



BİLKENT UNIVERSITY
MOLECULAR BIOLOGY AND GENETICS
DEPARTMENTAL SEMINAR

“Multi-parameter characterization of cancer genome to identify driver aberrations”

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Understanding the molecular etiology of cancer is challenging with various complexities including the multifactorial nature of the disease as well as the heterogeneity that exists at both genome and phenome levels. Advances in next-generation sequencing (NGS) have made it possible to profile multiple levels (e.g. genomic, epigenomic, transcriptome) of molecular landscapes of patient samples at a high resolution. This has enabled us to identify driver abnormalities of several cancers, in particular those with a less heterogeneous molecular landscape. However, identifying the aberrations that are functionally relevant among the plethora of abnormal genomic patterns, particularly given the presence of many passenger events, has remained challenging for many cancers.

We have established a multi-disciplinary program, which leverages systems biology approaches that combine genomics datasets involving sequences from hundreds of cancers coupled with detailed clinical data and high-throughput functional studies to identify driver aberrations in cancer. In my talk, I will describe the components of this program spanning over molecular profiling, computational biology and functional genomics. I will also present examples of contribution of this program to major cancer studies in our center, and will discuss our novel findings in studies of candidate solid tumors including renal cell carcinoma and metastatic colorectal cancers.

Date-Time : Wednesday, Mar 16th, 2016 – at 15:40

Location : SBZ-14

Host : Çağlar Çekiç