

3-D X-ray to be developed under American Cancer Society grant to Dr. Lohmann

November 11, 1970

A system for viewing x-rays in three dimensions as an aid in surgery and in diagnosis of cancerous conditions is being developed at UCSD under a grant announced today (Thursday, November 12, 1970) by the American Cancer Society. The \$6,120 award to Dr. Adolf W. Lohmann, professor of applied physics at UCSD, will help to underwrite development of a device which would permit doctors to determine rapidly and efficiently the depth and location of diseased areas in the body.

"When performing brain surgery, for example," Dr. Lohmann explained, "it is very important that the surgeon know exactly where in the skull he must operate. At present such information is derived either by computer or by taking several x-rays, from different angles, and placing them side by side on a lighted rack. The surgeon examines these various flat-Plane views sequentially, and makes his determination. When practiced by an expert, the process can be highly accurate, but it is inefficient and time-consuming.

"With the three-dimensional viewing system we hope to develop," he continued, "the surgeon will look into a special instrument, just as he would into a microscope, and will see the data in three dimensions. And he will not need the degree of expertise to make his interpretations which now is required to obtain the same data from flat-plane images."

Lohmann will be assisted on the project by a Japanese graduate student who will come to UCSD soon from the University of Sapporo, in northern Japan. The student is an expert in three-dimensional projection work.

A specialist in optics, Lohmann received his doctor's degree in 1953 at the University of Hamburg, Germany. He joined UCSD's department of applied physics and information science in 1968 after five years in San Jose, Calif. as head of the optical signal processing group at International Business Machines' plant there.

Lohmann has recently specialized in holography, and is conducting several projects involving holography in his laboratories at UCSD.