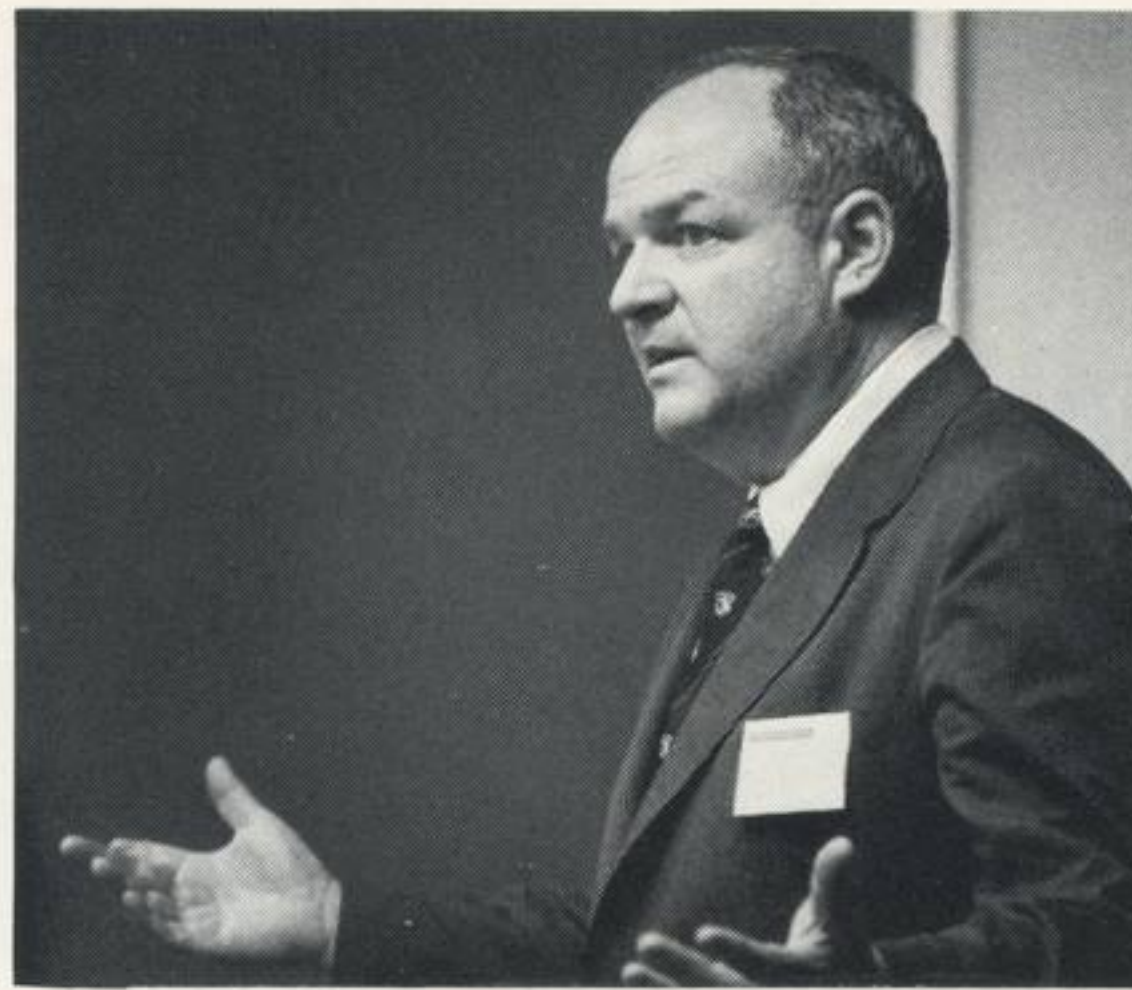
Cash awards and certificates of recognition from NASA have been awarded four employees for publication of new technology disclosures as NASA Tech Briefs.

Those honored and the title of their disclosures:

Dr. Remi C. Engels, engineering mechanics: "A New Payload Integration Method."

Matthew S. Imamura and Robert L. Moser, electronics: "Automated Techniques for Monitoring and Controlling Photovoltaic/Battery Power System."

Frank E. Winner, External Tank operations, Kennedy Space Center: "Explosion-Proof Electronic Position Indicator."



Two high-level government officials were recent guest speakers at large staff meetings. At left is Thomas C. Reed, special assistant to President Reagan, and at right is Edward C. Aldridge, undersecretary of the Air Force. Both were invited by Norman R. Augustine, Denver Aerospace president. They were his guests for a facilities tour, as well as for the appearance at his large staff meeting.

Special election set in sixth district

Three candidates are vying for election to the sixth congressional district seat in a special election next Tuesday, March 29.

