

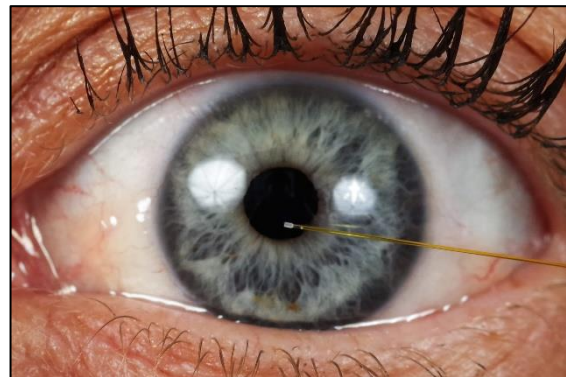
München, 18. November 2019

## BA or MA Thesis or Project Work

### „Optical Fiber Sensors for Real-Time Intracranial Temperature Monitoring“

**Background.** Light in medicine has applications in photo-dynamic therapy, light-triggered drug delivery, and photo-thermal ablation. It is highly desirable to develop an optical fiber platform with biocompatible properties for implantation in deep tissues while allowing functionalization with photonic materials in sensing applications.

**Project scope.** The aim of this project is to demonstrate a real-time optical fiber sensor that will enable sensing temperature in human body. A method will be created to functionalize the tip of optical fibers with temperature-sensitive materials. The optical fiber may have application in intracranially sensing temperature in patients with traumatic brain injury.



#### References

Functionalized Flexible Soft Polymer Optical Fibers for Laser Photomedicine. *Advanced Optical Materials*. 6 (3), 1701118 (2018)

Glucose-Sensitive Hydrogel Optical Fibers Functionalized with Phenylboronic Acid. *Advanced Materials*. 2017, 29, 1606380 (2017)

If you are interested, please send an email to:

Dr. Ali K. Yetisen - [a.k.yetisen@tum.de](mailto:a.k.yetisen@tum.de)