

## Martina Sollini

### Short Biography:

Currently she serves as Associate Professor in Diagnostic Imaging and Radiotherapy and Nuclear Medicine Physician at the Vita-Salute University in Milan. She obtained her PhD focused on Biomarkers in well differentiated thyroid cancer at Humanitas University in Milan. Her fields of expertise include oncology and infection/inflammation. Her research interests focus on advanced image analysis (radiomics and AI) and development of new radiopharmaceuticals for theragnostic approaches. She is PI and co-PI of observational studies and profit/"no-profit" phase I/II clinical trials. She is a member of the Project Group Texture Features Analysis Track of the European School of Multimodality Imaging & Therapy (ESMIT). She authored 116 papers on international peer reviewed journals and 26 book's chapters. She is the coordinator of the "PREDICT - Profiling radioRESistant Differentiated thyroid Cancer: genes, immunity, cancer stem cells and epithelial-mesenchymal transition" project funded by TRANSCAN (TRANSCAN-2 Joint Transnational Call 2017), and the "FUTURE - Fibroblasts Activation Protein-alpha inhibitor (FAPI) PET/CT and Liquid biopsy to stage and to support decision" project funded by AIRC (AIRC Investigator Grant 2022). She is a member of the editorial board of the European Journal of Nuclear Medicine. She awarded the 2019 "Francesco de Luca" International Prize of the Accademia Nazionale dei Lincei in Rome.

### Abstract:

The recent pandemic has been a successful example of applications of AI in infections: from epidemiology to socioeconomics, from transcriptomic and drug and vaccine development, to diagnosis, treatment, and risk assessment. On one hand, the speed of spread across countries, the dismal prognosis and the unknown pathophysiology dictated the urgency to face COVID-19. On the other hand, cutting-edge AI technology has offered the scientific community a unique opportunity to fight equipped. Tools for automated processes including those for diagnosis and treatment, vaccine development, genome sequencing, and multicenter collaboration have shown that AI is effective and feasible in the medical field. This lectur will review the main clinical applications of AI in imaging infections and inflammation, discussing the opportunities that it can offer and the challenges that nuclear medicine will face.