

PARTICLE THERAPY INTERUNIVERSITY CENTER LEUVEN - ParTICLe

A consortium of UZ Leuven/KU Leuven and Saint-Luc/UCL, strongly supported by UZ Ghent, UZA, UZ Brussels and CHU UCL Namur Site Sainte-Elisabeth, decided to join forces to build the first proton therapy center in Belgium, within the context of a solid medical, scientific and strategic alliance with all interested centers and partners. This interuniversity, multi-institutional collaboration is called ParTICLe, i.e. Particle Therapy Interuniversity Centre Leuven.

The center, which is currently under construction, will be located on the Health Sciences campus Gasthuisberg of the University Hospitals Leuven. This location ensures that the proton center will be fully integrated within the existing clinical and research environment of an academic hospital.

Research axes & Expertise

The center itself will encompass two main areas: one for patients' treatment and one dedicated to fundamental and pre-clinical research purposes. In the clinical area a Proteus[®]ONE system capable of pencil beam scanning will be installed to provide the full scope of imaging modalities (kV-kV, CBCT), including an in-room dual energy CT on-rails. The research bunker will host a horizontal beam line consisting of a modular set-up in order to accommodate different experiments.

The two sections will each have its own accelerator, i.e. a superconducting synchrocyclotron (S2C2). This implies that the research room will be able to function independently from the clinical treatment one. This unique set-up offers several important advantages: there will be no need to perform the experiments outside treatment hours (evening, night or weekends) to avoid interference with the clinical workflow. Conversely, beam ramp-up and ramp-down time in the clinical gantry room will not affect experiments to be performed in the research area. Furthermore, it will be possible to leave complex experimental apparatus in position for an extended period of time.

Besides treatment of patients and development of a proton-specific research program, the center will also be used for educational purposes (academic and non-academic).

Application fields

- Comparative planning studies
- Treatment of 'standard indications' with proton therapy
- Clinical trials for 'non-standard' indications (e.g. model-based indications)
- Adaptive proton therapy
- Image-guided proton therapy
- Radiobiological research for proton therapy
- Education & training

Major projects/partnerships/collaborations

The centre's mission reaches further than just clinical care. It also includes education & training, and research & innovation, all in close collaboration with different academic (cfr supra) and non-academic partners, as for example [IBA](#) (our technology supplier) and [SCK-CEN](#), the Belgian Nuclear Research Center.

Key figures

The construction work has started in September 2016. Clinical activity is foreseen to start mid-2019.

Contact

- Address: UZ Leuven – Dept. of Radiation Oncology, Herestraat 49, 3000 Leuven
- Website: www.particle.be
- Contact person: Sofie Isebaert, sofie.isebaert@uzleuven.be
- Phone: +32 16 34 50 18

ParTICLe

Particle Therapy Interuniversity Center Leuven

Collaboration between UZL/KUL, UCL/CSL, UZG, UZA and UZB

