

Dallas: Center of Science

More than 400 student scientists assembled in Dallas to display their exhibits and visit professional scientists at the International Science Fair

See Front Cover

► DALLAS is noted as a host city, holding great attraction as a convention site.

But it is not the historic, scenic Dallas of fashion and finance that holds attraction for the finalists, educators, judges and newsmen of the International Science Fair—it is the Dallas of science. Dallas, an important science center, invited the International Science Fair this year.

Among the scientific attributes of Dallas which have attracted the young science students vying for international recognition are the educational institutions, research and industrial laboratories such as the Graduate Research Center of the Southwest, Collins Radio Company, Ling-Temco-Vought, Socony Mobil Oil Company's Field Research Laboratory, Texas Instruments, Texas Research Foundation and the University of Texas Southwestern Medical School.

The Space Systems and Antenna Division of Collins Radio Company interests young scientists with their antenna research for communications via relay satellites and other space vehicle programs such as moon bounce studies, data processing, telemetry, automatic tracking, and other functions related to space.

Search for Answers

At the Graduate Research Center's Laboratory of Molecular Sciences, the attraction has been the search for answers to many questions relating to genetics of bacteria, control of enzyme synthesis, of genetic recombination and regulation of metabolism. Also of interest is the Laboratory of Earth and Planetary Sciences Atmospheric and Space Science Division of the Center. This division features investigations into the history of the earth's atmosphere, atmospheric structure and dynamics, interplanetary plasmas, ionospheric structure and composition, geomagnetism, cosmic rays, aurora and interplanetary atmospherics.

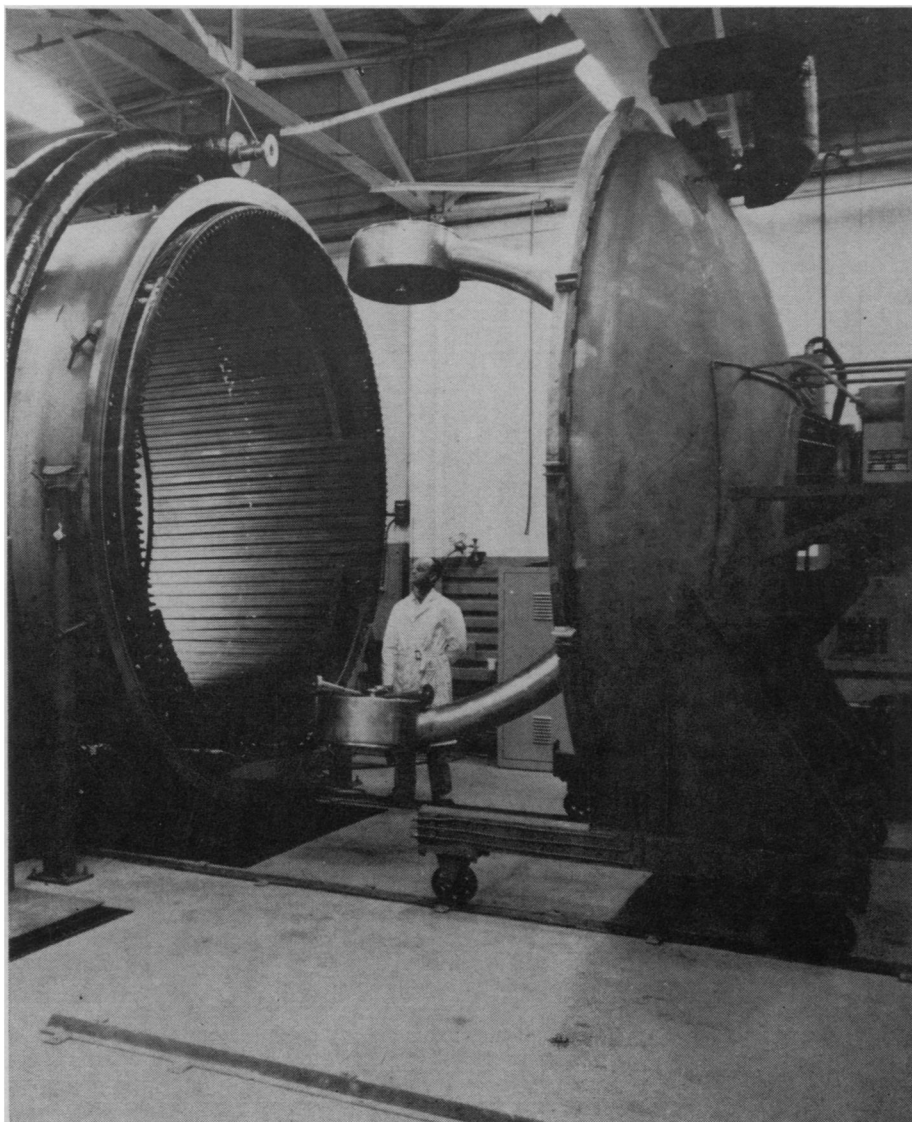
Ling-Temco-Vought, Inc. holds the interest of science students regardless of their preferences for the physical or biological sciences. Its astronautics division has a unique Space on Earth Center with simulators for manned aerospace flight, space environment and automatic control evaluation. Also featured are laboratories for research in the behavioral sciences, physiology, biophysics and bioengineering. The Vought Aeronautical Division is respon-

