PhD Position in Radiation Oncology – UCLouvain / Cliniques universitaires Saint-Luc

Are you looking to:

- *Engage in a research career?*
- *Deepen your expertise in radiation oncology?*
- *Take on exciting technical challenges, such as treating mobile tumours?*
- *Contribute to innovative projects with strong clinical impact?*
- *Stay connected with patients while actively improving their treatments?*

Join our dynamic team for a compelling PhD project at the crossroads of clinical research, medical technology, and therapeutic innovation!

Research Project

Stereotactic Ablative Radiotherapy (SABR) is a high-precision treatment technique. However, respiratory motion of tumours can reduce its effectiveness and increase toxicity. The Mechanically Assisted Non-Invasive Ventilation with Deep Inspiration Breath Hold (MANIV-DIBH), developed by our team since 2017 and integrated into clinical practice since 2024, enables precise tumour immobilisation during irradiation, reducing safety margins and side effects.

Project Title: Non-Invasive Ventilation(MANIV-DIBH) in stereotactic radiotherapy: Advancing therapeutic index and eligibility for mobile tumours.

This PhD project aims to enhance the therapeutic index of SABR for mobile tumours (lung, liver, pancreas) using MANIV-DIBH. It includes three main components:

1. Efficacy and Toxicity Analysis:
    - Comparative study of liver cancer radiotherapy with and without MANIV-DIBH.
    - Prospective feasibility study in patients with COPD (GOLD ≥3) and lung cancer.
2. Technical Precision Evaluation:
    - Analysis of intra-fraction motion in abdominal tumours.
    - Retrospective dosimetric study of SABR.
    - Advanced imaging analyses, including MRI, to assess tumour stability and reproducibility of treatment conditions.
3. Randomised Multicenter Clinical Trials:
    - Two trials evaluating the benefits of MANIV-DIBH in lung and liver tumours.

Throughout the project, the candidate will publish research findings in scientific journals and present results at international conferences.

Research Environment

The project is based in the MIRO Laboratory (Molecular Imaging, Radiotherapy and Oncology) at the Institute of Clinical and Experimental Research (IREC) of UCLouvain, in collaboration with the Radiation Oncology Department of Cliniques universitaires Saint-Luc in Brussels.

Supervision:

- Geneviève Van Ooteghem, MD PhD – specialist in digestive radiation oncology, developer of MANIV-DIBH.
- Nicolas Audag, PhD – physiotherapist, actively involved in the technique's development.

Team & Collaborations:

- Radiation oncology team: 8 specialist physicians, medical physicists, technologists, and specialised nurses.
- Interdisciplinary research lab: engineers, physicists, physicians – a stimulating and collaborative environment.
- Multidisciplinary medical collaboration: oncology, pulmonology, gastroenterology, medical imaging.
- Multicenter collaboration: France, Netherlands, UK.

Candidate Profile

We welcome applications from:

- Physicians in training or completing specialisation, motivated by research and seeking to deepen their expertise in radiation oncology.

  Or Holders of a Master's in Biomedical Sciences, interested in gaining clinical research experience in an innovative, practice-oriented field.

  Or Physiotherapists motivated by research and non-invasive ventilation techniques, looking to develop new skills in a pioneering area.

Required qualities and skills:

- Interest in applied clinical oncology research.
- Willingness to step outside their initial scientific background and learn new concepts.
- Autonomy, initiative, and ability to manage projects proactively.
- Strong team spirit and collaborative mindset.
- Scientific curiosity.
- Proficiency in English (scientific writing and oral presentations).
- Fluency in French is essential (clinical project with frequent patient contact).
- Knowledge of statistics is appreciated (training available during the PhD).

Conditions

- Start date: 01/10/2025
- Contract: Full-time PhD with enrollment at UCLouvain Doctoral School
- Location: MIRO Laboratory / Radiation Oncology Department, Cliniques universitaires Saint-Luc (Brussels – Woluwe-Saint-Lambert)
- Funding: Research grant guaranteed for 2 years, renewable for 2 additional years (total 4 years)
- Degree awarded: Doctor of Medical Sciences
- Collaborations: Interdisciplinary (oncology, pulmonology) and international (France, Netherlands, UK)
- Opportunities for travel to conferences or partner institutions

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Application

- Send your CV and motivation letter to: genevieve.vanooteghem@saintluc.uclouvain.be
- Deadline: 15/09/2025
- All applications will be carefully reviewed. Selected candidates will be invited for an interview within days or weeks of submission.
- Applications will be considered on a rolling basis. Early submission is encouraged, as the position may be filled before the deadline if a suitable candidate is identified.