MOBILE MICROSCOPY SCANNER FOR PoC DIAGNOSTICS

Invention: Mobile microscopy slide scanner
Indications: Cervical cancer, breast cancer, tuberculosis, malaria
Unmet need: Point-of-Care cytology and histology diagnostics
IP Status: Patent application PCT/FI2016/050584
Project status: Fully functional prototype ready

We have developed a Mobile Microscope, MoMic, for point-of-care diagnostics. MoMic allows high resolution imaging, comparable to existing laboratory-based microscopy scanners. The platform is suitable for diverse diagnostic purposes including tissue analytics, cervical PAP smears, intra-operative frozen section analysis, and infectious diseases, mainly parasitic diseases and malaria. MoMic is combined with automated image analysis and pathologists' remote consultation through wireless connections and uploading the sample images to a cloud server and using artificial intelligence analysis tools in the cloud to speed up interpretation and diagnosis.

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MoMic delivers diagnostic grade microscopy images for point-of-care applications

A breast cancer sample stained for a hormone receptor and imaged with MoMic. MoMic delivers equivalent resolution to common laboratory microscopes.

Breast Cancer Surgery – Hospital use
1-10 biopsy samples taken during surgery
MoMic: Speed up diagnosis and save cost

Cervical Cancer Screening – Doctor's office
PAP smears
MoMic: Immediate assessment, improved accuracy

Malaria – Field use
212 M cases globally
MoMic: Improved diagnosis in rural areas

Key Publication

Holmström, O. et al., 2017. Point-of-care mobile digital microscopy and deep learning for the detection of soil-transmitted helminths and Schistosoma haematobium. Global health action

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