

2 PhD Positions - PAIR - Pre-clinical Ion beam Research

The **FWF funded PAIR Doc.funds connect project** utilizes ion beam research in the context of **cancer biology** and **bioinformatics** to provide a systematic understanding of how ion therapy impacts cellular outcomes, including signal transduction and genome stability with the goal of improving cancer treatments.

Through enrolment in a **four-year interdisciplinary program** at the **Medical University of Vienna, Austria**, students will work on innovative projects within a peer group and will receive broad training in cancer biology and ion beam research, thus training them for a career in academia, industry and beyond. The PhD program offers training in the field of Proton and Carbon ion therapy for cancer treatment and specific highlights of the program include:

- Student organized science days and international seminar series
- Dedicated thesis committees to guide the PhD student and project
- Strong collaboration and network between the interdisciplinary projects, including regular faculty and staff meetings
- Enrolment in the Doctoral PhD program N094 at the Medical University of Vienna, tailored to the thematic program of PAIR
- Funding that covers all research costs, work – related travel expenses, salary and health insurance for 4 years

Interdisciplinary faculty:

- Medical University of Vienna (Department of Radiation Oncology, Center for Cancer Research and Department of Biomedical Imaging and Image-guided Therapy)
- University of Veterinary Medicine, Vienna, Institute of Animal Breeding and Genetics, IFA-Tulln
- University of Applied Sciences Wiener Neustadt, Faculty of Engineering and Health

The PAIR faculty is seeking two PhD students for research projects on:

- **Effects of particle beam therapy on pancreatic cancer cells**

The project aims to specify the cellular response of pancreatic cancer cells to particle beam therapy and to provide a broader understanding of the molecular basis of the PT-induced cellular signaling pathways. The candidate will carry out experimental research involving in vitro cell culture models and radiation, proteomic tools, mass spectrometry and data analysis.

- **DNA repair of damage induced by radiation**

The project aims to define the differential cellular responses to radiation using protons and Carbon ions with regard to DNA repair and the maintenance of genome stability. Changes in gene expression, DNA damage signaling and mutagenesis in different cell types will be determined in order to better understand differential cellular responses and outcomes to radiation.

Required qualifications:

- MSc or equivalent degree in life science/medical studies
- Good communication skills relevant for working in an international research and study group
- Research interest and ambitions for excellence in biology and medical physics
- Fluent in English (oral and written)
- Analytical skills and ability to work independently on a project basis
- Basic understanding of cell and molecular biological approaches as well as biostatistical methods

General project and contact information

- Start of project: 01.05.2022
- Place of work: Institutes at respective universities (see below) and MedAustron Center for Ion Therapy
- Salary: 30hours/week (according to salary scheme of the Austrian science fund FWF (<https://www.fwf.ac.at/en/research-funding/personnel-costs>))
- Closing date for application: 15.04.2022

Please submit your application including a CV and motivation letter (one page maximum) to Corina Itze-Mayrhofer (corina.mayrhofer@vetmeduni.ac.at) / Joanna Loizou (joanna.loizou@meduniwien.ac.at)