sible for manned and unmanned vehicles and systems, V/STOL aircraft, and has one of the most extensive wind tunnel laboratories in the industry, including a hypervelocity tunnel attaining speeds of Mach 22.

The Field Research Laboratory of Socony Mobil Oil Company offers fundamental and applied research in all phases of geoscience important to finding and recovering petroleum and natural gas. Investigations there include

research in seismology, geophysics, geochemistry, geology, nuclear physics, fluid mechanics, reservoir engineering, paleontology and many other important related topics.

The Texas Research Foundation has 25 farming systems, each with a series of plots utilizing different combinations of crops, tillage, fertilization. The first commercial crop of sesame was produced here from seeds imported from India, Turkey and Israel.



Ling-Temco-Vought

SPACE SIMULATOR—The extreme cold, high vacuum and intense solar radiation of outer space can be simulated by this space environment simulator, one of the test facilities at Ling-Temco-Vought, Dallas. The simulator can subject payloads up to 10 feet in diameter to temperatures as low as 320 degrees below zero Fahrenheit, to low pressures like those 200 miles above the earth and to solar radiation.

Texas Instruments, Inc., makes the industry's broadest line of semiconductors, transistors, diodes, rectifiers, and is foremost in the development of semiconductor networks. Active in new product research, Texas Instruments also pioneers in oil exploration methods and applies digital data analysis to the solution of geologic problems.

Texas Instruments may be of great interest to the young physical scientists, but of equal interest to the biology buffs is the University of Texas Southwestern Medical School. Its research laboratories conduct investigations in living cells, organ transplants, heart disease, and the many aspects of environmental health.

State Fair Park has many aspects and should be interesting to anyone, but for the students the special attractions are the museums, the aquarium and planetarium. A special Age of Steam exhibit displays early locomotives, cars and railway depot.

Credentials in Order

Six Flags Over Texas may ordinarily be an entertainment center, but when over 400 outstanding science students, their teachers and other adult sponsors and newsmen, are there, its science credentials are in order. A 115-acre center of 70 attractions and rides, this center depicts the history of Texas under the flags of Spain, France, Mexico, the Republic of Texas, the Confederacy and the United States.

Other cities which have been host to the increasingly outstanding International Science Fair are Philadelphia, St. Louis, Washington, Oak Ridge, Lafayette (Ind.), Cleveland, Oklahoma City, Los Angeles, Flint (Mich.), Hartford, Indianapolis, Kansas City, Seattle, Albuquerque and Baltimore.