The seat was left vacant when former astronaut Jack Swiebert died before taking office.

Candidates in the election are Dan Schaefer, Republican; Steve Hogan, Democrat; and John Heckman, Independent.

The district includes portions of Adams, Arapahoe, Denver, and Jefferson counties—an area in which a large number of Denver employees reside.

The polls will be open from 7 a.m. to 7 p.m.

Telephone changeover smooth, successful

"We are pleased by the smooth transition to our new Northern Telecom digital telephone system," says Martin Boland, chief of telecommunications.

The new equipment was online at the main plant February 28 with problems occurring in only four of the 547 new trunks in the system. By midweek, these discrepancies were corrected.

Littleton Systems Center joined the new system March 19 via microwave transmission. Equipment installations are scheduled for completion today, with change of service work orders being filled in the order they are received.

Employee interest and cooperation during the changeover was shown when 76 percent of all employees attended training sessions to learn how to use the new equipment.

"We want to thank our employees for their patience and assistance during the changeover to the new system," says Boland. "Please report equipment malfunctions immediately to our equipment repair number, 7-6789."

Employee chairs science fair

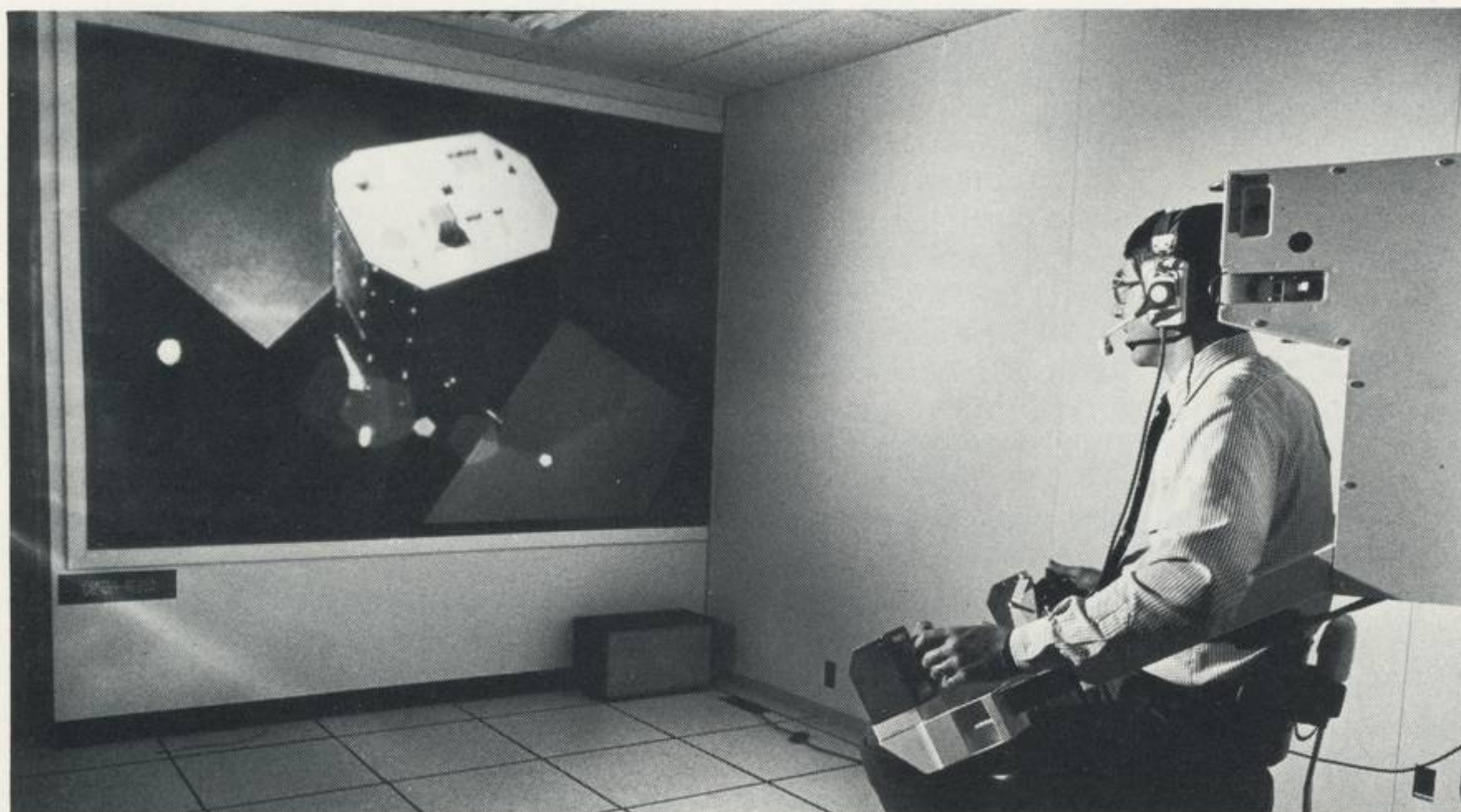
The success of the 26th Annual Pikes Peak Regional Science Fair is largely due to the efforts of John Gartin, product assurance, strategic systems division.

