



IRENE – CD Laboratory for Image and Knowledge Driven Precision Radiation Oncology

In the frame of the Christian Doppler Laboratory of Image and Knowledge Driven Precision Radiation Oncology (IRENE) at the Department of Radiation Oncology we are offering **1 PhD position and 1 study assistance position**. 3 more PhD positions were already filled and will start between March and May 2024. Through enrolment in a three-year PhD program (N094) at the Medical University of Vienna, Austria, all students will work together on innovative projects within a peer group and will receive broad training in for a career in academia, industry and beyond.

The **CD laboratory IRENE** aims to improve cancer care by increasing the precision of radiation oncology by integrating two major pillars in contemporary personalized medicine: Technological improvement will be combined with modern radiobiology-driven adaptive treatment concepts together with innovative forms of prospective automatized data collection and outcome assessment.

Research team and infrastructure

Located in Vienna, the most livable city in the world, the Department of Radiation Oncology at the Medical University of Vienna is a high-end equipped photon and brachytherapy department where cutting edge research meets excellent oncological care. The interdisciplinary team in this project is put together by medical doctors, the medical radiation physics group and the large group of RTTs and study assistance.

What We Offer

- A highly interdisciplinary and collaborative work environment.
- Access to state-of-the-art facilities and technologies
- Strong collaboration with the industrial partners Elekta, Brainlab and Philips
- Strong collaboration and network between the interdisciplinary projects
- Enrolment in the Doctoral PhD program N094 at the Medical University of Vienna
- **Funding that covers all research costs, work – related travel expenses, salary and health insurance for 3.5 years**

What We Expect

- Analytical skills and ability to work independently on a project basis
- Good written and verbal communication skills
- Fluent in English (oral and written)

General project and contact information

- Start of project: 01.03.2024
- Place of work: Department of Radiation Oncology, Medical University of Vienna, Vienna
- Salary: 30 hours/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: 19.02.2024

All detailed information on the open positions can be found on our homepage:

https://radioonkologie.meduniwien.ac.at/fileadmin/content/OE/radioonkologie/dokumente/Abschlussarbeiten/CDL_Vacancies.pdf

Please submit your application including a CV and motivation letter to Barbara Knäusl (barbara.knaeusl@meduniwien.ac.at) and Maximilian Schmid (maximilian.a.schmid@meduniwien.ac.at)



The employer does not discriminate on the grounds of race, colour, religion, sex, sexual orientation, including transgender status and gender expression, national origin, citizenship status, age or disability.

Disabled candidates are preferentially considered in case of equal qualification. Applications from women are encouraged.



Project 3 – PhD position on MRI based adaptive radiation oncology

About the Project

This research project will focus on the use of MRI in radiotherapy of head&neck and uterine cervical cancers for guidance of individual treatment adaptations. Major emphasis will be put on the assessment of treatment response, image analysis and outcome prediction. The project will be divided in 3 phases starting with MRI protocol development and a simulation study. In the simulation study repetitive MRI will be performed within the course of chemoradiation. Tumor response will be analysed and the dosimetric impact on radiotherapy evaluated. Based on the results of the simulation study an adaptive target volume concept will be developed, which will be explored within a subsequent prospective clinical phase II trial.

In this project we offer the opportunity to implement novel treatment concepts into the clinic and be an active member of the internationally renowned EMBRACE research group.

Key Responsibilities

1. Protocol development

- MRI image sequence optimization for adaptive radiotherapy in head&neck and uterine cervical cancer.
- Development of an adaptive target volume concept for MR-guided adaptive radiotherapy of head&neck cancer.

2. Clinical studies

- Interdisciplinary collaboration with radiation oncology, radiology and medical physics.
- Organisation, support and supervision of the implementation of the clinical studies including patient monitoring.

3. Data analysis and validation

- Analysis and processing of longitudinal MRI data
- Radiotherapy treatment plan comparison

Qualifications

- MD or MSc or equivalent degree in human medicine, biomedical engineering, physics, medical informatics or other technology-oriented medical studies.
- Research interest for MRI in radiation oncology, image-guided adaptive radiotherapy for head&neck cancer and uterine cervical cancer, qualitative and quantitative image processing and analysis.
- Skills in data management and basic statistical methods required, basic knowledge in radiation oncology and radiology recommended, experience in image analysis and processing preferred.



Study assistance

As study assistance, you are part of an interdisciplinary team at the Department of Radiation Oncology of the Medical University of Vienna consisting of radiation oncologists, physicists and PhD students. Your job will include administration of local and international studies, study documentation, project management, coordination of study participants, assessment of questionnaires (patient-reported outcome measures – PROMS) and patient data.

Key Responsibilities

- Study administration and documentation
- Patient Communication
- Clinical data management
- Administrative support of CD laboratory heads

Working time and salary

- Start of project: 01.01.2024
- Place of work: Department of Radiation Oncology, Medical University of Vienna, Vienna
- Salary: 34hours, salary level IIIa according to the law of the Austrian universities
- Closing date for application: 19.11.2023

Qualifications

- Matura or equivalent qualification
- Good communication skills (**german** and english) relevant for working in an international research and study group.
- Basic computer skills
- Previous experience in project management and study documentation preferred.
- Previous experience in health-care related work preferred.

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