Peter van Luijk

Peter van Luijk started his work on the prevention, prediction and treatment of normal tissue damage studying volume effects in the rat spinal cord using high-precision proton irradiation at the Kernfysisch Versneller Instituut of the University of Groningen, where he obtained his PhD in Physics in 2003. His main finding was that the response of the spinal cord to radiation depends strongly on repair of irradiated tissue, initiated from non-irradiated tissue.

Subsequently hypothesized that such interactions play a critical role in the development of side effects of radiotherapy. During his subsequent appointments at the department Radiation Oncology of the University Medical Center Groningen he found that the response of the parotid gland to radiation strongly depends on dose received by a limited sub-volume rich in stem cells. In parallel, he showed that damage to heart and lung after thoracic irradiation develop from a joint response of both organs leading to changes in the cardio-pulmonary circulation. Currently he is working the clinical translation of these findings through the development of tools needed to implement stem cell sparing radiotherapy and coordinating a large prospective cohort study in lung and esophageal cancer patients to assess the incidence and impact of cardiopulmonary side-effects.