BIOENGINEERING
Fall 2020 Seminar

Date: Thursday, September 10
Time: 12:00 pm - 1:00pm
Location: Virtual

Join Zoom Meeting—https://gmu.zoom.us/j/92554249038?pwd=V2p1ZUdqM1Y2RnBCcWhDU0V0T2FZZz09

Meeting ID: 925 5424 9038 Passcode: 640851

Housein Abdul Sater, M.D.

Biography: Dr. Sater is a translational physician scientist (hematologist/oncologist) with special interest in immune therapy of cancer. He leads the Genitourinary Malignancies Branch efforts at understanding the role of cancer immunotherapy on the tumor (immune and non-immune) micro-environment. Dr Sater is one of the few nationally recognized experts in tissue-based multiplex biomarker development and multispectral imaging. The Society of Immune Therapy of Cancer (SITC) chose him as one of 29 young leader investigators to tackle one of the major hurdles in immune therapy in a funded consortium effort (Sparkathon Timios Project). He also has an interest in demographics (gender, race, age, BMI) effect on immune therapy as a biomarker for better personalized medicine. Areas of Expertise 1) immunotherapy of cancer, 2) immunopathology, 3) multispectal imaging, 4) clinical trial design, 5) biomarker development

Title: Multiplex IF (MxIF), an introduction and a utility discussion from a bioengineering perspective

Abstract: Cancer immunotherapy had revolutionized the field of oncology, providing novel therapeutic options for cancer patients with dramatically improved outcomes. However, the development of the new field of immuno-oncology requires a deep understanding of the inflammatory tumor microenvironment with the goal to identify predictive biomarkers for immunotherapy. Multiplex immunofluorescence techniques had become a key tool for the immune profiling of cancer tissue samples from patients; however, these techniques are still in development, offering new challenges to the laboratory scientist. The first aim of this talk is to explore the methodology of multiplex immune profiling for formalin fixed biopsy specimens for immuno-oncology studies, including a description of the basic concepts, general workflow, and applications. The second aim is to define areas of improvement using bioengineering tools and artificial intelligence as part of a biomarker strategy.