AI-applications in Clinical Bioinformatics and Personalized Oncology

Matteo PALLOCCA - *Regina Elena National Cancer Institute*

In 2020, the Regina Elena National Cancer Institute created an interdepartmental group devoted to Artificial Intelligence and Digital Imaging technologies, featuring a multi-disciplinary skillset group of Computational Biologists, Medical Physicists, Radiologists, and Pathologists. How did we get there? Which are the game-changing technologies and applications that are revolutionizing modern Oncology? We will present a series of challenges, matching drugs to somatic mutations when interpreting Cancer Genomes and how to switch from human to computer-aided Pathology. All these challenges need to be addressed in novel interdisciplinary fields such as Bioinformatics, employing a spectrum of AI-driven tools, both in clinical routine practice and in translational research.