The University of Texas at San Antonio
College of Engineering
Department of Electrical and Computer Engineering

Research assistantships for PhD students are available in

Evaluating Radically New Compton Camera Designs

Compton cameras have a unique potential of substantially improving *in vivo* dosimetry for bismuth-213 radioimmunotherapy as well as a potential for dual isotope dopamine neurological imaging. Although they have not been successfully used in medicine to date, it is hoped that when a recently developed radically new camera designs are used, Compton cameras will achieve their potential.

These novel designs will first be evaluated using Monte Carlo simulations, perhaps using GENT 4. A 3900-node cluster—the largest computing system in the world for open science research—is available for this research. Alternatively, the applicant may be researching data collection geometries for reduced dose CT.

Applicants must have a strong background in electrical engineering or a closely related area. Experience in signal and image processing, and scientific programming is desired.

This research will lead to a PhD degree from the Electrical and Computer Engineering Department at the University of Texas at San Antonio, USA. With over 28,000 students, the University is in the city of San Antonio, which is a clean, safe, inexpensive, culturally diverse, and expanding city.

Keywords: Monte Carlo simulations, GATE, Compton cameras

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