What is the essence of your research project?
We will develop a software platform to facilitate translating novel quantitative imaging biomarkers being developed by the QIN and others into clinical trials and methods to enable qualifying these biomarkers, building on our ePAD image viewing platform to provide (1) a plugin architecture to deploy the diversity of quantitative imaging algorithms developed by QIN and other researchers in the community into clinical trials, (2) a workflow engine that computes these imaging biomarkers during the image assessment process, and (3) tools for decision making about treatment response and effectiveness.

What is the excitement behind your approach?
We are excited about this project because it creates a critical resource for the QIN and, in fact, for all academic and corporate cancer imaging researchers who seek to translate their innovative quantitative imaging methods into clinical trials (1) by computing new imaging biomarkers as part of clinical trial workflow using our unique architecture of ePAD, (2) by providing decision support tools to assess treatment response based on the new imaging biomarkers, and (3) by enabling repurposing the vast collections of image data acquired in clinical trials to gather the evidence needed to qualify new imaging biomarkers as surrogate endpoints.

What is the potential for healthcare improvement from your research?
Our work will advance cancer research, accelerate clinical trials, reduce the time and cost of evaluating the effectiveness of new cancer treatments, and ultimately improve clinical outcomes in cancer patients by incorporating new quantitative imaging biomarkers of cancer into clinical trials, by providing decision support about cancer treatment response based on them, and by accelerating the acquisition of the evidence needed to qualify new and potentially better imaging biomarkers of cancer treatment response and survival.