



# CONFERENCES

## Interview with Laure Marignol, chair of the ESTRO 2024 Radiobiology track

- **Which topics received the largest number of abstracts?**

The topic that received the largest number of abstracts in the Radiobiology track is Tumour Radiobiology.

- **Can you highlight some of the sessions in the Radiobiology track that delve into cutting-edge radiobiological research?**

We have put together a very exciting programme for the radiobiology track that covers a range of topics that will no doubt attract all radiobiology enthusiasts. Our symposia are designed to highlight fast-growing areas within our field. The first will focus on the interaction between DNA damage and the immune response. The second will discuss the potential of single-cell and spatial-radiation biology to advance radiobiological knowledge of tumour and normal tissue responses. The last will bring us up-to-date with the latest evidence regarding how the microbiota and metabolic response might change how we manage our patients.

- **In what ways can advances in radiobiology influence the delivery of personalised and effective radiation therapy, aligning with the vision of optimal health for all by 2030?**

Radiobiology is an integral part of radiation oncology, and as we expand our understanding of the biology of the radiation response, our community within ESTRO uncovers new ideas. Digging deeper into DNA damage, the immune response and the microbiome, and reflecting on how FLASH-radiotherapy has evolved, represents ways in which we can influence the delivery of personalised and effective radiation therapy for all. Our research teams are identifying biological markers of response, future therapeutic targets and novel treatment combinations, and are testing innovative radiation delivery techniques in their labs around the world. Collating this work in our track will create a fertile ground for exchange, feedback, and the identification of novel collaborations. I encourage physicists, radiation therapists and radiation oncologists to attend some of these sessions because their input can make a difference.

- **How does the radiobiology track encourage collaboration between researchers and clinicians to translate radiobiological discoveries into improved patient outcomes?**

The radiobiology track addresses clinically relevant questions. Elucidating how the immune system interacts with radiation therapy is an example of a biological question that is already translating into novel treatment combinations and improved patient outcomes. With the consideration of the microbiome, our track brings questions into the field of radiation oncology that are already being investigated in other fields of medicine and yielding clinical potential. Attendance at our track can spark new links between what is happening in the clinic and the research that is possible in radiobiology labs. For instance, the possibility of conducting single-cell or spatial-radiation biology is exciting. It opens doors to dissecting heterogeneities in the

radiation response within a patient, which in turn will inform how best to treat patients through the use of radiation therapy.

- **Are there specific discussions or debates within the radiobiology track that you believe will be particularly thought-provoking and valuable for the attendees?**

Our debate this year is intended to trigger curiosity from our interdisciplinary ESTRO community. We will address the issue of dose-response modelling and ponder the contribution of radiomics over that of “real radiobiology”. The answer may be obvious to some, but the outcome might surprise many!

- **Is there any other aspect of your track that you would like to draw attention to?**

We have exciting talks within the interdisciplinary track this year, looking at targeting the metabolism in lung cancer, comparing early and late normal tissue responses to FLASH-radiotherapy, and reporting on the inflammatory response observed in photon versus FLASH irradiation. Other works propose that fusobacterium is a factor in the radiation response in head-and-neck cancer, exposing the existence of spatial, distinct, hypoxic epigenetic and transcriptional responses in glioblastoma.

I look forward to meeting everyone in Glasgow and to thinking “radiobiology” together.

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