

ADVANCE

Vol. 8, No. 1
September/October
1971



The Newsletter of

THE UNIVERSITY OF TEXAS AT DALLAS

A Component Institution of The University of Texas System



APPOINTED TO the UT-Dallas administrative staff in July, as Dr. Bryce Jordan became UTD's first President, were Dean of Faculties Lee H. Smith, at left; Presidential Assistant James L. Crowson, and Dr. Robert E. Fielder Planning Officer. They are pictured at an architectural model of the UTD Phase II campus. (See additional pictures in center fold). The model is on display in the Founders Building lobby at UTD.

Apollo 15 Carries UT-Dallas' Orbital, Surface Experiments

The University of Texas at Dallas was "turned on" in lunar orbit for the first time, and on the Moon's surface for the third time, as Apollo 15 made its epic flight to Hadley Rille and the Sea of Rains in July and August.

Graduate students and faculty at UTD gained many data-hours of information about the native gases of the lunar atmosphere as both the Lunar Orbital Mass Spectrometer Experiment (LOMSE) and the Lunar Atmosphere Detector (LAD/Cold Cathode Ionization Gauge Experiment) met all expectations.

Assoc. Prof. John Hoffman of the Physics faculty is Principal Investigator

for the LOMSE; Asst. Prof. R. Richard Hodges, Jr., is Co-Investigator.

Director Francis S. Johnson of UTD's Center for Advanced Studies, who heads the Physics faculty, is Principal Investigator for the CCIG experiment.

Large peaks of neon were identified in the lunar atmosphere, Professor Hoffman reported "live" to Dallas-area audiences, as he talked with local news media from the NASA Manned Spacecraft Center control area during the Apollo 15 flight. He also reported gas venting from

APOLLO 15—

Many Steps Made Toward Fuller UTD

Many steps in the building of a fuller university came during the summer of 1971, at The University of Texas at Dallas.

Dr. Bryce Jordan became UTD's first President on July 1.

Dr. Francis S. Johnson became Director of UTD's research arm, which was designated the Center for Advanced Studies. In addition, he was named head of UTD's Physics faculty.

Dr. Lee H. Smith became Dean of Faculties on August 1, coming from the Chairmanship of the Department of Quantitative Management Science at the University of Houston.

He was Associate Dean of the School of Business at UT-Arlington in 1967-69.

Dr. Anton L. Hales was designated head of the Geosciences faculty and the Geosciences Research division, UTD-CAS, after serving as Acting Vice President for Academic Affairs during UTD's first full-year operation.

James L. Crowson was named Assistant to the President, in mid-July. He had held a similar assignment at UT-Austin, during President Jordan's administration there. In addition, he was on the Law Office staff of the UT System and the legal staff of the Texas Water Quality Board.

Dr. Robert E. Fielder was appointed Planning Officer, August 1. Since receiving his Ed. D. at East Texas State University last spring, Doctor Fielder had served as educational program consultant for the RCA Curriculum Project at Sky-

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APOLLO 15—

UTD Has Orbital, Surface Experiments on Apollo 15

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the lunar surface on the Moon's far side, at the "sunset" area, in another interview.

