**Diploma thesis abstract**

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**Velocity measurement and visualization of microflows by optical techniques.**

In present work the measurement of velocities and visualization of microflows is performed *in vitro* in the artificial capillary with a stepped profile as well as *in vivo* in capillaries of a finder nail fold implementing compact computer capillaroscope.

The microflow velocity profiles are reconstructed from the measurement results in artificial capillary in the region of stepped increase of capillary cross-section. The presence of the “dead” zone is shown behind the region of cross-section stepped increase.

The polarization-sensitive modification of the capillaroscope is developed . This modification provides an increase in *in vivo* capillary image contrast due to detection of backscattered radiation with co- and cross-polarized filters relative to the probing radiation polarization.