



**University of  
Zurich** UZH

## **Center of Dental Medicine**

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University of Zurich's Center of Dental Medicine is one of the four dental university centers of Switzerland. It has approximately 390 employees and comprises six clinics, an institute, and a central administration department.

The division of Dental Biomaterials Research group of Prof. Dr. Dr. h.c., Mutlu Özcan, PhD has a vacant position for a

## **Postdoctoral Research Fellow**

40% (from 1 June 2021)

### **Project description**

Hydrogels are known by their excellent biocompatibility, causing minimal inflammatory response and tissue damage. Photo-polymerizable, injectable hydrogels have been utilized as a minimally invasive option compared to metal coils for the treatment of brain aneurysms, which is a life-threatening cerebral haemorrhage, often resulting in death or severe brain damage. An improved version of this class of hydrogels used in neurosurgery will be further developed as dental biomaterial. Root-canal treatments are among the most difficult clinical applications in dentistry. Unsuccessful treatments yield to failure of the treatment or reinfection of the tooth. Given the fact that unsuccessful root canal treated teeth have less favourable prognosis especially under reconstructions, in part also due to the complex anatomy of the root canals, the group of Prof. Mutlu Özcan is developing a new root canal treatment solution in collaboration with Dr. M. Bispinghoff, Dr. A. Schmocker from the Medtech startup Lumendo and Swiss Federal Institute of Technology (ETH Zurich). This innovative, low-viscosity, injectable material will be implemented as a photo-activated root canal sealer in dentistry. This innovation will allow for a minimally invasive, easy-to-use root canal filling material, which will have the potential to make the treatment faster and easier and thereby improve the treatment outcome and help people keep their natural teeth longer.

The multidisciplinary project, combining material science and bioengineering technologies, is funded by Innosuisse Grant of the Swiss Innovation Agency (2020-2022) grant for the project "Photo-polymerizable Root Canal Filling Material Development".

### **Responsibilities**

- Contribution to medical device development
- Plan and manage clinical trials on applied dental biomaterials
- Write clinical investigation plans together with clinicians
- Select clinical centres and support organizations
- Manage ethical approval applications and regulatory affairs
- Evaluate clinical trials, manage data
- Write reports and scientific publications

### **Requirements of the Candidate**

- PhD degree in basic science or engineering
- At least 3 years of academic work experience with good scientific track record
- Good understanding of medical and dental applications
- Experience with medical and dental biomaterials
- Experience in clinical research design, monitoring, data management (Phase I-IV)
- Interest in biomaterials research
- Deep scientific understanding, creative thinking, problem solving skills
- Highly motivated and responsible, independent and well-organized working style
- Knowledge of English on a professional level

### **Offer**

- Highly innovative research project aiming to develop a dental biomaterial that can help improve people's health.
- An interdisciplinary working environment, giving high responsibility and freedom.
- Working with young, entrepreneurial and motivated team.
- Attractive 40% employment for 10-months (expected date of project end: 31 March 2022).

### **Selection method**

An application requires a written solicitation, extended CV, and two references with contact information. The selection will be based on the comparison of the submitted applications, including an interview with the pre-selected candidates.

Applications to be sent to Prof. Dr. Dr. h.c., Mutlu Özcan, PhD before 26 May 2021:  
mutlu.ozcan@zsm.uzh.ch.

Center of Dental Medicine  
Plattenstrasse 11  
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*Zurich, 11 May 2021*