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**Title:** «Lesion segmentation and CT biomarkers definition for tuberculosis assessment and follow-up»

**Short Abstract:**

Tuberculosis (TB) is the leading cause of mortality of infectious origin worldwide, with an estimated 10.6 million new cases each year. TB subjects present multiple life-long risks and morbidities: recurrence, post-TB lung diseases (infections, cardiovascular disease and chronic lung disease) and decreased life expectancy. In this context, the purpose of this study is to define CT image biomarkers able to accurately measure tuberculosis lesions, inflammation, and vascular remodeling in order to evaluate the progression of the disease, post-TB sequelae and associated risks. We are focusing on segmentation and investigation of lung airways, vessels, (micro-)nodules, lung cavities and inflammatory/dense opacities to provide a complete panorama of lesions induced by tuberculosis. A unified mixed AI and conventional segmentation pipeline is proposed exploiting the medical knowledge on the morphological properties of anatomical and pathological lung structures in TB. The result is a proof of concept validated on a small but diverse TB dataset.