

Clinical Workshop

# Fundamentals of photon-counting CT physics

Oct 27, 2025



## Course design and objectives

The NAEOTOM Alpha class is a fleet of novel photon-counting computed tomography (PCCT) scanners for advanced imaging. The QuantaMax PCCT detector detects and counts individual X-ray photons and can offer higher spatial resolution and improved contrast compared to conventional CT. PCCT uses energy-resolving detectors that categorize photons based on their energy levels, enabling material decomposition and spectral imaging. With the novel technology comes the need to understand the physics and apply the knowledge into the daily routine.

This one-day on-site class for technologists and radiologists covers the physical key fundamentals of photon-counting CT and the basic principles of the NAEOTOM Alpha class scanners. The focus is set on operation principles, differentiation to EID technology, reconstructions, kernels, dose considerations. Furthermore, an introduction into spectral imaging and protocol development will be taught to the participants. You will learn and understand how to adapt the technology to your specific needs and get guidance by experts.

## Course content

- Basics: Physics of photon-counting CT incl. Q&A
- Scanning: Acquisition parameters (CARE keV)
- Processing: Spectral image reconstruction
- Tuning: Image quality, kernels & artifacts
- Best practice: Protocol handling and Q&A



*The products/features (mentioned herein) are not commercially available in all countries. Their future availability cannot be guaranteed.*

**Date details**

Oct 27, 2025

**Participant prerequisites**

Basic knowledge in CT image acquisition, Reconstruction, and interpretation.

**Course hours**

8:30 a.m. to 5:00 p.m.

**Costs**

The course fee is 450.00 € excl. VAT.

**Location**

Siemens Healthineers  
Lobby  
Siemenstr. 3  
91301 Forchheim

**Hotel**

Please contact [ct.clinical-workshop.team@siemens-healthineers.com](mailto:ct.clinical-workshop.team@siemens-healthineers.com) for hotel recommendations.

**Participants**

This course is designed for technologists and radiologists who would like to gain insights into the physics of photon-counting CT for using these skills in daily routine.

**Number of participants**

5 to 20

**Registration**

[ct.clinical-workshop.team@siemens-healthineers.com](mailto:ct.clinical-workshop.team@siemens-healthineers.com)

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