ESTRO

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ESTRO background

- ESTRO Member since Sept 1992
- ESTRO Radiobiology Committee member 2013 – 2019
- ESTRO ACROP member 2013 – 2021
- ESTRO National Societies Committee member 2018 – 2021
- ESTRO Journals:
  - Editorial Board: Radiotherapy and Oncology
  - Editorial Board: Physics in Radiation Oncology

Experience

December 2010	Head of the 'Radiotherapy & OncoImmunology laboratory' (ROI) Radboud University Nijmegen
November 2000	Ph.D. in Radiobiology at the Radboud University Nijmegen. Thesis title: 'The tumor microenvironment and effects of hypoxia modification'
July 1997	Staff radiation oncologist, Radboud University Nijmegen. Specialty: lung cancer

Education and Qualifications

August 2017	Appointed professor 'Biological and Molecular Imaging in Experimental Radiotherapy' Radboud University Nijmegen
November 2000	Ph.D. in Radiobiology, Radboud University Nijmegen
July 1997	Certified as Radiation Oncologist
January 1993	Resident in radiation oncology, Radboud University Medical Center Nijmegen
1991/1992	Fellowship Dutch Cancer Society, trained at M.D. Anderson Cancer Center, Dept Experimental Radiotherapy Houston Texas, USA

Scientific committees and teaching

- Member of several radiobiology-involving committees (nationally and including within ESTRO)

- Current chair of the scientific committee of the Dutch Society for Radiotherapy and Oncology (NVRO)
- Served on several scientific committees, including ESTRO meetings
- Served as teacher on several ESTRO pre-meeting courses and online courses (Falcon)
- Faculty of the Methods in Clinical Cancer Research course (better known as the Flims course) since 2016
- Chair/organiser of the pre-meeting course in radiobiology in 2020 'Interaction between the tumour ecosystem and radiation' (Organisers: Bussink, Gaipl, Lyng)
- My publications can be found at: https://pubmed.ncbi.nlm.nih.gov/?term=bussink+j&sort=date
- I am and have been principle investigator (PI) on several projects
- Supervisor of approximately 25 PhD students, past and present

Personal

At the end of high school, which feels like 10 years ago but rumor has it that it was in 1983, I considered studying biology or medicine. I later got the opportunity to study medicine. During my years in medical school, my interest in biology never diminished. It was therefore a fantastic opportunity, after being awarded a fellowship in radiobiology by the Dutch Cancer Society, to be trained in radiobiology in 1991 and 1992. In that period, I spent a year at the department of Experimental Radiotherapy at the M.D. Anderson Cancer Center in Houston under supervision of Bill Brock. The focus of my research was on the development of assays that are predictive of treatment outcome. In 1993, I simultaneously started working on my Ph.D. in radiobiology as well as my residencies in radiation oncology. My Ph.D. supervisors were Bert van der Kogel, radiobiologist, and Hans Kaanders, clinician. This resulted in a thesis at the crossroads of the clinic and the preclinic (2000). After my certification as radiation oncologist, I was appointed as staff member in 1997. After my Ph.D., I obtained a position at the department for Radiation Oncology consisting of 50% clinical and 50% research with a main research focus on radiobiology and experimental radiotherapy.

I have always been intrigued by the biological processes behind radiation therapy: the continues interaction of tumour cells with their environment, the abundance of non-tumour cells within tumours and the potency of radiation therapy to enable autovaccination. My research aims at understanding radioresistance and modifying the tumour microenvironment to increase the efficacy of radiotherapy. More recently, the focus of our lab is spearheaded towards understanding and modifying the tumour microenvironment to improve radiation mediated immunogenicity.

Final statement

My experience in radiotherapy and radiobiology goes back to 1991. In these past 30 years I studied many aspects of radioresistance on the biological level. As head of the

'Radiotherapy & OncoImmunology laboratory' and PI for several research projects investigating the relationship between tumour cell hypoxia and metabolism with radiotherapy, I have a broad overview of radiobiology. As radiation oncologist and part-radiobiologist, for many years, I am well aware of the problems encountered in 'bench to bedside research' and vice versa. With this experience I am able to confidently represent the radiobiology committee on the ESTRO board.

It is my belief that within the next years we will unravel the mechanism behind the interaction of radiotherapy and immunotherapy. This will provide the basis for optimising this combined treatment. In my role as board member of ESTRO and as representative of the radiobiology committee, I will dedicate my task to optimise synergy between radiobiology and clinical radiation oncology. I fully support ESTRO's vision and ambition to 'actively focus on translating science and evidence into practice'. With the recent broad introduction of immunotherapy in cancer care, radiation therapy is becoming a part of systemic cancer treatment. For that, radiobiology remains a crucial cornerstone for our understanding of these interactions and for optimising treatment schedules.