Gartin served as chairman of the 1983 science fair, which drew more than 1100 to Pikes Peak Community College, Colorado Springs, for the event held March 4 and 5.

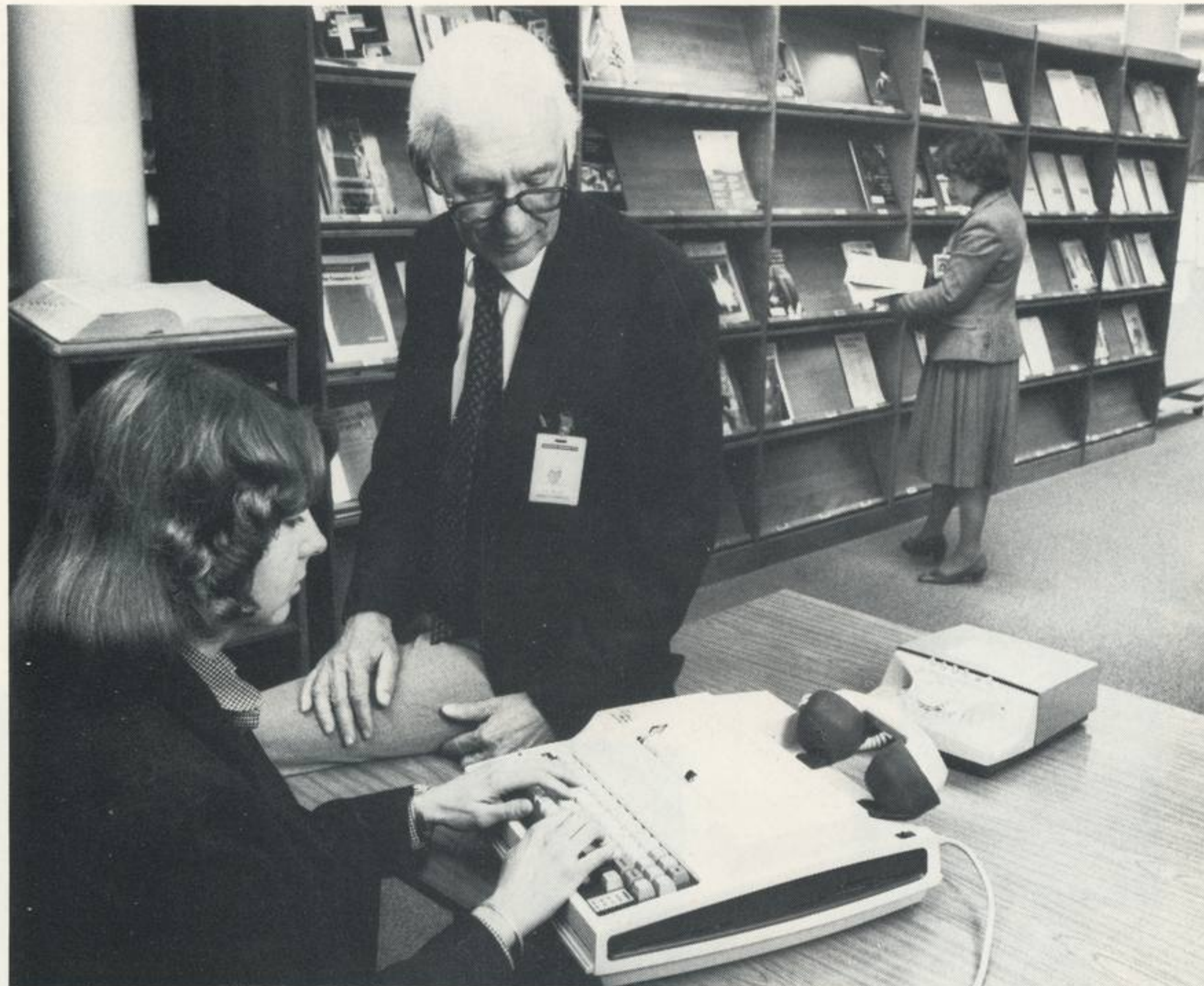
Junior and senior high school students presented 238 science, math, and engineering projects.

