



Learn & Improve Professional Skills Session 1

Physics Committee

Sunday, October 20, 2024, 08:00 - 09:30

Session Title

CZT-Based Gamma Cameras

Chairpersons

Laetitia Imbert (Nancy, France)

John Dickson (London, UK)

Programme

08:00 - 08:30 **Laetitia Imbert** (Nancy, France): The science and possibilities of CZT based scanners

08:30 - 09:00 **Richard Graham** (Bath, UK): A clinical case series of CZT based scans

09:00 - 09:30 **Rachele Danieli** (Brussels, Belgium): CZT scanners and dosimetry

Educational Objectives

1. To learn the physics of CZT detectors and possibilities of CZT-Based Gamma Cameras
2. To evaluate the potential benefits of these CZT systems
3. To understand how these new CZT-based cameras can impact patient management
4. To learn how to add routine quantification and dosimetry with these CZT scanners

Summary

CZT-Based Gamma Cameras are now widely available for most nuclear imaging investigations through whole-body systems equipped with dual-head CZT detectors (2D geometry) or 12 CZT detectors over 360° (3D geometry). This session explores the properties and potential of these CZT-based scanners, as well as their specific application fields such as fast whole-body, dual isotope, and dynamic SPECT scanning. With the addition of various corrections and improvement of the reconstructed images, fully quantitative investigations are now possible for all routine investigations, including ¹⁷⁷Lu imaging for treatment monitoring and dosimetry.

Key Words

CZT detectors; SPECT; performances; quantification; dosimetry