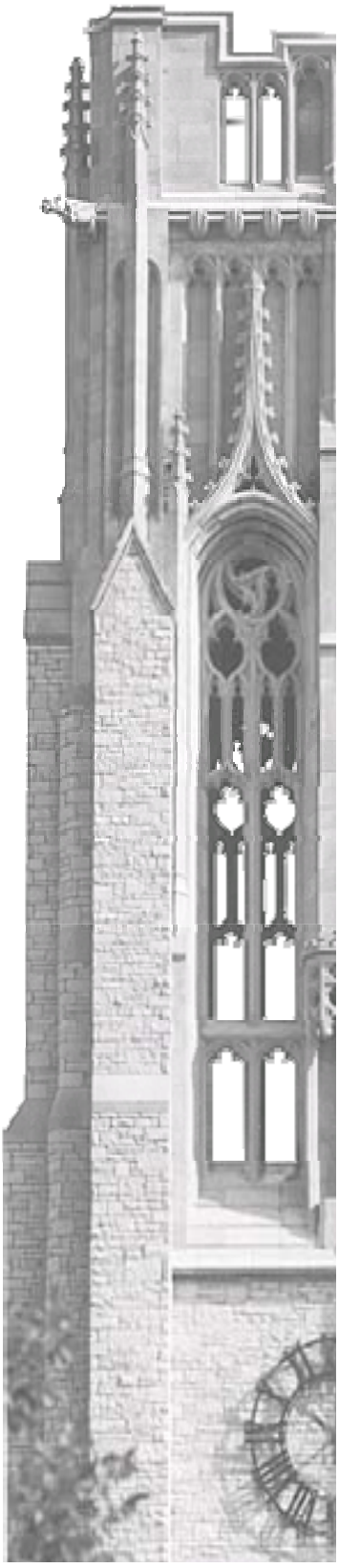
THE UNIVERSITY OF TOLEDO
1872

seeks partner to license

System for High Energy Gamma Ray Detection



The medical industry is a major consumer of large area photo-electronic sensors, detectors, and displays for use in the field of medical imaging. Medical imaging is a significant part of diagnostic and radiation oncology departments. Also, in the field of medical imaging, there is an increasing trend toward "filmless" imaging using digital display devices. The high quality presentation of CT, MRI, radiographs, nuclear medicine and ultrasound images are key parameters in the proper diagnosis and treatment of patients. One type of large area detector is an electronic portal imaging device (EPID) which is becoming an integral part of high-energy linear accelerators for online patient imaging and beam characterization. The clinical value of digital online imaging is dependant on the verification of the radiation fields used in the radation therapy and in the verification of end point doses in such treatments. The commercially available EPIDs today, commonly manufactured from amorphous silicon, display numerous problems in image contrast, resolution, and radiation hardness. As a consequence, there is a need for high quality digital display devices that provide high-resolution, brightness, and quality image contrast. Therefore, a system has been developed that implements the use of a thin-film based detector system for high-energy gamma rays. An immediate application of the system is for electronic portal imaging device (EPID) used in high energy X-ray radiation treatment applications.

The University of Toledo is seeking a company interested in utilizing this thin film detector system having converter material configured to absorb high-energy X-ray photons and generate Compton electrons and a thin film detection material, and a method of using the same.

Applications:

1. Medical imaging
2. Radiation delivery device
3. Other various applications

Advantages:

1. Utilizes polycrystalline thin films with superior radiation hardness
2. Detection efficiency in the high energy range
3. Inexpensive deposition technology
4. Higher detection sensitivity

This invention is patent pending

Contact

The University of Toledo Office of Research Development,
MS 1034
3000 Arlington Avenue
Toledo, Ohio 43614

Phone: 419-383-6963
E-mail: stephen.snider@utoledo.edu