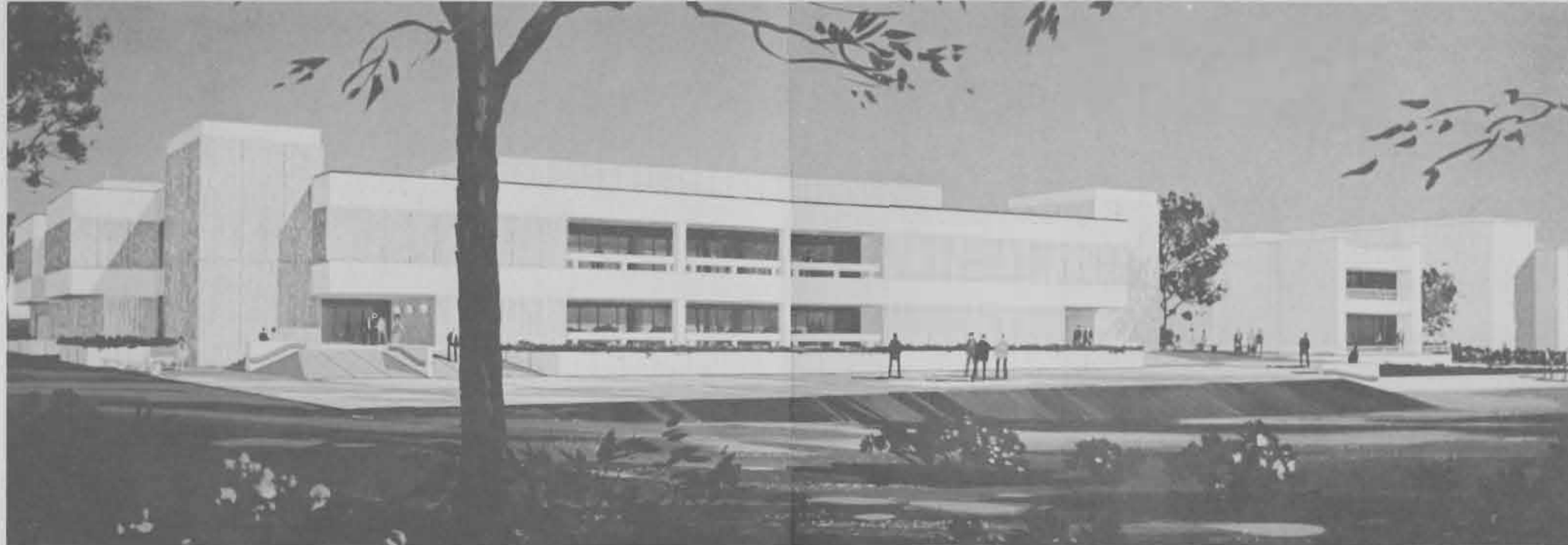
The LOMSE was first turned on at 10:33 p. m. (CDT) July 29, after a 24-foot boom carrying the mass spectrometer was extended from the Service Module of Apollo 15 by Astronaut Alfred M. Worden. Data runs were completed while the combined Command/Service Module assembly was flown in a 60 by 8 mile lunar orbit, and in a 60-mile (nautical miles) orbit when the Lunar Module was on the surface. Principal sampling was done while the CSM flew in a backward direction, to minimize the contaminating gases vented by the Service Module.

The LOMSE was also operated during the trans-Earth coast period, to provide background data.

Count Covered Two Mass Ranges

Basic analysis performed by the LOMSE was a count of native gas molecules in the ranges 12-28 and 28-66 atomic mass units. Neutral gas molecules were literally scooped into the instrument plenum, and bombarded by an electron beam to produce ions; the ions were accelerated by an electric field and formed into a beam for passage into a magnetic field. In the magnetic field, the ions were led into trajectories that are functions of mass and speed. Slit collectors covered the two special trajectories, in the atomic mass unit ranges.

Data was transmitted in real time when Apollo 15 was on the Earth side of the



Other References to UTD's Lunar Programs

ADVANCE has carried several earlier stories on Moon-atmosphere programs. Among them are:

Vol. 6, No. 2, November-December 1969, "Apollo 12 Puts Experiment on Moon Surface."

Vol. 6, No. 4, March-April 1970, "UTD to Supply Pair of Instruments."

Vol. 7, No. 1, September-October 1970, "Apollo Rider" (photo).

Vol. 7, No. 1, September-October 1970, "New UTD Instrument to Be Placed on Surface of Moon by Apollo 17 Crew."

Vol. 7, No. 3, January-February 1971, "Lunar Orbiter" (photo).

Vol. 7, No. 4, March-April 1971, "Lunar Atmosphere Detector Shows Two Large-Scale Events" (with photo).

Moon, and stored during the far-side passes. Quick-look data was available in real time, with detailed processing now underway at UTD's Computer Center.

CCIG 'Watches' Surface Events

The Cold Cathode Gauge Ionization Experiment, placed on the lunar surface during the first moonrise by Astronauts Dave Scott and Jim Erwin at mid-morning July 31, had three 30-minute runs during their surface travels and was turned on again during the lunar eclipse of August 6.

Director Johnson observed pressure effects at the Houston control center when the lunar lander *FALCON* was vented for the second and third moonrises (EVA) near Hadley Rille; when backpacks were thrown out before the

ADDITIONS TO the UT-Dallas campus, currently funded to a total of more than \$27 million, will include a Library-Administrative building (a detail of this structure shows at left), and the Berkner Science Teaching Building (above). Construction is underway this fall on the Berkner Science Teaching Building, under a \$2.3 million contract let to the O'Rourke Construction Company of Dallas by UT System Regents on July 30. The building, continuing campus structure westward from the present Founders Building, is named in honor of Dr. Lloyd V. Berkner, founding president of the Southwest Center for Advanced Studies, the nucleus institution on which UTD is based. At right, current construction on the North Annex to the Founders Building reached the point of full enclosure in September.

