Dr Stephen John Sammut is a Clinician Scientist at the Institute of Cancer Research and a Consultant in Medical Oncology at the Royal Marsden Hospital in London, UK. He leads the Cancer Dynamics Team which uses high dimensional multiplatform tumour profiling to understand the biology underlying response to anticancer treatments. He completed a PhD in breast cancer genomics at the Cancer Research (UK) Cambridge Institute, where he charted the molecular evolution of early breast cancer during treatment with neoadjuvant chemotherapy and showed that response to therapy was associated with distinct tumour ecosystem evolutionary trajectories. Following completion of his PhD Dr Sammut was awarded a postdoctoral Clinical Lectureship in breast cancer by the University of Cambridge. Here, he characterised the biological processes associated with response to chemo- and targeted therapies in early breast cancer and developed the first machine learning framework that combined genomic, transcriptomic and digital pathology data from diagnostic cancer biopsies to predict response to therapy. In addition, his work in metastatic breast cancer showed that the adaptive immune system co-evolves with the tumour genome, providing further support to the cancer immunoediting hypothesis.