Stroke is a leading cause of death and disability and one of the most devastating of all neurological conditions. Worldwide it accounts for approximately 5.5 million deaths annually, and the prevalence of stroke is expected to steadily increase in the years to come as the population ages. The most common known cause of ischemic stroke is artery-to-artery embolism in the setting of carotid atherosclerotic carotid disease. Although strokes due to carotid artery disease (CAD) are typically thromboembolic, clinical management is guided by the degree of stenosis, largely because of limited understanding of the plaque disruption mechanism and reliable imaging tools. This study provides a
mechanistic paradigm of plaque degradation supported by morphological, hemodynamic and mechanical analyses and introduces a novel laser based technology for high resolution intravascular imaging of structural and biological markers of plaque vulnerability.

Mayo Clinic (Rochester, MN) to concentrate his practice in cerebrovascular neurosurgery and translational research. Dr. Savastano’s academic interests lay in the complexities of cerebrovascular diseases and his research has focused in the development of new knowledge and technologies to better understand, diagnose and treat neurological and cerebrovascular diseases. Dr. Savastano is a prolific academic neurosurgeon with over 60 peer-reviewed publication and over 80 presentations in national and international meetings. He also personally led the development of two novel endovascular platforms from the lab to the clinic: one for multimodal endovascular endoscopy, and another for mechanical thrombectomy in stroke.