Bachelor Thesis

In Collaboration of Center for Machine Perception (CMP, Prague) and Machine Vision and Pattern Recognition Laboratory (MVPR, LUT, Finland)

Topic: Characterisation of fiber and vessel elements in pulp suspension images

Description: The topic is related to the PulpVision project[1], which is focused on the development of the intelligent solutions for the pulp and paper making industry.

Knowing the properties of pulp makes it possible to predict the quality the end-product. Fiber length, width and curvature are the most influential properties of fibers, which determine the strength and optical properties of paper.

The task is to implement the methods for the segmentation and characterization of the important pulp components, including fibers, fines and vessel cells (see Fig.1).

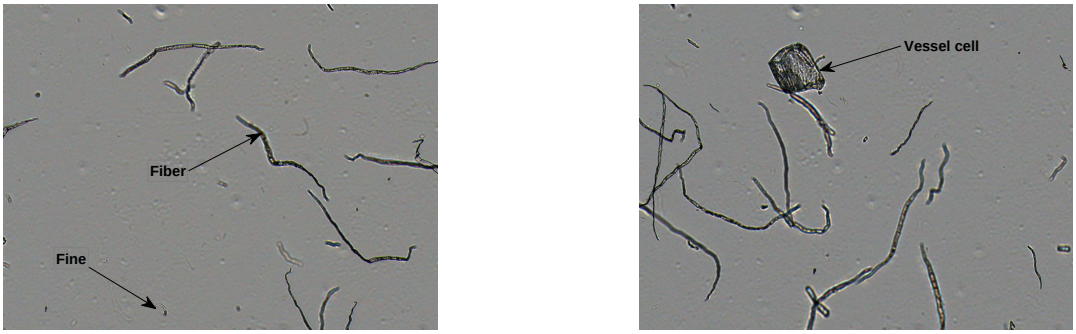

Figure 1: Examples of pulp suspension images

The images were obtained with a laboratory equipment which include a high-speed camera recording the pulp flow, circulating in a pipe, and xenon flash light.

Preferences: good programming skills, knowlegde of image analysis

Supervision: by Professor J. Matas (CMP) and Professor H. Kälviäinen (MVPR).

Conditions: A financial support of 200 € per month and extra support for travelling to Finland to present the results.

Contact:

Prof. Jiří Matas
Center for Machine Perception (CMP)
Department of Cybernetics
Czech Technical University in Prague
Czech Republic
matas@fel.cvut.cz

Prof. Heikki Kälviäinen
Machine Vision and Pattern Recognition Laboratory (MVPR)
Department of Information Technology
Lappeenranta University of Technology (LUT)
Finland
heikki.kalviainen@lut.fi

[1] http://www2.it.lut.fi/project/pulpvision/