



“Small animal proton Irradiator for Research in Molecular Image-guided radiation-Oncology (SIRMIO)”

To strengthen our team at the Chair of Medical Physics of the Ludwig-Maximilians-University Munich we are offering

1 Postdoctoral position (3 years) for acoustic / ultrasound imaging

within the ERC project SIRMIO (Small animal proton Irradiator for Research in Molecular Image-guided radiation-Oncology, PI Prof. Dr. Katia Parodi).

Your tasks

- Realization and characterization of a setup for detection of ionoacoustic waves induced by proton energy deposition within a novel small animal proton irradiator
- Combination of ionoacoustics with latest ultrasound morphological imaging
- Demonstration and validation of the combined ionoacoustic/ultrasound imaging setup in the laboratory and at clinical proton beamlines, including integration in the small-animal irradiator prototype

Our requirements

- PhD or similar in physics or biomedical engineering
- Expertise in optoacoustics and/or ultrasound imaging, both in detector development and reconstruction techniques
- Experience in planning and execution of experimental campaigns in international collaborations
- Ability to work independently and to guide co-workers
- Practical experience with detector signal processing and data acquisition/reconstruction techniques
- Experience in coding and documentation standards, programming languages (preferably C/C++, Python, MATLAB) and Linux and Windows OS
- High level of creativity
- Fluent English knowledge (spoken and written)

The LMU Chair of Medical Physics offers a multi-disciplinary environment and works on various core-topics of ion beam therapy. With the SIRMIO project, we aim to provide a novel platform for high precision, image guided proton irradiation of small animals. The main goal of your work will be to implement a novel system relying on ionoacoustics and ultrasound imaging, to enable in-situ and real-time sub-millimeter proton range verification with simultaneous anatomical co-registration.

The working place will be at the Forschungszentrum Garching, which is well connected with public transportation to the city of Munich. Disabled candidates are preferentially considered in case of equal qualification. Applications from women are encouraged.

If you are interested in this position, please send us your application (letter of motivation, curriculum vitae, last school certificate, university degree including grades, publication list, references, other qualification certificates like TOEFL) via email (less than 5 MB) to

Katia.Parodi@lmu.de and Andrea.Leinthal@physik.uni-muenchen.de, indicating your earliest possible entry date.