

College, NASA Join Forces To Conduct Moon Research

Research that may lead to developing an instrument capable of analyzing the elemental composition of the moon's surface is underway here sponsored by the National Aeronautics and Space Administration and the Division of Isotope Development, Atomic Energy Commission.

To conduct the study an \$84,800 grant from NASA, supplementing an AEC grant of \$125,000, has been made to Dr. Richard Wainerdi, director of the Activation Analysis Research Laboratory.

The first year's activity on this project is aimed at determining feasibility of remote automatic neutron activation analysis techniques for learning the elemental composition of the moon... It will involve use of A&M's nuclear reactor and the Data Processing

Center by the Activation Analysis Research Laboratory.

Approximately 27 research engineers, scientists and graduate students will work on the project being conducted for NASA's office of lunar and planetary research and the AEC's isotope development division.

The project will include developing a prototype of a miniaturized analyzing instrument as well as formulating samples of artificial moon material—based on best estimates of probable lunar elements—for trail analysis.

"The grant for this project is based on techniques for computer-coupled automatic activation analysis which were developed in the Activation Analysis Research Laboratory under sponsorship of the DID-AEC during the past three years," Wainerdi said.



Centennial Staged

This covered wagon, pictured during a parade in downtown Bryan, was only one of a host of activities here over the summer during Bryan's centennial observance. Other activities included a "Gallant Men of Texas" pageant, the selection of a Centennial Queen, beard-growing and fiddling contests and an antique car race.

Computer Science Program Opens Here For Graduates

A graduate program in computer science will formally get underway here this fall.

The new graduate program, designed for men with bachelor degrees in engineering, mathematics or physics, will lead to a Master of Computer Science degree.

Working with the new program in the Department of Industrial Engineering will be Robert L. Smith Jr., head of the Data Processing Center.

The new program—one of the first of its type in the South—was formally approved last spring by the Texas Commission on Higher Education.

Up to 20 graduate students a year will be accepted in the new

program. Smith said many industries are calling for computer science graduates and the Army, Navy and Air Force are interested in sending selected officers to enter the program.

Focal point of the new graduate degree program will be the Data Processing Center, which is packed with more than \$4 million worth of computer equipment.

Curriculum for a master of computer science degree includes graduate courses in numerical analysis, computer methods, computer languages, numerical methods in differential equations, computer methods in applied sciences and logic of information processing.

Data Processing Adds Tape System

Installation of an additional computer tape system in the Data Processing Center has quadrupled the speed of magnetic tape computing capabilities here.

Addition of the IBM 1401 — a tape oriented, completely transistorized computer with 4,000 digit storage capacity — permits the Data Processing Center to increase capabilities of its IBM 709, said Robert L. Smith Jr., head of the multi-million dollar computer center.

"It speeds up our input and output of magnetic tapes by a factor of four to one," he commented, adding that satellite equipment for the 1401 vastly increases the efficiency of the 709's capabilities.

Since its establishment in 1958, the Data Processing Center, operated by the Texas Engineering Experiment Station, has become a focal-point of activity for both education and research.

Valuable Equipment

It is packed with high speed computers and related equipment that is valued at more than \$4 million. Only three other schools have comparable facilities — Massachusetts Institute of Technology, the University of California and the University of Washington.

In addition to the IBM 709 and the newly-installed IBM 1401, the center also has a \$250,000 DYS-TAC analog computer that is highly important to meteorological research on campus.

While it does work for virtually every research department at A&M, the center is also kept busy with computing projects contracted through the Texas Engineering Experiment Station by public utilities, the petroleum industry and the federal government.

Some 40 full-time employees are required for operation of the center—key punch operators who perforate the cards used in programming the work of computers, programmers, tabulating equipment, operators, computer specialists and supervisory personnel.

Star performer of the Center is the 709 that consists of 21 units capable of reading and writing at

a rate of 15,000 characters per second. Simultaneously it computes information at the rate of 40,000 arithmetical operations per second.

The IBM 1401 will be used extensively in industrial engineering courses in data processing, especially for the new graduate program in computer sciences just established here.

Along with the addition of the 1401 data processing system is the 1402 Card Reader and Punch. It can punch cards at a rate of 250 cards per minute or two and a half times any previous machine here. It reads information more than three times faster than what was used previously, Smith said.

The 1403 Printer will make information available four times faster, printing 600 lines per minute with 132 characters per line, he added.

Main Street Through Bryan Now Repaved

Students wandering into Bryan will be surprised to find a long stretch of the city's Main Street paved and repaved.

Work on the project started June 6 and was concluded the last week of August.

The street was widened, curbs were repaved and parking spaces were added in the middle of the street.

In addition, parking meters were not re-installed at the end of a group of downtown streets. They may be installed later but the city is presently experimenting with permanent parking meters.

The construction, which cost \$130,000, was a part of an overall paving project in the downtown area sponsored jointly by the city and merchants.

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