HollandPTC
Protonen Therapie Centrum

Available PhD positions

www.hollandptc.nl | info@hollandptc.nl | Tel: 088-5018800 | Bezoekadres: Huismansingel 4,
2629 JH Delft | Postadres: Postbus 110, 2600 AC Delft | KvK: 58653473 | BTW: NL853126355B01

Looking for an interesting PhD position? Several research projects have vacancies:

PhD student Health Technology Assessment of proton therapy

You will perform a full HTA of proton therapy compared to photon therapy from a societal perspective. This includes for example an analysis of the societal costs of both treatments (e.g. radiation costs, out-of-pocket expenditures, productivity costs) but also the benefits. Survival and patient reported outcomes including health-related quality of life will be collected and analysed for the assessment.
In addition to the HTA of proton therapy, this PhD position offers the opportunity to refine and improve currently available HTA methodologies (e.g. survival extrapolation techniques).
Please apply before 12 August 2019.

PhD in Automated Online Adaptive Proton Therapy at TU Delft

Radiotherapy (RT) is a key treatment modality for cancer, but side-effects can have significant negative impact on patients' quality-of-life. Intensity-Modulated Proton Therapy (IMPT) is a new type of RT, holding the promise of better preserving normal tissues surrounding the tumor, due to the finite range of protons. However, IMPT's advantage also comes at the cost of increased sensitivity to uncertainties in patient alignment and dose calculation, or changes in patient anatomy, which can never be completely eliminated. To account for uncertainties in IMPT, robust treatment planning has been proposed, where possible errors are directly incorporated in treatment planning. Robust planning decreases the sensitivity of treatments, however at the cost of irradiating larger volumes around target structures, thus degrading the superior normal tissue sparing potential of IMPT.

To provide a solution, the HollandPTC funded IMAGINATION project aims to take leap in IMPT treatments by developting and clinically implementing for the first time worldwide fully automated online adaptive proton therapy. Read more >

Please apply before 31 July 2019.

PhD-student on the project IMAGINATION at Erasmus MC

Are you interested in a Ph.D. in medical physics and proton therapy? Do you want to work in a multi-disciplinary team of physicists, medical physicists, and radiation oncologists at a world-leading university medical center and in close collaboration with Holland Proton Therapy Center (HollandPTC) and TU Delft? And contribute to the improvement of cancer treatment with proton therapy? If yes, continue reading, because the Erasmus MC Cancer Institute is now accepting applications for a Ph.D. position on the project IMAGINATION.

When using radiotherapy to treat cancer, there is unavoidable damage to healthy tissues surrounding the tumor. Proton Therapy (PT) is a new type of radiotherapy, holding the

promise of better preserving healthy tissues, due to the finite range of protons. However, its advantage also comes at the cost of increased sensitivity to uncertainties in patient alignment and changes in patient anatomy. To provide a solution, the IMAGINATION project aims to develop and clinically implement for the first time worldwide fully automated online adaptive proton therapy for patients with head and neck cancer. This will enable PT treatments to be adjusted to the exact anatomy of the patient on each day without any interaction from the physicians and the treatment planners, thus making use of the full tissue sparing potential offered by PT.
This is a collaborative project between TU Delft, Erasmus MC, and HollandPTC, in which 2 Ph.D.'s will work closely together with the 3 institutes and their staff. During the project numerical methods and algorithms will be developed that enable automated progressive daily adaptation of the treatment plans during the course of the treatment; fast online refinement of treatments before each treatment session; automated quality assurance of adapted and refined plans; and online patient-specific quality assurance based on the actually delivered treatment.

Please apply before 15 august 2019.