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Universal Adapter for Telecytopathology

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We present a prototype of a Universal Adapter to connect "any" microscope with "any" cellphone camera. It is intended to be used as an accessory medical device for wireless and digital telecytopathology – mass cervical cancer screening in particular.

For the first time, at EB 2004, we presented our proprietary, biomarker-based MarkPap® platform technology for detection of abnormal cells on cervical specimens. At the subsequent meetings we followed with further developments, from simple manual MarkPap® Test through semi-automated processing, self-home specimen's collection, to digital and mobile telecytopathology. The universal adapter has two platforms, one for the microscope and the other for cellphone cameras and has a capability for 4D movements to achieve the best optical conditions for image capturing.

In case of mass cervical cancer screening, the health care providers (even low trained technicians) at the point of care processes the specimen with the customer-friendly MarkPap® Kit, searches for biomarker-highlighted abnormal cells, captures those images with cellphone camera using the adapter and forwards only those images for distant diagnosis. The result can be returned while women are still on the premises.

This work is a part of our current project for development of simple, low-cost medical devices for low-resource areas worldwide.