



Open PhD Position

BIROMED-Lab

Department of Biomedical Engineering

The Bio-Inspired ROBots for MEDicine-Laboratory (BIROMED-Lab) at the Department of Biomedical Engineering (DBE) at the University of Basel offers an exciting, multidisciplinary, and applied learning- and research environment. Our research is interdisciplinary and organized in close collaboration with clinicians and industrial partners.

Project background:

We seek a doctoral researcher to join our team for the project «**Miniature Intraoral Robot (MIR) Performing Minimal-invasive, Personalized and Precision Dentistry**» funded by Innosuisse. This position is embedded in the BIROMED-Lab performing medical robotics and mechatronics research under the lead of Prof. Dr. Georg Rauter.

Job description:

You will explore the feasibility of robotic dentistry and co-develop a robotic device for tooth preparation enabling a fully digital treatment workflow based on an innovative technology previously developed at the BIROMED-Lab. You will closely work together with another PhD student and a postdoctoral researcher at the BIROMED-Lab as well as clinical and industrial partners in developing this novel device for safe, precise, and personalized tooth preparation. Your main research focus will be the safe and efficient interaction of the dental drill with the tooth and to deduce the resulting requirements for the dental robot. Your tasks will include the development of a sensorized dental phantom head, performing studies together with clinicians on this phantom head, as well as the analysis of milling parameters on a micro milling machine and developing a method for milling trajectory planning.

This is a fixed term position (4 years). Start date: July 2023. You will work at the DBE located in the new SIP Basel Area main campus, an exciting and modern working environment in which various research groups of the DBE are located.

Your profile:

- Master's degree in mechanical engineering or a closely related discipline
- Experience in mechatronics
- Hands-on person who likes to work with hardware
- Passionate about biomedical engineering and ready to learn the medical background
- Highly motivated team-player looking forward to work in an applied research field in collaboration with clinicians and industrial partners
- You are ready to develop project management skills and supervise master student projects within your PhD project topic
- Proficiency in written and spoken English is required

We are looking for a curious, motivated and self-driven student who wants to work in and contribute to an interdisciplinary and applied research environment.

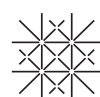
Ready to revolutionize dentistry? We are.

Applications will be accepted until the position is filled. Apply by email sending us the following materials:

- a letter of motivation that describes your interest in this position and relevant research experiences and capabilities (max. 1 page)
- CV
- diplomas and course transcripts
- contact details of at least two references



Want to know more about us? check out www.dbe.biomed.unibas.ch and contact us for a lab visit.



University
of Basel

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