

# Big Data Training for Cancer Research

## *Special Lecture Series*

### *Targeting Myeloid Cells in the Tumor Microenvironment*

*Dr. Timothy Ratliff*

**May 16, 2022, 1:00 – 2:30 PM (EDT)**

#### **Abstract:**

Cancers are not just masses of malignant cells. Rather, tumors are a composite of many cellular and non-cellular constituents that surround and directly influence the growth and malignant behavior of cancers. The impact of various components of the tumor microenvironment (TME) including leukocytes, fibroblasts, endothelial cells and other stromal elements are evolving but the precise function of each compartment remains poorly defined. Non-malignant cells of the TME such as fibroblasts, tumor associated macrophages (TAM) and myeloid derived suppressor cells (MDSC) promote tumor growth via complex and dynamic paracrine signaling through a network of cytokines, matrix-remodeling enzymes, growth factors and immunoregulatory activity, leading to promotion of tumor growth and progression. The presentation will provide an overview of the TME, discuss the role of TAM and MDSC in regulating antitumor immunity and discuss approaches for targeting and altering myeloid activity in the TME.



#### **Speaker Bio:**

Timothy Ratliff is nationally recognized for his achievements in urologic research. Dr. Ratliff was a member of the team that validated the prostate-specific antigen (PSA) screening test that is widely used to detect prostate cancer and was a leader in the launch of intravesical BCG therapy for non-muscle invasive bladder cancer, currently the treatment of choice for the disease. He founded and launched the Society for Basic Urologic Research. Dr. Ratliff's research focuses on immunology and inflammation using prostate and bladder cancer models to address questions regarding activation of antitumor responses, characterization of antitumor effector mechanisms, impact of inflammation on cancer development, and the regulation of antitumor immunity.