

## OUTLAB (1)

Out of the lab: Multi-spectral microcope device

### Project Summary

We have designed and built a microscope able to acquire 8 images within a fraction of seconds at different color (from 385nm to 785nm). SMD-LEDs are attached on the inner surface of a cone and illuminate sequentially a surface. A Labview software controls the image acquisition and the illumination.

Modul size: 7 cm x 8 cm x 12 cm

Camera: N&B without NIR filter, 744 x 480 pixels of 6µm by 6µm size

Field of view: 4 mm x 2.6 mm

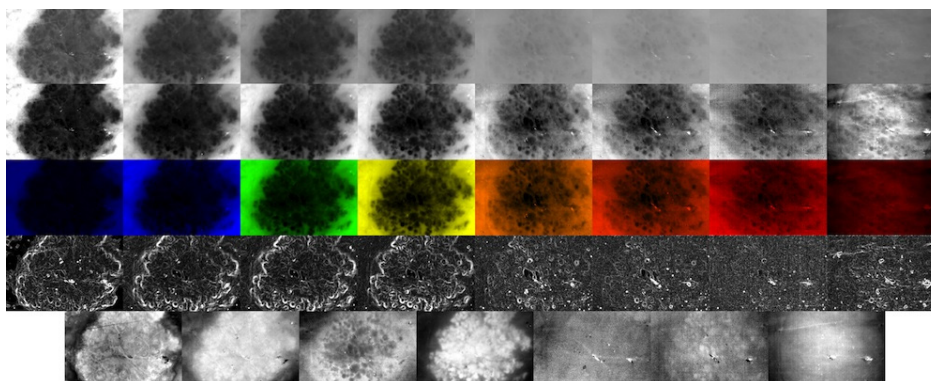
Light spectra: 8 color from 385±15 nm to 875±15 nm

Acquisition time: 0.8s to 1.2s

External requirement: PC with a dedicated Labview software

### Valorisation

A first application is set for dermatology.



Line 1: image from the dedicated software; line 2: enhance contraste with corresponding color (line 3), line 4 : intensity variation within the image (white= highest variation) and line 5 substructionof consecutive images.

Contact / Mr Martial Geiser (martial.geiser@hevs.ch)

Author / Mr Martial Geiser

This project has been carried out by Martial Geiser (HES-SO Valais) in collaboration with Aldo Salvi (HE-Arc)