

University  
of Basel

Department of  
Biomedical Engineering

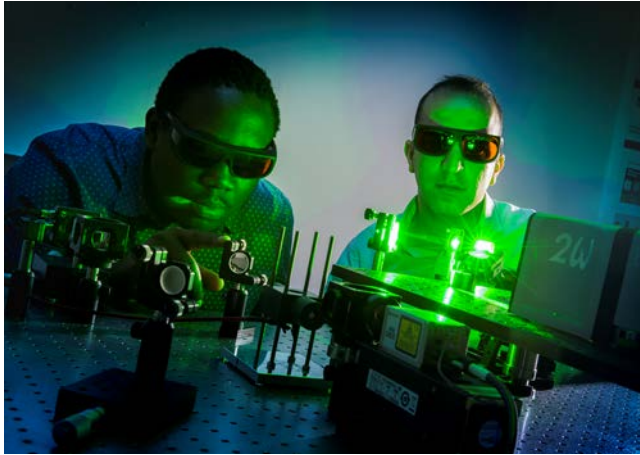
# Focal Area Medical Lasers & Robotics



Innovative robotics and laser technology (picture: R. Wendler)

**Lasers and robots enable minimally invasive diagnostics and treatments, highly repeatable performance, faster healing and real-time data exchange with new safety standards. The Focal Area Medical Lasers & Robotics at the Department of Biomedical Engineering merges these technologies in a novel platform for semi-autonomous robotic laser surgery for ablation of bone tissue.**

The Focal Area Medical Lasers & Robotics is located at the intersection of the natural sciences, engineering sciences and medicine. Its team works on cutting bone with minimally invasive robot and laser technology which allows for pre-manufacturing of personalized implants since they will fit accurately into their cut counterparts. In addition, researchers of the focal area are developing and patenting novel navigation technology in order to control the robot-assisted laser system during surgery. The ultimate project's goal is to develop an integrated and interconnected real-time system that will broaden the scope of surgical procedures in at least two dimensions: the size of the surgical sites that can be treated and the age limit for admitted patients can be increased towards elderly patients with reduced overall health.



Laser experiment (picture: F. Brüderli)

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