Phd Position LAROCARE
BIROMED-Lab
Department of Biomedical Engineering

Join us for the project «Laser-Assisted RObot-guided Cartilage Regeneration (LAROCARE)»

Project Background
LAROCARE is a joint project between three labs at the Department of Biomedical Engineering and aims to improve the outcome of chondral and osteochondral defects regeneration by combining two approaches. First, by precise, controlled, and standardized shaping of the chondral and osteochondral defects using a laser. This laser is precisely guided by a minimal-invasive robot that can perform closed-loop laser ablation based on Optical Coherence Tomography (OCT). We call this device "minimally-invasive smart robotic laser arthroscope" because we are aiming at an arthroscopic-assisted or a mini-arthrotomy procedure. Second, we combine this precise bed preparation with novel regenerative cell-based methods and biopolymer-based hydrogel.

Job Description
This Phd position focuses on the development and optimization of the robotic laser arthroscope for closed-loop laser ablation. The position (4 years) is funded by the Swiss National Science Foundation (SNF). Start date: immediately or upon agreement. You will work at the Department of Biomedical Engineering located in a new building in Allschwil, an exciting and modern working environment with various research groups. This position is supervised by Prof. Dr. Georg Rauter (BIROMED-Lab).

Your profile:
• Master degree in robotics, mechanical or electrical engineering, or a closely related discipline
• Experiences in mechatronics and robotics
• Experience with Beckhoff, TwinCAT, Matlab and ROS is advantageous
• Motivated team-player with strong interest in applied medical robotics research
• High level in written and spoken English is required

Ready to revolutionize surgery? We are.

Apply for this project by email with the following materials:

• a letter of motivation that describes your interest in this position and relevant research experiences and capabilities (max. 1 page)
• diplomas and records
• name, phone number, and email address of at least two references
• CV

🦾 **Want to know more about us?** check out our lab's website or plan a lab visit.

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University of Basel — Department of Biomedical Engineering