Abstract
Alzheimer’s disease (AD) is the most common form of dementia and currently there are no effective therapeutics to reverse the course once the clinical symptoms developed. Early identification of risk factors for AD and effective interventions thereof would be critical to mitigate AD pathological development and prevent the onset of clinical symptoms. In the presentation, I will demonstrate how we used artificial intelligence approach to identify the risk factors from clinical data, and determined the effectiveness of pharmacological and nutritional interventions in an animal model with human APOE4 genes, the strongest genetic risk factor for AD. Our methods include in vivo MRI brain imaging, gut microbiome analyses, metabolomics, and behavioral assessments. Future direction on translational/clinical applications and precision medicine will also be discussed.