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Mathematical models and digital twins for personalised oncology

Abstract
To personalize cancer therapy, we must give the right treatment, at the right time, dynamically adapted, to best harness treatment effects and their synergy with the patient immune system. I present latest developments in the mathematical and computational modelling in oncology to develop digital twins — constructs that mimic the structure and behavior of the patient and the tumor to make predictions and inform decisions that realize value. I present different simple approaches to build predictive pipelines and how to integrate those into clinical decision making towards the concept of real-time adaptive personalized cancer treatments.