41st International SAOT Winter Academy on „Modern Biophotonics“

„Biophotonics is the general term for the application of optical technologies to the fields of biological and medical sciences. In this vast field of research, the interactions of light with biological samples are used for the diagnosis or treatment of diseases. Hereby, several different optical contrast mechanisms such as scattering, absorption, fluorescence, interference or linear and non-linear polarization properties can be exploited. Conventional optical technologies that are based on fluorescence-labelled immunostaining have already become the gold standard in their respective fields. More advanced technologies, however, enable imaging of structures below the classical resolution limit, omit the need for staining or tissue preparation or include automated diagnosis based on artificial intelligence.

This course will provide an introduction to some of the most fundamental concepts in this field. **Moreover**, the participation in the **33rd International SAOT Workshop** is part of the program.

Topics: Optics in Medicine, Optical Metrology, Optical Materials and Systems, Computational Optics

Schedule:

Monday, February 15, 2021

10:00 – 10:30	Introduction
10:30 – 12:30	Get-to-know-each-other/Virtual Team Building
12:30-13:30	Lunch
13:30 – 15:00	Lecture on „Cell Biology for Engineers“ by Barbara Kappes
15:15 – 16:45	Lecture „Optical Imaging & Spectroscopy in Biomedical Science“ by Lucas Kreiß

Tuesday, February 16, 2021

08:45 – 17:00	33rd International SAOT Workshop Day 1 Topic: „Advanced Biophotonics“

Wednesday, February 17, 2021

08:45 – 17:00	33rd International SAOT Workshop Day 2 Topic: „Superresolution & Software in Microscopy

Thursday, February 18, 2021

09:00 – 12:00	Interactive session on Image Processing in Fiji by Sebastian Schürmann
12:00 – 13:00	Lunch
13:00 – 15:00	Social event: Quiz about the content of the Academy
15:00 – 15:15	Closure