

Lost in Translation: from nuclear science to clinical reality

Wednesday, 3 September 2014 08:45 (35 minutes)

Nuclear science is a very productive environment for the development of instrumentation for the detection and imaging of particles. Over many decades, advances in this field have resulted in the transfer of technology into other related fields, and specifically for this conference, translation into medical imaging. Although performance specifications may differ, there are many common aspects such as detectors, acquisition electronics, trigger and filtering requirements, data storage, image reconstruction and processing. This presentation will stress the importance of first understanding the medical problem and review some of the technological elements that the fields have in common and that have translated from nuclear science into medical imaging, sometimes successfully and sometimes not so successfully. One specific example, the PET/CT scanner, will be briefly described and the lessons learned over many years from this exercise will be summarized. The demand for lower radiation dose, better spatial resolution and higher sensitivity devices has driven proposals to explore organ-specific (dedicated) imaging systems as a complement to whole-body imagers. The role for such dedicated devices within the medical imaging armamentarium will be discussed.

Presenter: TOWNSEND, David (CIRC, University of Singapore)

Session Classification: KEY NOTE SESSION 1