



Photo by Kevin Higley

Assigned by NASA to investigate the technical aspects of a satellite service unit, Leendert Kersten explains the operation of the Laboratory Engineering Model Manipulator Arms (LEMMA). A scale model of the manipulator arms is to his left.

## Professor lands NASA mission to investigate space 'manipulators'

By Bryant Brooks

The mission of taking the arms of a satellite service unit from design to finished product has been assigned to Leendert Kersten, assistant professor of engineering mechanics at UNL, by the National Aeronautics and Space Administration (NASA).

The Laboratory Engineering Model Manipulator Arms (LEMMA) will be part of a free-flying teleoperator that can be launched from a space shuttle, go to a distant satellite, inspect it and perform repairs or return it to the shuttle for repairs, Kersten said. It also could be used as an astronaut rescue device if something goes wrong during extra-vehicular activity, he said.

"I am investigating what kind of technical problems we are going to face with the design," Kersten said. "Will it work? How will it work? How expensive will it be? And what are the precision requirements we can demand from it?"

The manipulators resemble human arms but are more maneuverable, he said. Its shoulders contain all the motors, the elbows can move 360 degrees and the wrists spin, enabling it to remove bolts and use screwdrivers well, he added.

The arms are remotely controlled by a person on the ground or in the space shuttle who can see his actions through a camera mounted on the teleoperator and a visual panel before him, Kersten said.

On Feb. 15 Kersten received an \$18,230 NASA

grant to finance an eight-month study, which involves mostly theoretical investigations, he said. If it is successful, he said, he will apply for another grant in mid-August.

"The next phase will be a proposal to NASA to build it and test it in the Nebraska Engineering Center," he said.

The project will be among NASA's programs for extending man's capability in space in the 1980s, he added.

The remotely controlled arms will not be restricted to space use. Like all NASA projects, the unit has earthly applications, Kersten said.

"It could be of assistance in deep-sea exploration and underwater repairs in hostile environments," he said. "The arms can serve as aids to paraplegics or people without limbs as assisting tools."

"If it is built with enough accuracy, a surgeon could perform an operation in Tokyo from New York," he added.

NASA research grants are not common to UNL's College of Engineering and Technology, Kersten said. However, he said he studied LEMMA in 1973 at the Manned Space Flight Center in Huntsville, Ala.

"I was so intrigued at that time that I did extensive investigations," he said. "The man in charge of the project then (in 1973), died, so the grant went to me."

## Draft's ...

Continued from p.1

Since April 1975, young men no longer were required to register for the draft, and they had continued to operate the lottery and classify lucky young Nebraskans as 1-A until that time.

He was interrupted by a shriek. A clerk, in no uncertain terms, told Photographer to cease and desist his shutter-snapping without permission. Photographer looked frightened, perhaps concerned that he still could be reclassified, like those who opposed the Vietnam war when Gen. Lewis Hershey still ruled the very Selective Service roost.

Assistant director Scott waved his arm benignly and allowed Photographer to resume his activity.

### Maintain office until September

No, Scott continued, he did not know why the area office was moved from the Lincoln Terminal Bldg. to the Federal Bldg. last July, only to be closed down in February.

The state director, he said, would maintain the office until September, at least. He would administer the reconciliation service extended to those penitent deserters and draft dodgers from the Vietnam era.

The files on all the young men who ever turned 18 in Nebraska, no mean feat in itself, had been shipped out to some forgotten dungeon in Kansas City.

He said he had no idea how many men had been drafted from Nebraska, nor how many had come home in rubber bags.

Scott said his job title would be changed to operations officer Tuesday; he would be out of his office in May to resume private accounting and tax work.

Reporter asked if the draft would ever be resumed.

He replied, "There is no question, in my mind at least, that sooner or later we'll have to draft people again to maintain our military posture. But that is for Congress to decide."

On that point of information, Reporter and Photographer assumed an about face posture and got while the getting was good.

## FAB requests review of bookstore in Union

Fees Allocation Board (FAB) Thursday voted to ask Ken Bader, vice-chancellor for student affairs, to form a committee which would review operations of the University Bookstore in the Nebraska Union.

Don Wesely, FAB chairman, questioned at an earlier meeting whether the bookstore was of service to students.

Wesely said that the bookstore's prices are not lower than those of other bookstores and that the space used by the store might be put to better use.

The board also heard a subcommittee report about current student fee financing of the University Health Center.

The board will begin discussing fees allocation subcommittee hearing reports next Thursday.

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## Five file for Senate; deadline is today

Five candidates for ASUN Senate positions had filed their petitions to get on the March 17 ballot, as of late Thursday afternoon.

Thirty-five signatures are needed on the petition which must then be notarized and filed with the ASUN secretary by 4 p.m. this afternoon.

Candidates already filed are: Robert Simonson, an incumbent Senator representing graduate students. He filed as a member of the New Student Coalition (NSC) party.

Freshman Arnold Grinvalds, 1217 Cather Hall, has filed as an independent candidate for senator representing Teachers College.

Sophomore Mark Allen, 1425 R St., has filed as an Arts and Sciences senator with the University Student

Awareness (USA) party.

Junior Bill Mueller, 1545 R St., has filed as an independent candidate for ASUN president.

Junior Mark Blongewicz, 412 S. 28th St., also has filed as an independent candidate for president.

There are 35 open positions on the Senate, along with the offices of president, first vice-president and second vice-president.

Previously, most parties have waited until the last day to file their petitions for candidacy, said Dennis Martin, a Law School junior from Elgin who said he will be second vice-presidential candidate with the NSC party. This was so they could meet as a party for one last time on Thursday evening before the filing deadline, he said.

## Student Elections

Deadline for candidates for March 17 student elections is Friday, February 27, 4:00 p.m.

Forms and information available from ASUN secretary, Room 334, Nebraska Union.

Political parties must file statement of intent by 4:00 p.m. Friday.

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