

XE128.0216869
1-8-69

SOUTHWEST CENTER FOR ADVANCED STUDIES

POST OFFICE BOX 30365

DALLAS, TEXAS 75230

(214) ADAMS 1-1471

RELEASE ON RECEIPT
January 8, 1969

Al Mitchell, Director of
Public Affairs - Ext 215

SEVEN SPACE EXPERIMENTS PLACE SCAS HIGH IN UNIVERSITY LISTING

Seven space experiments aboard a series of flying objects -- all well-identified -- place the Southwest Center for Advanced Studies fourth in a numerical listing of United States' university flight experimenters published by the National Aeronautics and Space Administration.

The SCAS' experiments fly high and far on spacecraft named Pioneer, IMP, ISIS, OGO and Explorer. All are unmanned, instrument carrying satellites. The Pioneers orbit the Sun; the others orbit the Earth.

Rice University tops the national listing with 22 experiments. The University of Iowa has 10, and the University of California at Los Angeles has nine. But, as the NASA report points out, 20 of the Rice experiments are carried on only two of its OWL spacecraft.

The report covers physics, planetary, astronomy and biosciences programs for calendar years 1967 and 1968. Its title is "A Study of University NASA Programs" (NASA SP-185).

Stanford University and the University of California, Berkeley, have also provided seven experiments each.

Six have come from California Institute of Technology and the Universities of Chicago, Colorado, and Minnesota; four from Massachusetts Institute of Technology and Temple; three from Dartmouth and Maryland, and two each from Brigham Young, Harvard,

-more-

New Mexico and Southern California.

Among universities providing one experiment are Texas Womans and The University of Texas.

In addition to the satellite experiments, the SCAS also sends instruments "up and back" on rockets, probing the ionosphere and the auroral regions of the far north. One series of payloads (Modular Auroral Probe, or MAP) is designed for parachute recovery, and can be kept in a "ready" condition, counted down to T-minus one hour, at Fort Churchill, Canada. Auroral events occur at random, perhaps 10 times a year, and last only for hours. It takes at least three days after an experiment arrives at Fort Churchill to launch it by rocket. The only solution to having a payload in the right place at the right time is "be ready and waiting."

*

The SCAS' space sciences faculty members and their programs are:

Explorer, Assoc. Prof. John H. Hoffman; IMP (Interplanetary Monitoring Platform), Asst. Prof. Ricardo A. R. Palmeira; ISIS (International Satellite for Ionospheric Studies, a joint U.S.-Canadian project), Prof. Walter J. Heikkila; OGO (Orbiting Geophysical Observatory), Prof. William B. Hanson, and Pioneer, Asst. Prof. Robert P. Bukata.

Initial flights on Pioneer and IMP spacecraft carried instruments developed under supervision of Prof. Kenneth G. McCracken, who is now on leave from the SCAS in a research and teaching assignment at the University of Adelaide, South Australia, but continues as a principal investigator here.

Research Scientists Frank R. Allum and Edwin P. Keath also have major staff roles in the IMP and Pioneer programs, respectively, as do Thomas W. Flowerday in the OGO program and J. B. Smith in ISIS.

-more-

Visiting Asst. Prof. U. Ramachandra Rao of Physical Research Laboratory, Ahmedabad, India, is also associated with the Pioneer and IMP programs.

All the SCAS' flight experiments are designed to gather data on the energies, fields, and composition of space, from approximate 100-mile altitudes to such distances as 200 million miles -- when Pioneers pass behind the Sun.

IMP follows a highly-eccentric orbit around the Earth's poles, flying in an out of the Earth's magnetic fields. Both Pioneer and IMP require boosts from good-sized rockets, the 90-foot Thor-Deltas. Pioneer launches are made from Cape Kennedy and IMP flights are sent from the Western Test Range (Vandenberg) in California.

*

At some future date, a SCAS space instrument will be boosted by a Saturn. It will travel to the Moon, possibly as part of the cargo aboard Apollo 12, and be left on the surface to measure the thin atmosphere. Prof. Francis S. Johnson, who heads the SCAS' Atmospheric and Space Sciences Division, is principal investigator for this "satellite" project. The instrument will be part of the ALSEP (Apollo Lunar Surface Experiment Package) project.

And, there are some SCAS "space instruments" to be lifted by balloons, plus others that will never fly. Balloon flights have already been made from bases in Canada, India, and Australia. Also, two neutron monitor stations keep eyes on space-energy events from the ground. Each uses 18 nine-foot-long detector tubes, encased in tons of lead and thick plastic; one is located at Fort Churchill, on the Hudson's Bay shores, and the other on the SCAS' campus.

Still another major task is the analysis of all data from the several kinds of experiments, and its world-wide distribution.