

Special Issue

FLASH Radiotherapy: From Benchwork to a New Paradigm-Shifting Radiotherapy

Message from the Guest Editors

Among technological advances in the field of radiation oncology, FLASH radiotherapy, with a single, ultra-high dose rate > 40 Gy/sec, intrigued researchers by sparing normal tissues from radiation-induced toxicities while being equipotently efficient in tumor growth delay compared to conventional radiotherapy. FLASH radiotherapy rapidly evolved as a very promising radiotherapeutic candidate for clinical translation thanks to a wealth of studies worldwide, with the first patient being treated in 2018 and the first clinical trial being launched in 2020. Nevertheless, the crucial question regarding its underlying mechanisms responsible for the differential responses between tumors and normal tissues remains unanswered. This Special Issue of IJMS aims to provide a comprehensive overview of the FLASH radiotherapy studies, using all current irradiation systems along with prototypes, and will focus on the mechanistic aspects of the so-called “FLASH effect” and the differential responses between healthy and tumor tissues.

Guest Editors

Dr. Melpo Christofidou-Solomidou

Department of Medicine, Division of Pulmonary, Allergy, and Critical Care Medicine, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA 19104, USA

Dr. Anastasia Velalopoulou

Department of Radiation Oncology, Perelman School of Medicine, University of Pennsylvania, Philadelphia, PA 19104, USA

Deadline for manuscript submissions

closed (20 November 2023)



International Journal of Molecular Sciences

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed



mdpi.com/si/137168

*International Journal of
Molecular Sciences*
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
ijms@mdpi.com

[mdpi.com/journal/
ijms](https://mdpi.com/journal/ijms)





International Journal of Molecular Sciences

an Open Access Journal
by MDPI

Impact Factor 4.9
CiteScore 9.0
Indexed in PubMed



[mdpi.com/journal/
ijms](https://mdpi.com/journal/ijms)



About the Journal

Message from the Editor-in-Chief

The International Journal of Molecular Sciences (*IJMS*, ISSN 1422-0067) is an open access journal, which was established in 2000. The journal aims to provide a forum for scholarly research on a range of topics, including biochemistry, molecular and cell biology, molecular biophysics, molecular medicine, and all aspects of molecular research in chemistry. *IJMS* publishes both original research and review articles, and regularly publishes special issues to highlight advances at the cutting edge of research. We invite you to read recent articles published in *IJMS* and consider publishing your next paper with us.

Editor-in-Chief

Prof. Dr. Maurizio Battino

Department of Odontostomatologic and Specialized Clinical Sciences,
Sez-Biochimica, Faculty of Medicine, Università Politecnica delle
Marche, Via Ranieri 65, 60100 Ancona, Italy

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within Scopus, SCIE (Web of Science), PubMed, PMC, MEDLINE, Embase, CAPlus / SciFinder, and other databases.

Journal Rank:

JCR - Q1 (Biochemistry and Molecular Biology) / CiteScore
- Q1 (Organic Chemistry)