



Technology Description

For several years, Dr. LaViolette's laboratory has been collecting a valuable dataset of histology slides of prostates surgically removed from prostate-cancer patients. These slides have been that are meticulously registered to quantitative MRI slices of the prostates prior to surgical excision and used to develop AI-based histology/pathology results derived only from the MRI parameters. This approach of using quantifiable diagnostic radiology images to derive pathology is known as "radio-pathomics".

knowledge changing life

Market

Prostate cancer is the most frequently diagnosed noncutaneous cancer in men in the United States, accounting for nearly 1 in 5 new cancer diagnoses. Increased screening efforts yielding more targeted and aggressive early therapies have been effective at reducing the morbidity from prostate cancer. This technology could replace expensive and invasive tissue extractions required for prostate scanner.

MCW is also investigating preliminary cash-pay rapid MRI prostate screening. This technology could be rapidly evaluated and validated within this clinically-oriented program.

IP

MCW has filed IP based on this technology

<https://patents.google.com/patent/US20170300622A1/en>

The application is pending review.

Dr. LaViolette's curated training dataset, owned by MCW, also holds value as intellectual property.

Status

Dr. LaViolette was recently awarded an NIH R01 to continue exploring this work.

His study is beginning enrollment into includes two specific aims. Aim 1 will develop radio-pathomic approaches for defining imaging- based biomarkers capable of distinguishing aggressive from indolent prostate cancer. In Aim 2, this project will translate the radio-pathomic algorithms to the clinic using data acquired from two vendor systems (GE and Siemens).

MRI-Based Virtual Pathology/Histology for Prostate Cancer: LaViolette Laboratory