Stromal cells and matrix remodeling as essential regulators of the tumor microenvironment

Brief Synopsis:

The success of a solid tumor depends on its ability to drive the generation of a complex microenvironment that can sustain tumor cell survival, growth and metastasis and facilitate tumor cell evasion from the immune system. Cancer associated fibroblasts (CAFs) and dynamic remodeling of extracellular matrix are key components of the tumor neo-organ as they contribute to the biomechanical, biochemical and metabolic milieu that supports tumor growth and progression and support angiogenesis. Recent studies indicate that fibroblasts also play a critical role in regulating inflammatory and immune cell infiltration, intra-tumoral migration and function in primary tumors and metastatic disease. Recent advances in understanding the drivers of the heterogeneity of cancer associated fibroblasts (CAFs), the function of diverse CAF populations and the role of matrix remodeling in primary tumors and metastasis will be discussed.