Twenty exhibits from the regional science fair will appear at the Colorado Science Fair held in Denver this April.

The winner and second place award recipient will take their exhibits to the International Science Fair, held this year in Albuquerque.



Aviation Week's Space Technology Editor, Craig Covalt, "flew" the MMU to the vicinity of the Solar Maximum satellite during a recent visit to Denver Aerospace. The "flight" was conducted with the video display system and moving base carriage in the space operations simulation laboratory. With a one-tenth scale model of the Solar Max, the MMU pilot can practice maneuvers from distances as great as 500 feet.



An online document search using the library's newest terminal is being entered by Sharilyn Braly, reference librarian, while Jay McKee, the company's librarian looks on.

Library document search capacity grows

More information is available faster to employees doing research through the research library's computerized real-time, online system.

The addition of a Texas Instrument Silent 700 information retrieval terminal has improved search speed to 1200 baud, four times faster than on the previous equipment. Additional databases have been added, expanding a researcher's resources dramatically.

Subject searches are the most frequently requested service says librarian Jay McKee. Databases can also be searched by report number, contract number, patent number, author, and corporate source.

Databases of particular interest to researchers here are NASA/RECON, DOE/RECON, Lockheed/DIALOG, Systems Development Corporation/ORBIT, and

the Defense Research, Development, Test and Evaluation database.

To order a computer search, request forms including short descriptions of research objectives are submitted to the library. Key word lists aid the search, which is based on Boolean combinations of two or more concepts. An immediate printed copy of search results may be obtained. If time is not a factor, printing may be done at the host site and citations mailed to the requester. Offline printing costs are considerably less than online. Normal delivery time is about five days.

Denver Aerospace was a leader in use of commercial online computer databases. "Ours was one of the first libraries in Colorado using the DIALOG database," says McKee. "Our employees were already using DIALOG in 1973. Now we have even more sources for their research."

Management club elects

The Denver Aerospace Martin Marietta Management Club in Florida has elected officers for 1983.

Chosen were A. Peter Gaenicke, president; H. Dee Trimble, vice president; Lesa Armfield, secretary; and Robert Hansen Jr., treasurer.

Elected to serve two-year terms as directors were Robert Day, Lynn Johnson, and Melodie de Guibert. Returning directors are J. Edward Carpenter, James Madden, and Robert Moore.

For information and application forms, contact Patricia Murphy, 867-3160, or Reba Hampton, 853-3478.

Employee uses CPR to aid stricken gardner

When Max Willingham collapsed at the Slidell Computer Complex outside New Orleans, Wayne L. Williams was headed toward his car.

"I heard someone screaming in the parking lot and saw a man lying face down," Williams said. "I threw my notebook, scattering papers all over, and tore into the parking lot."

Willingham, a horticulturist at the complex, was unconscious and not breathing when Williams rolled him over.

"I cleared his airway and began cardiopulmonary resuscitation (CPR)," said Williams. "After the fifth or sixth stroke to his chest, he began breathing and regained consciousness."

By that time a crowd had gathered and Bill Black, administrator at the computer center, transported the now-alert Willingham to the hospital across the street.

"It's just one of those things—you hope you never have to use your training, but when you do, you just react," Williams explained. A retired Army major, Williams practiced first aid in Vietnam. He received a Bronze Star for valor as a combat infantryman.

CPR is a technique that supplies artificial circulation and breathing to a person whose heart and lungs have ceased functioning. The cause may be the result of a heart attack, electrical shock, or drowning. CPR courses are offered regularly to employees at all Denver Aerospace locations.

Williams is chief of the data processing support branch at the Michoud division.

"I just hope that if I ever need CPR, someone will be able to come to my aid," he said.

February retirees

Thirteen employees retired during February. The date of their retirement and their service in years and months are:

February 1
Albert J. Bradt, 14 yr and 9 mo; Frank T. Hefestay, 43 yr and 8 mo

February 10
John B. Oxenford, 17 yr and 2 mo; Charles W. Gager, 25 yr

February 11
John R. McClafflin, 11 yr and 3 mo; Alverata M. Bay, 15 yr and 9 mo

February 18
Vernon W. Foelgner (Cape Canaveral), 10 yr and 10 mo; James B. Way, 20 yr and 5 mo

February 25
Virginia L. Mortimer, 20 yr and 8 mo; Maurine D. Brown, 21 yr and 5 mo; Raymond H. Rock, 43 yr and 8 mo

February 28
Morris Z. Neely, 30 yr and 9 mo; Charles W. Lines, 9 yr and 3 mo

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DENVER AEROSPACE
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