CTE Session 6
Technologists Committee
Tuesday, October 22, 08:00 - 09:30

Session Title
Artificial Intelligence and Radiomics

Chairpersons
Nele Eecloo (Leuven, Belgium)
Paolo Turco (Padova, Italy)

Programme
08:00 - 08:25 **Dimitris Visvikis** (Brest, France): Briefly introduction to Radiomics and AI in Nuclear Medicine
08:30 - 08:55 **Renata Madru** (Lund, Sweden): Artificial intelligence, deep learning and radiomics in nuclear medicine applications
09:00 - 09:30 **Lucrezia Bernabucci** (Rome, Italy): Exploring Radiographers' Engagement with Artificial Intelligence: the state of the art

Educational Objectives
1. To know what AI and Radiomics are
2. to learn about the interaction of these two fields of our competences
3. to understand how to manage AI used in Nuclear Medicine
4. to improve our skillness in using radiomics helped by AI
5. to learn from others AI applications and projects

Summary
Over the last decade there has been an extensive evolution in the Artificial Intelligence (AI) field
The quantity of the available imaging data and the increased developments of Machine Learning (ML), particularly Deep Learning (DL), triggered the research on uncovering "hidden" biomarkers and quantitative features from anatomical and functional medical images.

Artificial intelligence involves a wide range of smart techniques that are applicable to medical services including nuclear medicine.

Radiomics represents a groundbreaking and rapidly evolving field within nuclear medicine, focused on extracting a wide array of quantitative features from medical images. By leveraging advanced algorithms and deep learning techniques, radiomics transforms images into high-dimensional data, offering new insights for tissue characterization, treatment response evaluation, and clinical outcome prediction. This session will explore the latest research and applications of radiomics, highlighting its potential to enhance diagnostic accuracy, personalize therapy, and optimize clinical pathways in nuclear medicine.

During this session our speakers will let you know how to use and where we are in AI and radiomics.

Are we really ready for AI in our field of competence?

Key Words
Artificial intelligence; radiomics; Deep learning; Machine Learning