

AbstractID:9753 Title :Quantitative medical image analysis for early detection, diagnosis, outcome prediction, and treatment

Medical imaging and image analysis has revolutionized the patient care as well as many research activities in biology and healthcare. State-of-the-art methods and approaches for medical image segmentation, quantitative analysis, and their use for computer-aided diagnosis and disease progression prediction will be the main target of this presentation. Special focus will be given to several high-complexity projects in the areas of coronary image analysis via fusion of intravascular ultrasound and angiography, coronary plaque analysis, plaque progression prediction, cardiovascular risk factor assessment via analysis of carotid and brachial ultrasound images, pulmonary CT image analysis, computer-aided diagnosis of congenital aortic disease, cartilage MR image analysis, and liver surgery planning. The talk will be accompanied by live demonstrations of the software tools developed for the above-referenced purposes.