Already selected as future sites of the ISF are San Francisco, Detroit, Fort Worth and New Orleans. St. Louis is the only city in which the ISF has been held twice, 1951 and 1965. Washington will be host a second time in 1970 and Kansas City will again be holding the ISF in 1971.

The International Science Fair began as the National Science Fair in 1950 with 30 finalists from 13 regional science fairs. Since that time it has shown steady, but considerable growth. Japan sent the first foreign participants, followed by other nations to such an extent that the name was modified to National Science Fair-International. Now known as the International Science Fair, besides the United States, finalists come from Canada, Costa Rica, Germany, Guatemala, Japan, Puerto Rico and Sweden.

The strength of the International Science Fair lies in the many school, local, regional and state science fairs.

Annually, nearly five million people visit science fairs leading to the ISF, where they view over a million exhibits. Thus, the average ISF finalist represents nearly three thousand exhibits shown in these preliminary fairs. While

the toughest competition a finalist encounters is at the ISF, the odds are not nearly so frightening after succeeding against far greater numbers.

Although participation at the ISF is limited to students in the last three years of secondary school, many local science fairs include exhibitors right down to the kindergarten level.

Scientific and technical societies, cognizant of the shortage of skilled scientists and technicians, are encouraging science fair programs for the purpose of recognizing potentials early and because through them additional motivation becomes more easily possible.

Outlet for Creativity

Civic and social groups also find science fairs to be an outlet for the creativity of youngsters. Newspapers, sensing the rich educational service which science fairs give to the community, often sponsor the program, assisting in promotion, arrangements and financing. Industry sees the science fair as an exemplification of the free enterprise system and lends technical experts to the cause and help with financing.

Science fairs allow a student to select freely the project upon which he wishes to work. The student leads himself through the principles of his chosen topic, thereby acquiring a fundamental understanding of the facts and techniques involved. The elements of stiff competition encourage a stu-



YOU'RE IN THE FUN AT SIX FLAGS

Now the world of exciting adventure that is SIX FLAGS Over Texas is open for its sixth big season. All the thrilling adventures — LaSalle's Riverboat Ride up the mysterious Lavaca River, fast-gun justice of the Old West, panoramic Astrolift, shooting the rapids on the famous Log Flume . . . all the interesting attractions will provide a wonderful way to spend a family day. Plan an adventure-packed visit this weekend. One all-inclusive rides ticket includes free main gate admission, all rides, attractions and featured shows. Adults — \$3.50, Children (under 12) — \$2.50. Dallas/Fort Worth Turnpike.

Spring Hours: Fridays—5 to 11 p.m.; Saturdays and Sundays — 10 a.m. to 10 p.m. Daily Operation begins May 28.

SIX FLAGS

O V E R T E X A S



Texas Research Foundation

FARMING SYSTEMS—Wheat, corn and cotton are among the crops grown at the Texas Research Foundation, Dallas, where 25 different farming systems are in use.

dent to do his best, thus reflecting honors on himself, his sponsors, school, city, state and nation.

Top winners of the Dallas Regional Science Fair, shown on this week's front cover, are Melinda L. Warner, a junior at Bryan Adams High School and Edwin Ronnie Collier, a senior at Mesquite High School. The circular building in the right foreground is Dallas Memorial Auditorium where the Fair is being held.

