

## **Dedicated institutional webpage**

### **- Name of your institution**

University Hospital Leuven, KULeuven, Belgium

### **- Institution's picture and logo**



### **- Description of the institution**

For more than 75 years, UH Leuven offers high quality and innovative medical care. Our institution comprises four locations: Gasthuisberg, Pellenberg, Sint-Pieter and Sint-Rafaël. At each location, high quality medical and paramedical care is provided for both ambulatory and hospitalized patients. With 1995 patient beds and 8800 employees, UZ Leuven is one of the largest hospitals in Europe. Its strength is the combination of research, education and pluridisciplinary patient care with a permanent critical reflection and review. The realm of activities of UZ Leuven is regional, national and international. Especially in the field of translational research our hospital has achieved international recognition. Our institution has established itself as a top reference centre. To strengthen this position a continuous strive for a better and safer patient care is mandatory. UZ Leuven has an accreditation of the Joint Commission International (JCI).

### **- Description of the RO department**

Our department is located at Gasthuisberg, the main location of UZ Leuven. It is now officially embedded in the Leuven Cancer Institute and plays a pivotal role in fostering interdisciplinary collaboration in research. Hence, advances in basic science can easily be translated into innovative approaches in clinical practice. Our department is equipped with five linear accelerators (2 Truebeams of which one STx), a HDR and a PDR afterloader and a

CT simulator. Ten staff members, nine clinical residents, seven physicists, five radiation technologists and 30 nurses are responsible for daily patient care. In addition, seven PhD students and two post-doctoral researchers are involved in both clinical and translational research.

### **- Areas of specialization**

#### **\* Clinical research**

- Implementation of functional imaging (FDG PET/CT, DCE MRI, DW-MRI) in head and neck, prostate and rectal cancer.
- Prospective gating using the coached free-breathing technique for breast cancer patients
- Stereotactic bodyframe with abdominal compression for SBRT of liver metastases

#### **\* Translational research**

- Identification of predictive and prognostic biomarkers in patients with head and neck, prostate, lung and rectal cancer.
- Establishment of biobanks for scientific research: collection of tissue, blood, saliva and urine of patients with head and neck, prostate, lung and rectum cancer included in clinical studies.

#### **\* Preclinical research**

- In vitro and in vivo evaluation of the radiosensitizing effect of experimental drugs in head and neck, prostate, lung and rectum tumor models.
- Evaluation of the molecular mechanisms responsible for the radiosensitization.

### **- Ongoing projects/studies/clinical trials**

- \* Response prediction during and after chemoradiotherapy for locally advanced rectal cancer by the use of functional imaging and molecular markers (PI: Karin Haustermans)
- \* Implementation of IMRT for rectal cancer (PI: Karin Haustermans)
- \* AxeBeam trial, a randomized phase II study of bevacizumab, capecitabine and radiation therapy with or without oxaliplatin in the preoperative treatment of locally advanced rectal cancer (PI: Eric Van Cutsem, Karin Haustermans)
- \* In vitro and in vivo evaluation of anti-FGFR in combination with radiotherapy for treatment of rectal cancer (PI: Karin Haustermans)
- \* Participation in the FLAME study, a randomized trial, investigating the benefit of intraprostatic dose escalation by means of functional imaging (PI: Uulke van der Heide, Marco van Vulpen)
- \* Hedgehog signaling in prostate cancer (PI: Karin Haustermans)
- \* DR. THERAPAT (digital radiation therapy patient) (EU FP7 project, Project coordinator: Philips Technologie Gmbh Innovative Technologies (PTIT) Hamburg )
- \* Towards the identification of the true high risk prostate cancer patients (PI: Karin Haustermans)
- \* Optimization of the boost volume in breast cancer radiotherapy (PI: Caroline Weltens)
- \* Adaptive radiotherapy in head and neck cancer (PI: Wilfried De Neve, Sandra Nuyts)
- \* Pathological validation of functional imaging techniques in head and neck cancer (PI: Sandra Nuyts)

- \* Development of a prognostic and predictive model for head and neck cancer (PI: Sandra Nuyts)
- \* Role of Human Papilloma Virus in Head and Neck Cancer: a new player with a potential role in epidemiology, prognosis, preventions and therapy (PI: Sandra Nuyts)
- \* Dose escalation by boosting radiation dose within the primary tumor on the basis of a pre-treatment FDG-PET-CT scan in stage In, II and III NSCLC (PI: Dirk De Ruyscher, José Belderbos)
- \* Validating predictive models and biomarkers of radiotherapy toxicity to reduce side-effects and improve quality-of-life in cancer survivors (EU FP7 project)
- \* Defining immunological heterogeneity within and between tumours and their micro-environment in non-small cell lung cancer before and after irradiation (PI: Dirk De Ruyscher, Adrian Liston, Patrizia Agostinis)
- \* Development of hemi-thoracic radiotherapy after decortication for pleural mesothelioma (PI: Dirk De Ruyscher, Umberto Ricardi)
- \* Total marrow irradiation as an alternative for total body irradiation for allogeneic bone marrow transplantation (PI: Dirk De Ruyscher, Umberto Ricardi)
- \* Optimisation of post-operative radiotherapy in stage III non-small cell lung cancer (PI: Dirk De Ruyscher, Paul De Leyn, Johan Vansteenkiste)

***Funded, expected open for accrual end 2013***

- \* Improvement of memory function after Prophylactic Cranial Irradiation (PCI) by avoidance of the hippocampus: A randomized phase III study in small cell lung cancer patients (PI: Dirk De Ruyscher)
- \* A randomized open-label phase II trial of consolidation ipilimumab in limited-stage SCLC after chemo-radiotherapy (PI: Dirk De Ruyscher, Solange Peters)
- \* Radical treatment of non-small cell lung cancer with synchronous oligo-metastases: A prospective study to identify prognostic factors (PI: Stéphanie Peeters, Christophe Doods)
- \* Dose painting in H&N cancer (PI: Sandra Nuyts)
- \* Organ sparing strategies in rectal cancer (PI: Karin Haustermans)

**- Local news (conferences, workshops, training opportunities, etc.)**

- \* The Varian IGRT school is organized at our department 4 times a year.
- \* The Oncoforum is the flagship event of the Doctoral School of Cancer in collaboration with the Leuven Cancer Institute. It is conceived as a one-day symposium on all aspects of cancer research with 4 keynote presentations by internationally renowned scientists and offers young scientists the chance to present their research in the form of a poster or as part of a plenary session.

**- Information on the material and machines on the department in use:**

- \* 5 Varian linacs of which 3 Clinacs and 2 True beams (one STx)
- \* HDR and PDR Nucletron afterloaders
- \* Siemens CT simulator