The seminar will start with an introduction by the PI, followed by a student talk and will end with meet, greet & eat.

Dr. Idan Milo

Will lecture about:

**Unraveling immune involvement in human pathologies using multiplexed imaging**

Human pathology is a result of complex processes that depend on the interplay between malignant cells, stroma, and the immune system, which can act both to suppress and promote various diseases, including cancer, autoimmune disorders and infectious diseases. While it is appreciated that all these players are important, we have much better understanding of individual cells than of their cumulative behavior. Our research is focused on understanding how different cells interact as a system in health and disease to collectively define progression and outcome in response to treatment. To underscore this complexity, and move beyond single cells to multicellular interactions, it is essential to interrogate cellular expression patterns within their native context in the tissue. We have pioneered MIBI-TOF (Multiplexed Ion Beam Imaging by Time of Flight), a platform that enables simultaneous imaging of forty proteins within intact tissue sections at subcellular resolution. In this talk, I will describe our application of multiplexed imaging to study the tumor immune microenvironment in melanoma and the gut-immune microenvironment in acute graft versus host disease.