

## Advances and Challenges in TOF-PET: From Technology to Applications

*Thursday 13 March 2025 11:30 (30 minutes)*

Positron Emission Tomography (PET) is a powerful imaging technique that enables the study of physiological and molecular processes in vivo. The introduction of Time-of-Flight PET (TOF-PET) has driven significant improvement on image quality by enhancing signal-to-noise ratio and enabling potential dose reduction. This talk will explore the latest developments in detector technology, signal processing, and system integration that are shaping the next generation of TOF-PET. Additionally, key challenges and future research directions will be discussed.

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**Session Classification:** Day 2

**Track Classification:** Medical applications: Fast scintillators for time-of-flight PET and other imaging modalities