

Special Issue

Molecular Research in Radiobiology 2.0

Message from the Guest Editor

This Special Issue is the continuation of our 2021 Special Issue “**Molecular Research in Radiobiology**”. Radiobiology has significantly impacted science and medicine in the last century, using biological models to study targeted and non-targeted effects of radiation in both cancerous and normal tissue. The use of molecular tools in radiobiology led to discoveries of the DNA damage response (DDR) signaling pathway and further molecular mechanisms of repair, radiosensitivity, radioresistance, and biomarkers of radiation response. Translational radiobiology and studies on the tumor microenvironment have provided a deeper understanding of the effects of clinical radiation therapy (RT) fractionation on treatment efficacy by the 5 Rs (Repair, Redistribution, Reoxygenation, Repopulation, and Radiosensitivity), and more recently the reactivation of an anti-tumour response (the 6th R) significant for recent immunotherapy/RT combination regimes. Recent advances in radiobiology can be mainly attributed to rapid molecular and technological advances including omics and systems biology approaches.

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