

MSCA Doctoral network PhD Positions (14 Doctoral Candidates)

Innovative.Radiation.Therapy.for.Brain.Tumours.(InnovaRTBRAIN);

This doctoral network develops next-generation radiotherapy strategies for glioblastoma (GBM) by integrating: FLASH radiotherapy, Minibeam radiation, Targeted alpha therapy (TAT), Radio-immunotherapy. Doctoral candidates will work in a multidisciplinary environment spanning physics, biology, immunology, engineering and clinical translation.

Contract duration: 36 months. The candidates must not hold a PhD degree at the time of recruitment and must comply with the mobility rule: Not have resided or carried out their main activity in the host country for more than 12 months in the last 36 months. They should be proficient in English (spoken and written).

Interested candidates send your CV, motivation letter, the contact of two references and your grades to the contact person of the PhD project you are interested in.

No	TITLE	HOST	Project Description	Contact	Candidate Profile
1	Impact of MBRT and FLASH-RT in brain re-irradiations	University of Antwerp. Belgium	Project evaluates the safety and efficacy of FLASH-RT and MBRT in brain re-irradiation settings, aiming to reduce neurotoxicity while maintaining tumour control.	pierre.montaygruel@zas.be ; an.wouters@uantwerpen.be	MSc in biology, biomedicine or veterinary. Knowledge of radiobiology, Interest in preclinical irradiation models
2	Advancing TAT for GBM	University of Angers. France	Focus on developing targeted alpha therapy by optimizing radionuclides, vectors and biological targets, while assessing therapeutic efficacy and immune response.	emmanuel.garcion@gmail.com	MSc in Radiopharmacy, Molecular Biology or Biomedicine. Interest in radionuclide therapy and tumour biology
3	Explore combining invasion-preventive biomaterials with MBRT/FLASH-RT	Batea Oncology. Spain	This project investigates the combination of biomaterials (e.g. GlioHook) with advanced RT to trap invasive glioma cells and reduce tumour recurrence.	jorge.barbazan@bateaoncology.com	MSc in Biomedical Engineering, Biology or Biomedicine, Interest in biomaterials and tumour invasion
4	Synergistic impact of PARP7 inhibition	Medical University of Wien. Austria	This project explores how PARP7 inhibition enhances	dea.slade@maxperutzlabs.ac.at	This project explores how PARP7 inhibition enhances radiation-

	and novel RT approaches on GBM immune activation		radiation-induced immune activation, particularly IFN-I signalling, to overcome tumour immunosuppression.		induced immune activation, particularly IFN-I signalling, to overcome tumour immunosuppression.
5	Enhancing RT efficacy by leveraging monocyte-derived IFN-I	Institut Necker-Enfants Malades (INSERM U1151). Paris, France	This project focuses on the manipulation of monocyte-driven interferon responses to improve radiotherapy-induced anti-tumour immunity	elodie.segura@inserm.fr	MSc in Immunology, Immuno-oncology, or a related field in Biology. Interest in immunotherapy. Experience in flow cytometry and animal experiments is a plus
6	Integrating CAR-T, ICI, and RT for GBM treatment	Oslo University Hospital	Development of combined therapies integrating radiotherapy with CAR-T cells and immune checkpoint inhibitors to enhance tumour control.	elsin@ous-hf.no	MSc in Immunology or Biomedicine, Interest in immunotherapy
7	Identifying RT-induced immunogenic targets in GBM to enhance immune surveillance	University of Pavia, Italy	Identification of tumour antigens induced by radiotherapy to support development of vaccines and CAR-T strategies	arianna.palladini@unipv.it	MSc in Molecular Biology, Immunology or Bioinformatics. Interest in omics and antigen discovery
8	Stromal and migrastatic modulation of glioblastoma response to MBRT	University of Santiago de Compostela, Spain	Study how MBRT modifies the extracellular matrix and stromal environment, influencing tumour invasion and immune interactions	yolanda.prezado@usc.es	MSc in biology, biomedicine or biochemistry. Knowledge of tumour microenvironment.
9	Impact of GSH in Radiation Response for FLASH-RT and conventional radiation	DKFZ, Heidelberg, Germany	Investigation of oxidative stress and metabolic responses to radiation, focusing on glutathione and redox balance using metabolomics and NMR.	j.seco@dkfz-heidelberg.de	MSc in Chemistry, Physics or Biophysics. Interest in metabolism and radiation response
10	Molecular effects of FLASH-RT radiation detected by Nuclear Magnetic Resonance	University of Bucharest, Romania	Use advanced NMR techniques to characterise metabolic changes induced by FLASH versus conventional radiotherapy.	paul.vasos@eli-np.ro	MSc in Chemistry, Physics or Biomedical Sciences. Experience in NMR (desirable)

11	Computational analysis of integrated multi-omics data	Università degli Studio di Firenze, Italy	Development of computational pipelines to integrate multi-omics datasets and identify biomarkers of radiotherapy response.	leonardo.tenori@unifi.it	MSc in Bioinformatics, Data Science or Physics. Strong programming skills
12	Optimizing the implementation strategies and dosimetry for MBRT	VARIAN Medical Systems, Helsinki, Finland	Design and optimisation of dosimetry methods and implementation strategies for advanced radiotherapy techniques.	ari.harju@varian.com	MSc in Medical Physics or Engineering. Experience in dosimetry or simulations
13	MRI-guided MBRT	University of Oslo, Norway	Development of MRI-based guidance and treatment planning strategies to improve precision and monitoring of MBRT.	eirik.malinen@fys.uio.no	MSc in Medical Physics or Imaging. Experience in MRI or image analysis
14	Radionuclide dosimetry and molecular tumour responses	University of Nantes, France	Study of dose distribution and biological effects of radionuclide therapies, linking dosimetry with tumour response.	Michel.Cherel@univ-nantes.fr	MSc in Medical Physics, Nuclear Medicine or Radiochemistry. Interest in dosimetry and translational oncology