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Cancer Imaging Archive on the Move



The Cancer Imaging Archive of the National Cancer Institute (NCI) has found a new home at the University of Arkansas for Medical Sciences (UAMS). More than 40 terabytes of data have been transferred to UAMS from the archive's former home at Washington University in St. Louis.

The archive's transfer coincided with the appointment of Fred Prior, PhD, a cancer imaging expert, as chair of the newly established Department of Biomedical Informatics in the UAMS College of Medicine. Dr. Prior also left his previous position at Washington University.

"The recruitment of Dr. Fred Prior as the chair of the new Department of Biomedical Informatics is a major step forward for UAMS and the College of Medicine," said UAMS Chancellor Dan Rahn, MD "Having this database on campus will highlight the important work our researchers are engaged in."

Through the archive, UAMS gains important linkages to all of the NCI-designated cancer centres in the U.S. and to many other cancer centres around the world. "This puts UAMS and our expertise in biomedical informatics right at the centre of cancer imaging research," according to College of Medicine Dean Pope L. Moseley, MD.

Biomedical informatics uses computers rather than traditional laboratories to extract knowledge from large sets of data. The department develops computational tools to assess and manage medical and public health information for patient care and research programmes. Research using the archive has produced about 250 academic papers in recent years.

Cancer researchers can use the archive's data to develop new analysis techniques to advance scientific understanding of cancer. For educators, the data serves as a teaching tool to introduce students to medical imaging technology and types of cancer. The public can access the archive and see how cancer appears in diagnostic images as well as learn about the instruments physicians use to diagnose cancer and measure the success of treatment.

An important area of research that makes intensive use of The Cancer Imaging Archive is computer-based image analysis or radiomics.

"For instance, we are extracting tens of thousands of data points from one CT scan, and then analysing these image features to identify disease signatures," Dr. Prior explained. "We are comparing genomic feature sets with the imaging feature sets to try to understand how to identify different disease subtypes that may require different therapies."

That comparative analysis using biomedical informatics has the potential to greatly speed up the process of choosing the best course of treatment for someone with cancer and improving his or her prognosis.

Source: [University of Arkansas for Medical Sciences](#)

Image credit: The Cancer Imaging Archivel; UAMS

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