



**Bundesamt
für Strahlenschutz**

You take responsibility for humans and the environment

Apply at the Federal Office for Radiation Protection for a position as

PhD-Student (75 %) (m/f/d)

**Physics, Medical physics, Biophysics, Biomedical
technologies, Bioinformatics, Mathematics**

**in the group „External and internal dosimetry, Biokinetics“ of the Department „Medical and
Occupational Radiation Protection“**

The Federal Office for Radiation Protection (BfS) works for the safety and protection of man and environment from damages due to radiation. We are an organisationally independent scientific-technical higher federal authority in the portfolio of the Federal Ministry for the Environment, Climate Action, Nature Conservation and Nuclear Safety (BMUKN).

A digital framework for personalised planning and optimisation of radionuclide therapies is to be developed in an interdisciplinary research project. The focus will be on innovative radiopharmaceuticals for addressing new target structures such as FAPi and GRPr in conjunction with the use of new radionuclides such as Tb-161. By creating digital twins - computerised patient models based on pre-therapeutic PET/CT data - pharmacokinetic processes are to be simulated on a patient-specific basis. These should enable the precise prediction of biodistribution, clearance and dose distribution in tumours and organs at risk. By using AI-supported pharmacokinetic models, the project aims to achieve individualised dosimetry that both maximises therapeutic efficacy and minimises toxicity. This project aims to make a significant contribution to the safe and effective use of novel theranostic radiopharmaceuticals. The research project is funded as part of the European PIANOFORTE funding programme.

Your tasks:

- You will develop and validate digital patient models, i.e. 'digital twins' using pre-therapeutic PET/CT data
- You will apply AI-supported pharmacokinetic models to simulate the biodistribution of radiopharmaceuticals and develop them further.
- You will create and compare compartmental models and physiologically based pharmacokinetic models (PBPK) for FAPi and GRPr ligands
- You will quantify organ uptake, clearance and dose distributions in tumours and organs at risk
- You will integrate all developed components into a simulation-based therapy planning tool to optimise patient-specific therapy strategies
- You will use the methods developed and the results obtained to write a dissertation at the Faculty of Medicine at Rostock University Medical Center (university supervision: PD Dr.-Ing. habil. Jens Kurth)

Your profile:

- You have a university degree (university diploma or Master's degree) in natural science or a similar field (e.g. physics, medical physics, biomedical engineering, mathematics and bioinformatics) and therefore fulfil the requirements for admission to doctoral studies at the Faculty of Medicine at Rostock University Medical Center.
- You are interested in and ideally have previous experience in modelling, simulation or imaging in a medical context (e.g. pharmacokinetic modelling, PET/CT). Experience in population modelling is an advantage.
- You have programming skills (e.g. in Python, MATLAB or R) and experience with modelling software.
- You are interested in translational research in the field of radiopharmaceuticals and personalised medicine.
- You have a very good command of written and spoken English. You enjoy working in an interdisciplinary team and are communicative. You are willing to undertake business trips.
- You are prepared to present and publish project results and to participate in national and international conferences and courses.

Our offer:

We offer you a fixed-term employment contract of 3,5 years at 75% of the regular weekly in a scientific and technical higher federal authority (location: 85764 Oberschleißheim) with flexible working hours.

- Payment in accordance with the collective agreement (pay group 13 TVöD)
- Company pension (VBL) for employees
- Jobticket, partly covered by the employers, valid on public transportation services and local trains in all of Germany
- A wide range of opportunities for personal and professional development
- Opportunity of remote work
- A good work-life balance

The BfS guarantees professional equality of all genders and promotes diversity among the employees. Severely disabled applicants are only required to have a minimum level of physical aptitude; they will be given preferential consideration if they are equally qualified. We would be pleased if all nationalities felt addressed by this advertisement.

If you are interested in this position, please submit your online application via the Interamt platform (<http://www.interamt.de>) under the **ID 1332288**. A one-off registration is required for this. The closing date for applications is 19.08.2025.

<https://www.interamt.de/koop/app/stelle?id=1332288>

In addition to the complete entry of your personal data in the online application tool and the letter of application, we ask you to upload the following attachments as a pdf document:

- Complete curriculum vitae in tabular form
- Proof of qualifications or studies
- Employment references or official appraisals (if available)
- Relevant further training certificates
- Proof of severe disability, if applicable

We look forward to receiving your application.