



MedImmune, Inc.

## Job Description

### **Position #SWB24TS**

**Job Title:** Postdoctoral Fellow – Science without Borders

**Site:** Gaithersburg, MD

**Department:** Translational Science (TS)

**Duration:** 2 years

We are seeking a highly motivated postdoctoral fellow to join the Translational Science - Pathology Department to lead an investigational research project using advanced digital image analysis to profile the tumor immune microenvironment morphologically and explore relationships between the structural makeup of tumors and the key molecular, cellular and subcellular constituents attributed to the immune response. The research will be conducted in MedImmune's state-of-the-art laboratories and will help drive innovation in immunotherapy of cancer. The position offers a unique opportunity for a talented scientist to work in a novel and innovative environment and to develop their career at the interface of basic research and predictive diagnostics. The successful candidate will also benefit from daily interactions with a highly accomplished, multidisciplinary team of scientists.

### **Major Duties and Responsibilities:**

The main focus of the project is to investigate the morpho-molecular aspects of tumors that determine the effectiveness of the immune response to cancer. The successful candidate will perform non-clinical studies using state-of-the-art molecular pathology methods and digital image analysis. Development of new combinations of existing molecular and imaging methods as well as new digital analysis algorithms tailored to understand cancer immunology represent a novel aspect of the project. The candidate will independently design and execute experiments, summarize data and prepare publications.

### **Requirements/Qualifications:**

**Nationality:** Brazilian citizenship or permanent residency

**Education:** MD, DVM or PhD in Cancer Pathology

**Experience:** Doctoral and/or Post-Doctoral research

### **Special Skills/Abilities:**

Strong experience with molecular pathology methods and histological analysis of human and/or animal models of cancer is required. Knowledge of digital image analysis is highly preferred. Knowledge of digital algorithms, database systems and statistical methods applicable to histopathological data are preferred. Must be able to make detailed observations and interpret results. Must be capable of working both independently and collaboratively. All applicants must have strong written and verbal communication skills with an excellent publication record.

### **Project Summary:**

An effective immune response to cancer is a multifaceted process involving factors characteristic of neoplastic cells, immune and inflammatory cells, the tumor vasculature, and connective tissue cells and extracellular matrix. To fully characterize a patient's immune status, the structural and biochemical qualities of these 4 tissue compartments should be demonstrated. Most studies have focused on the cellular and molecular aspects of cancer immunity, and only recently have studies begun to show the importance of the structural aspects of the immune response. This project will emphasize the structural components of the tumor microenvironment as they affect the quality and magnitude of the immune response to cancer. We have considerable experience with conventional image analysis and have developed many immunohistochemistry and in situ hybridization (IHC/ISH) markers to profile individual cancer types. Here, we propose to use advanced digital image analysis to profile the tumor microenvironment morphologically and combine this with IHC/ISH, genomics and proteomics to explore relationships between the structural makeup of tumors and the key molecular, cellular and subcellular constituents attributed to the immune response. This comprehensive approach will increase our basic understanding of local tumor immunity and may provide information valuable to MedImmune's immune mediated therapy of cancer (IMTC) and other oncology programs. It also could predict response to IMTC therapies in cancer or contribute to patient enrichment strategies better than current approaches, or even identify novel therapeutic targets.

**Application Instructions:**

Please note that these postdoctoral positions are advertised under an AZ/MedImmune partnership with Brazilian Science without Borders (SWB). If you are interested in any of these positions, please apply through the SWB website specifying the position number, [click here](#).