

Artificial Intelligence & Oncology

Planning

Tuesday 27.12

Griedinger Hall

Building 15 Ruth Rappaport
Children's Hospital

@ Rambam HCC

14:00: Prof. Ron Kimmel**14:30:** Break networking (pizza)**15:00:** Prof. Irit Ben Aharon and Dr. Roy Holland

How is AI changing cancer diagnosis and management?

Prof. Ron Kimmel from the Computer Science Department of the Technion



Programmed death ligand-1 (PD-L1) has been recently adopted for breast cancer as a predictive biomarker for immunotherapies. The cost, time, and variability of PD-L1 quantification by immunohistochemistry (IHC) are a challenge. In contrast, hematoxylin and eosin (H&E) is a robust staining used routinely for cancer diagnosis. In a [recent publication in Nature Communications](#) Shamai et al. showed that that PD-L1 expression in breast cancer can be predicted from H&E-stained images by employing state-of-the-art deep learning techniques. I will review the challenges and new technologies in this field of training computers to predict biomarkers and eventually treatment outcomes.



Prof. Irit Ben Aharon, Director of the Fishman Oncology Center at Rambam HCC / Dr. Roy Holland from the Fishman Oncology Center at Rambam HCC

Big Data processing algorithms combined with Artificial intelligence (AI) have contributed substantially to the resolution of a variety of biomedical problems, including cancer, over the past decade. Machine learning, a subfield of AI that is a highly efficient and flexible computational tool, is increasingly being applied in various areas of both basic and clinical cancer research. In this talk we will give a short introduction to the potential of AI tools in Oncology research mainly focusing on classification models and a presentation of our current study aimed at finding predicting parameters to early recognition of immune related toxicity.



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The seminar will be delivered in English