

Selected research topics in Biomedical Engineering: Novel Phenotyping and Diagnostic Tools

Location: Lecture room 14.03.002, Gewerbestrasse 14, Allschwil

Date and time: Thursday, 21.11.2019, 2019, 12:30-14:00

Advanced OCT endomicroscopic imaging for assisted medical procedures

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Abstract

Early colorectal cancer can be treated in a minimally invasive way with flexible endoscopy instead of an open surgery and resection. However, only specialized experts can perform endoscopic resections of lesions and delineate margins, and thus patients still often undergo unnecessary colon resections. We are developing novel endoscopic OCT methods that combine advanced microscopic imaging with active catheter designs to overcome current limitations of microscopic imaging in organs with a large and complex geometry. This new technology platform can be further extended to novel screening tools offering higher patient comfort and opened up new approaches to control of medical robots.

Curriculum:

Michalina Gora obtained her PhD in 2010 from Nicolaus Copernicus University in Poland. Subsequently, she was a postdoctoral researcher and later an instructor in the team of Prof. Guillermo Tearney at the Wellman Center for Photomedicine, Massachusetts General Hospital and Harvard Medical School in Boston. Since 2015, she is a tenure researcher at the French National Center for Scientific Research (CNRS). She is leading a research group in the ICube Laboratory in Strasbourg focused on combining optical methods with robotics for comprehensive diagnosis and improved minimally invasive treatment of diseases.