Laval University Medical Faculty Member Visits UTD

Dr. Francois Poty, M. D., from the medical faculty of Laval University, Quebec, Canada, made a month-long study visit this summer in the UT-Dallas Biology division. Doctor Poty worked with Prof. Royston C. Clowes, head of the Biology faculty, in bacterial drug resistance studies.

August 2 liftoff, and during liftoff itself. Indications were thrown off-scale as *FALCON* discharged several tons of gases during its swift climb, he reported.

Two Gauges Detect Clouds

Both the Apollo 15 CCIG and a similar instrument left at Fra Mauro last February by Astronauts Alan Shepard and Edgar Mitchell (Apollo 14) have detected the rise of moving gas clouds at different times, through pressure increase.

An apparent venting or rise of gases from the lunar surface has occurred at lunar sunsets.

Speaking on four observations made earlier at the Fra Mauro site, Director Johnson said on June 17 that the gas clouds appear to be of natural origin. He spoke at a COSPAR (Committee on Space Research) meeting in Seattle.

Reudelhuber, Jordan Named Geological Library Directors

Frank Reudelhuber and President Bryce Jordan were named directors of the Geological Information Library of Dallas (GILD) at the library's annual meeting in July.

GILD is a major earth science information center which was given to UT-Dallas last January (See *ADVANCE*, Vol. 7, No. 3, "GILD Geological Library is Given to UT at Dallas.")

Mr. Reudelhuber is Assistant to the President of Core Laboratories, Inc., in Dallas.

Dr. Zoltan A. Der Earns Degree in Co-op Program

Dr. Zoltan A. Der was awarded the Ph. D. in August, in the co-operative Geosciences program of UT-Dallas and Southern Methodist University.

His dissertation supervisor was Prof. Mark Landisman of the UTD Geosciences faculty, and his subject was *Theory for Resolution and Separation of Unknown Variables in Inverse Problems with Application to the Mantle and the Crust in Southern Africa and Scandinavia*.

Moon Crater Named for Dr. Lloyd V. Berkner

A moon crater now carries the name *Berkner*, in memory of Dr. Lloyd V. Berkner, founding President of the Southwest Center for Advanced Studies, the private nucleus institution from which UT-Dallas was formed.

The far-side crater is located at 105 degrees west, 25 degrees north on NASA's Lunar Chart LMP-2.

Clark Foundation Makes Third Gift for Library Addition

The Clark Foundation of Dallas, for the third year, made a summer gift to the UT-Dallas Library. The \$1,500 award was used to add a major reference source, third group of Mansell's National Catalog.

ADVANCE

Published five times in the academic year by
The University of Texas at Dallas
2400 North Armstrong Parkway
Richardson, Texas 75080
Dr. Bryce Jordan, President
Dr. Lee H. Smith, Dean
of Faculties
Dr. Francis S. Johnson, Director,
Center for Advanced Studies
Alfred T. Mitchell,
Director of News and Information Service
Second Class postage paid at
Richardson, Texas

Direct correspondence and Form 3579 to
Box 688, Richardson, Texas 75080

Hales Elected Vice President Of Seismology Association at IUGG Sessions Held in Russia

Prof. Anton L. Hales was elected Vice President, International Association for Seismology and Physics of the Earth's Interior, in August.

His election came at the 15th General Assembly of the International Union of Geodesy and Geophysics, meeting in Moscow, USSR.

Professor Hales heads the Geosciences faculty and Geosciences Research division, UT-Dallas.

Tinsley Chosen Co-Chairman

Assoc. Prof. Brian A. Tinsley of the UT-Dallas Physics faculty was elected Co-Chairman, Commission on Airglow, International Association of Geomagnetism and Aeronomy, at the Moscow meetings.

Dr. Valeriya Alekseyevna Troitskaya of the Soviet Academy of Sciences, a UTD visitor of last October, was named President of the association (See *ADVANCE*, Vol. 7, No. 2, "Soviet Visitor.")

