

Optical sensors for precision oenology

Open PhD position in micro-optics

The EU-funded project *i-Grape* aims to develop a new generation of contactless optical sensors for continuous monitoring of grapes and vines in the vineyard. With six international partners from Portugal, Italy and Germany, including one of Portugal's largest wine producers, this effort will lead to autonomous optical sensors networked through rf communications for precision oenology.

The role of the Gisela and Erwin Sick Chair of Micro-optics is optical systems integration: combining optoelectronic sources, detectors and spectral filters in a micro-optical sensor head integrated into a flexible, hermetically-sealed multi-sensor strip which will be incorporated into a grape bunch. The work will require optical design; packaging; hybrid integration; development of flexible or stretchable substrates; and extensive field testing. For a motivating overview, see video.uni-freiburg.de.

The Gisela and Erwin Sick Chair of Micro-optics is looking for a PhD student for this project. Your responsibilities will include:

- Design of a complete optical sensor system with the project partners;
- Development of stretchable polymer fabrication and hybrid assembly techniques;
- Establishment of measurement and characterization tools for sensor validation and participation in field trials.

Your profile includes:

- A Master's degree with top grades in photonic; microsystems; mechanical; or electrical engineering;
- Experience in microfabrication and/or sensors and/or packaging, with an emphasis on flexible or stretchable materials;

We offer:

- A 100% E13 position, initially for 1 year, starting March 1, 2020;
- A highly applications-oriented project with aggressive goals
- An exciting research collaboration with great interdisciplinarity.

Interested? Send your CV and a letter of motivation to zappe@imtek.uni-freiburg.de.