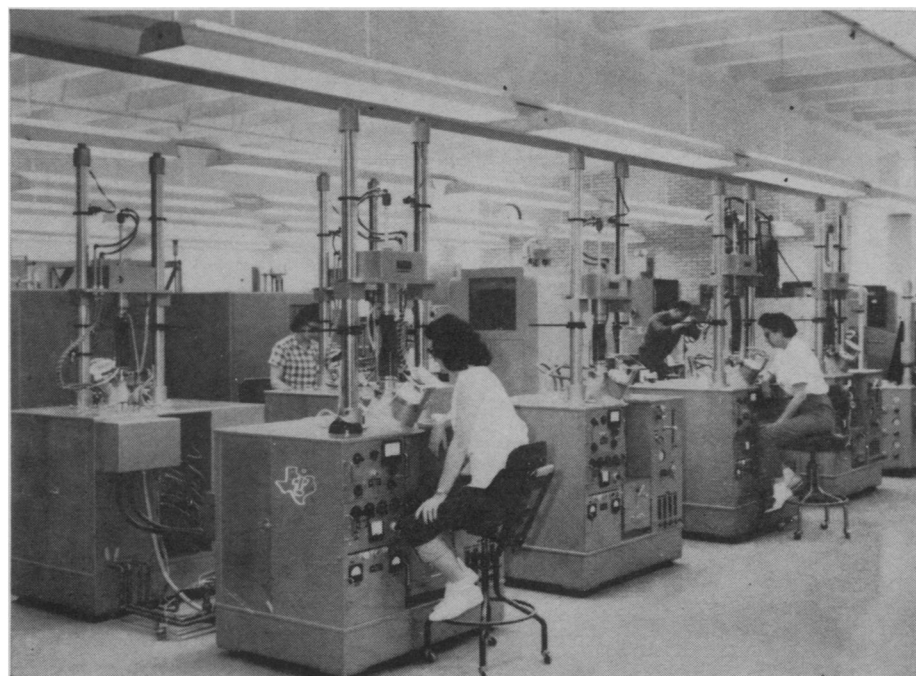
The International Science Fair is the culmination of much cooperation. Myriad sponsors of the school, local, and affiliated regional, state and national science fairs cover the administration and costs of their fairs, including transportation of finalists and adult

sponsors to the ISF, their living costs while at the ISF, and the modest affiliation fee. The facilities for holding the ISF and for the many supporting activities necessary for staging such an event are the responsibility of the host city.

The people of Dallas have worked for years, including 1966, on local school science fairs, the Dallas Regional Science Fair, and now the International Science Fair. It is a task they have not only willingly taken on, but actively sought.

This is the quality of an important science center, and it is with this spirit of dedication that Dallas has welcomed young scientists.

• *Science News*, 89:363 May 14, 1966



Texas Instruments

SILICON 'GROWS' HERE—Specially designed equipment "grows" large single crystals of silicon for semiconductor applications at the Semiconductor-Components Division at Texas Instruments, Inc., where a million semiconductors are produced daily.

Science Club News



Spelunking

➤ The following letter, quoted in full, is from the vice president of the Auburn (Ind.) H.S. Science Club:

"This letter concerns possible activities for science clubs to undertake. The Auburn H.S. science club has an activity which it feels to be unique. The activity is spelunking. No one can imagine the thrills contained in spelunking until one has actually done it. Our science club has to travel 200 miles to find suitable caves to explore and we feel that it is a shame that science clubs located within 10 miles of caves do not take advantage of them. Besides just exploring the caves, our science club performs another function. We clean out the trash which is sometimes left behind by irresponsible visitors.

"We are hoping that you will publish this idea in the next issue of *Science News* so that the thrill and experience of spelunking can be passed around."

With Auburn's strong endorsement, your club might want to try spelunking. A word of caution, however, is vital. Be certain that a qualified adult supervisor is in charge. A group of novices should never go spelunking alone. An experienced spelunker should give advance indoctrination, and rules and advice should be followed to the letter.

The Finland Jr. H.S. Science Club of Columbus, Ohio, held a Nature Weekend. The club, properly chaperoned, spent a weekend at a cottage, with activities including nature walks, study of ecology and conservation, star observing, and leaf collecting.

Local controversy over fluoridation of water led the Guilford H.S. Science Club, Rockford, Ill., to hold an open meeting where representatives of both points of view were speakers. The meeting attracted much public attention and interest was high.

With summer rapidly approaching, do any clubs have trips or projects planned which might be interesting to other science clubs? If so, send a report to Science Clubs of America, 1719 N Street, N.W., Washington, D.C. 20036.

And remember, those who will win awards in next year's science competitions are beginning work on their projects now. Are you one of them?

• *Science News*, 89:365 May 14, 1966