



LIPS Session 8

AI Committee

Monday, October 19, 16:45–18:15

Session Title

Metrics for AI

Chairpersons

Margarita Kirienko (Milan, Italy)

Dimitris Visvikis (Brest, France)

Programme

- 16:45–17:15 **Lara Cavinato** (Milan, Italy): State-of-the-Art on Performance Metrics for AI in Nuclear Medicine
- 17:15–17:45 **Piotr Slomka** (Los Angeles, United States of America): How to Evaluate AI in Relation to Patient Outcomes And Clinical Decision-Making
- 17:45–18:15 **Mathieu Hatt** (Brest, France): How to Assess Trustworthiness of AI Tools in Nuclear Medicine?

Educational Objectives

1. Identify and apply current performance metrics used to evaluate AI algorithms in Nuclear Medicine, understanding their strengths, limitations, and appropriate contexts for use.
2. Analyse frameworks and methodologies for assessing the impact of AI tools on clinical decision-making and patient outcomes in Nuclear Medicine practice.
3. Appraise the key dimensions of AI trustworthiness — including transparency, reproducibility, robustness, and bias — and apply structured approaches to evaluate the reliability of AI tools before integrating them into Nuclear Medicine workflows.

Summary

This session provides a comprehensive overview of evaluating and adopting artificial intelligence in Nuclear Medicine. It covers the state-of-the-art in performance metrics for AI algorithms, frameworks for assessing AI impact on clinical decision-making and patient outcomes, and the key dimensions of AI trustworthiness — including transparency, explainability, robustness, fairness, and reproducibility. Participants will gain practical tools to critically appraise AI solutions and make informed decisions about their responsible integration into Nuclear Medicine practice.

Key Words

Artificial Intelligence; AI Assessment; Metrics; AI Trustworthiness