On October 10 and 11, 2019, the Prevent Cancer Foundation hosted the 16th Quantitative Imaging Workshop (QIW) in Alexandria, VA. The Workshop is a high-impact, multidisciplinary forum for the advancement of quantitative CT imaging biomarkers for early thoracic disease management. The Workshop explored how a revolution in biomedical imaging, which enables radiologists to detect the pathological process earlier than ever before, can be leveraged to improve outcomes in managing early lung cancer. Our goal was to introduce robust approaches to allow quantitative assessment of the growth of pulmonary nodules, as this turns out to be a sensitive and specific way to find early lung cancers.

Included in the opening session is an annual award to an individual who has made a remarkable contribution to all people whose lives have been touched by lung cancer. The 2019 award honored Andrew C. von Eschenbach, M.D. for his leadership in implementing the National Lung Screening Trial which validated the lifesaving value of low dose computer tomography (CT) over standard chest X-ray.
Tools & Resources for Improved Decision Making

Within the framework of the Quantitative Imaging Workshops, there has been a persistent focus on data standards, including improving data quality and data reproducibility. This has been a shared concern of the Quantitative Imaging Biomarker Alliance (QIBA). Past Workshop efforts have resulted in the development of new image archives, such as the Reference Image Database to Evaluate Therapy Response (RIDER), with the National Cancer Institute, and Give-A-Scan (donation of images), with Lung Cancer Alliance. A variety of approaches to enhance data sharing (Interactive Scientific Publishing environment, ISP) are being explored with the Optical Society of America. This includes a long-term interaction with QIBA, as both share a focus on standardization of optimal imaging processes with a goal of allowing more efficient and economical integration of image biomarkers in routine care as well as clinical trials.

The topic of how to accelerate global imaging to development and review was discussed through the lenses of crowdsourcing for image quality, medical device development and technical assessment, the progress in VA screening implementation and in estimating the lower bound for measurement of variability in pulmonary nodules.

The workshop also covered ways to prepare the multidisciplinary professional workforce to support the global implementation of lung cancer screening, especially with regard to radiology training, and to accelerate the development of screening software tools such as meaningful AI to allow for more robust and efficient early thoracic disease management. Plus the breakout groups discussed Aligning Quantitative Thoracic CT Imaging with AI Research: What should be done?

(See attached final agenda for speakers)