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Collection Overview

Repository: Smithsonian Institution Archives, Washington, D.C., osiaref@si.edu
Title: Medical Imaging Interviews
Dates: 1989
Quantity: .rm files (Reference copies).

Administrative Information

Preferred Citation
Smithsonian Institution Archives, Record Unit 9544, Medical Imaging Interviews

Use Restriction
Restricted.

Historical Note

The ACTA (Automatic Computerized Transverse Axial) scanner was developed in 1973. The introduction of this first full-body CAT (Computer Assisted Tomography)--or CT (Computerized Tomography)--scanner lead to advancement in medical imaging and diagnostic medicine, especially for non-invasive viewing of soft tissue inside the body. The machine revolutionized diagnosis in cancer, heart disease, and soft tissue irregularities by transmitting X-ray beams through transverse axial slices of the body, resulting in computerized cross-sectional images of the body part scanned. Robert S. Ledley, of Georgetown University Medical Center, designed the ACTA scanner, and it was first used in clinical operation there in 1973.

Robert Ledley received a D.D.S. degree from New York College of Dentistry in 1948 and a M.A. degree in theoretical physics from Columbia University in 1950. Shortly thereafter he worked for both the National Bureau of Standards (now the National Institute of Standards and Technology) and the Johns Hopkins University as a physicist and research analyst. From 1968 to 1970, he was professor of Electrical Engineering in the School of Engineering and Applied Science at the George Washington University. In 1960 he founded and became president of the National Biomedical Research Foundation (NBRF). He joined the School of Medicine, Georgetown University Medical Center in 1970 as a professor in the Department of Physiology and Biophysics. In 1974 he became a professor in the Medical Center’s Department of Radiology and in 1975 was appointed director of the Medical Computing and Biophysics Division.

Homer Twigg graduated from the University of Maryland Medical School in 1951 and entered the United States Public Health Service where he received training in radiology. In 1957, he joined the Radiology Department of the Georgetown University Medical Center and was one of the first radiologists to work with Dr. Ledley in applying the ACTA scanner to clinical situations.
Robert Zeman received his M.D. from Northwestern University in 1976. In 1977 he began his residency at Yale New Haven Hospital, in New Haven, Connecticut, and was appointed assistant professor of Diagnostic Radiology at Yale University in 1981. The following year he joined Georgetown University School of Medicine as an assistant professor of Radiology and held numerous other positions there until his appointment as Clinical Director of the Department of Diagnostic Radiology in 1986.

David Griego, Georgetown University Medical Center CAT scanning supervisor and radiology specialist, and Seong Ki Mun, director of the Division of Imaging Physics were interviewed for their knowledge of current trends in the field of medical imaging.

Introduction

The Smithsonian Videohistory Program, funded by the Alfred P. Sloan Foundation from 1986 until 1992, used video in historical research. Additional collections have been added since the grant project ended. Videohistory uses the video camera as a historical research tool to record moving visual information. Video works best in historical research when recording people at work in environments, explaining artifacts, demonstrating process, or in group discussion. The experimental program recorded projects that reflected the Institution's concern with the conduct of contemporary science and technology.

Smithsonian historians participated in the program to document visual aspects of their on-going historical research. Projects covered topics in the physical and biological sciences as well as in technological design and manufacture. To capture site, process, and interaction most effectively, projects were taped in offices, factories, quarries, laboratories, observatories, and museums. Resulting footage was duplicated, transcribed, and deposited in the Smithsonian Institution Archives for scholarship, education, and exhibition. The collection is open to qualified researchers.

Descriptive Entry

Ramunas Kondratas, curator at the Smithsonian's National Museum of American History (NMAH), interviewed Ledley, Homer Twigg, Robert Zeman, David Greigo, and Seong Ki Mun about the history of CAT scanning in general, and the development and operation of the ACTA scanner in particular, as well as Ledley's more recent work in biotechnology instrumentation. Kondratas also visually documented CAT scanning equipment, from the earliest model ACTA scanner to most recent CT scanners.

This collection consists of five interview sessions, totalling approximately 8:26 hours of recordings, and 154 pages of transcript. There are three generations of tape for each session: originals, dubbing masters, and reference copies. In total, this collection is comprised of 24 original videotapes (23 Beta videotapes, and 1 U-Matic videotape), 10 dubbing master videotapes (10 U-Matic videotapes), and 7 reference copy videotapes (7 VHS videotapes). The videotapes in this collection have been remastered digitally, with 24 motion jpeg 2000 and 24 mpeg digital files for preservation, and 11 Windows Media Video and 11 Real Media Video digital files for reference. Also included is one audio interview, totalling approximately 4:30 hours of audiotape, and 96 pages of transcript.

Names and Subject Terms

This collection is indexed in the online catalog of the Smithsonian Institution under the following terms:
Subjects:

Biology
History of science and technology
Medicine

Types of Materials:

Audiotapes
Interviews
Motion pictures (visual works)
Oral history
Videotapes

Names:

Automatic Computerized Transverse Axial Scanner.
Computer-Assisted Tomography Scanner.
Griego, David.
Griego, David.
Ki Mun, Seong.
Ki Mun, Seong.
Kondratas, Ramunas interviewer.
Ledley, Robert S.
Ledley, Robert S.
National Biomedical Research Foundation. Georgetown University.
Twigg, Homer.
Twigg, Homer.
Zeman, Robert.
Zeman, Robert.
Container Listing

Box 1

Transcripts of Interviews
Session 1: c. 1978
Session 2: 6 April 1989
Session 3: 5 July 1989
Session 4: c. September 1984
Session 5: 27 October 1989
Audio interview: 16 June 1989

Audio and Video Recordings of Interviews
Session 1: c. 1978
Session 2: 16 April 1989
Session 3: 5 July 1989
Session 4: c. September 1984
Session 5: 27 October 1989
Audio interview: 16 June 1989