Title: Introducing different approaches to diagnose skin melanoma

Several non-invasive imaging techniques have been developed to enhance the diagnosis of melanoma and differentiation from benign nevi non-invasively, among them optical coherence tomography (OCT) and photoacoustic imaging (PAI) are two promising diagnostic-assistant imaging modalities in dermatology due to their resolution and adequate penetration depth. The difference between melanoma tissue and benign nevi is not however sufficiently significant to be visible in the OCT or PAI images, thus malignant and non-malignant tissues are often not differentiable. To add malignant melanoma differential diagnosis to OCT and PAI capabilities, we combine the methods used in traditional immunohistology and imaging via using an antibody-nanoparticle/dye conjugated probe.