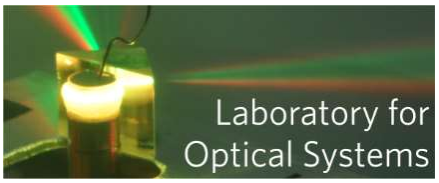

UNI FREIBURG

HiWi position

Fabrication and characterization of ultra-low loss optical microresonators

Optical whispering galleries are cavities for light with ultra-low losses. The light trapped by total internal reflection makes up to one million round trips in a mm-sized device. It thus travels ten kilometers before being absorbed or scattered. Simultaneously, the light power inside the resonator exceeds the pump power by a factor of hundred thousand. Because of this, whispering gallery resonators are a great platform to observe nonlinear-optical interactions like photon combination or photon splitting. In our lab, we use these effects to realize miniaturized tunable light sources (ranging all the way from the ultraviolet to the mid-infrared) as well as a novel type of frequency combs.

Whom are we looking for?

We are looking for a student of Microsystems Engineering, Applied Physics or Physics to help us with manufacturing whispering gallery resonators and characterizing their optical properties. An extension for a master thesis is possible.

What will you learn?

Designing optical setups including fiber and free-beam optics, laser material processing, working with different laser sources, characterization of 3D surfaces and nonlinear-optical processes.

Interested?

Please send your CV and transcript of records to Jan Szabados (jan.szabados@imtek.uni-freiburg.de), Tel. +49 761 203 97944