



Mark Punyanitya

New York University, USA

The virtual liver biopsy: A component of the digital physical exam for personalized medicine

The time has come where imaging biomarkers are gaining acceptance beyond Oncology. This session will cover the creation of a Virtual Liver Biopsy as part of a Digital Physical Exam to directly measure major vital organs & tissues, from a whole-body perspective, based on non-invasive imaging for a wide range of conditions and diseases beyond Oncology.

With increasing focus on genomic, metabolomic, and molecular quantification of the human body for use in precision medicine, the development of diagnostics, therapeutics, and monitoring of disease progression/treatment takes on a greater role for more effective outcomes. The majority of advances have not included the phenotype, or observable characteristics of an individual resulting from the interaction of its genotype with the Environment.

Biomarkers provide researchers and clinicians with useful measurements that allow for earlier diagnosis before a patient begins to show signs of symptoms, and also quantitatively show that a treatment is performing effectively. Technology is


now available to measure multiple vital organs & tissues for an integrated exam using non-invasive imaging to acquire data, automation algorithms to quantify images, & AI to develop predictive analytics. A Software-as-a-Service platform enables scalable access to the latest imaging technology, and support for legacy scanners, while improving accuracy, precision, and standardization across imaging facilities.

Speaker Biography

Mark Punyanitya is a Biomedical Engineer with advanced degrees in Applied Physiology & Applied Clinical Trials. With 20+ years of experience overseeing global, multi-center clinical trials for academic, biotech, & pharma sponsors, Mark has published over 44 papers & his advances in body composition have been applied to a wide range of therapeutic areas. As a Biomedical Engineer, Mark facilitates the translation of science, technology, & medicine for the development & commercialization of quantitative imaging biomarkers.

Mark is Founder, President, & CEO of the Image Reading Center, Inc., an Imaging Core Laboratory & Contract Research Organization for Clinical Trials, and Co-Founder, President, & CEO of Pheno Mx, Inc., creating a Digital Physical Examination for the commercialization of Imaging Biomarkers & Body Analytics.

e: mark@phenomx.co

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