Three Faculty Members Named To Serve on System Councils

Profs. Anton L. Hales and Charles E. Helsley of the Geosciences faculty are serving as UT-Dallas members of the UT System Advisory Council on Marine-Related Affairs, and Prof. Claud S. Rupert, Biology faculty, is a member of the Advisory Council on Health Programs.

The councils were established in July by the UT System Board of Regents.

BUILDING—

Many Steps Taken During Summer at UT-Dallas

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line Career Development Center, in the Dallas Independent School District.

The new organization will shape the best strengths of UTD into a two-stream program, said President Jordan: "A strong academic institution and a closely-associated, problem-solving research activity."

"Under the direction of and with approval of state law," he said, "we will not only carry forward the present graduate programs in the sciences (physics, geological sciences and biology), and the sponsored and contract research, but will plan expansions into both new science fields and undergraduate studies."

Under present law, UT-Dallas will admit junior and senior students in 1975

"We have received a mandate from the state to have a campus for between 3,500 and 5,000 students ready by September 1, 1975," President Jordan said to several audiences following his arrival at UTD. "We anticipate close ties with our education-minded communities; we know that we're facing some gigantic needs in education."

Phase II Building Approved

In addition to the staff changes, Regents approved preliminary plans for all Phase II structures. These include a Library (which will also house administrative offices as it is opened), Social and Behavioral Sciences Building, Liberal Arts Building, a lecture hall-theater, all keyed to an Academic Mall; the Berkner Science Teaching Building, Physical Instruction Building, and Service Building. Ten lighted tennis courts and a 2,600 vehicle parking area are also planned.

Funding for the construction, in excess of \$27 million, is now available to UTD.

A Phase I addition, the North Annex to the Founders Building, is nearing completion this fall. It was built with private funds. The Excellence in Education Foundation is the donor, both for the North Annex and for an additional \$3 million of Phase II funding.

3,862 Receive ADVANCE

ADVANCE average circulation, as reported to the National Postal Service in the Annual Statement of Ownership, Management, and Circulation, was 3,682 copies per issue for the past year. The entire distribution is free, to friends of The University of Texas at Dallas.

Canham Heads Southern Section Of Research Administrators

David W. Canham, Director of Research Support in UT-Dallas' Center for Advanced Studies, was chosen President-Elect, Southern Section, Society of Research Administrators, in a summer election.

The Section is cornered by Texas, Oklahoma, Virginia, and Florida. Membership comes from universities, industry, and non-profit research organizations.

Two Leading Relativists Visit Math, Math Physics Division

Prof. Roger Penrose and Prof. Andre Lichnerowicz, two leading relativists, made month-long study visits in the UTD Mathematics and Mathematical Physics division during August and September.

Both visits were made possible by grants of the National Science Foundation.

Professor Penrose is a member of the Mathematics faculty at Birkbeck College, University of London; he is the originator of massive use of spinor techniques and the more recent twistor techniques in relativity solutions.

Professor Lichnerowicz is Chairman, Mathematical Physics, College de France.

Both have made earlier lecture visits at the UTD campus.

Johnson Chairs Summer Study

Director Francis S. Johnson of UT-Dallas' Center for Advanced Studies chaired a Space Science Board Summer Study on *Exploration of the Outer Planets*, held at Woods Hole, Mass.

Collins Directs Pilot Program In U. S.-Romanian Physics

Assoc. Prof. Carl B. Collins of UT-Dallas' Physics faculty is director of a one-year pilot program in atomic and plasma physics research involving exchanges between United States and Romanian institutions.

During the late summer, Professor Collins visited the Institute of Physics at Bucharest to initiate the program.

National Science Foundation supports the program through a \$40,000 grant made in June. Matching funds have been provided by the Romanian State Committee for Nuclear Research, for work in Bucharest.

Clowes Takes Part in Czech Symposium on Drug Resistance

Prof. Royston C. Clowes, Head of the UT-Dallas Biology faculty, joined in a September symposium on *Infectious Antibiotic Resistance* convened by the Czechoslovakia Chemotherapeutic Society at Smolenice. His travel to the meeting, at the invitation of the Czechoslovak Medical Society, was supported by a grant of the Schering Drug Company.

Werbin at Gordon Conference

Assoc. Prof. Harold Werbin of the UT-Dallas Biology faculty gave a report of collaborative work on *Photorepair of UV-Damaged DNA* at the Gordon Research Conference on Nucleic Acids, held at Andover, N. H., in July. The research was done with Dr. Sadamasa Minato of the Biology staff.

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