Journal of Imaging

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Multimodal Imaging for Radiotherapy: Latest Advances and Challenges

Guest Editor:

Dr. Arif Gulzar
Center for Advanced Imaging, The University of Queensland, Brisbane, QLD 4072, Australia

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Message from the Guest Editor

Nanoparticles have emerged as a promising tool for multimodal imaging in radiotherapy due to their ability to be engineered with multiple imaging modalities and therapeutic agents. Multimodal imaging is an approach that combines different imaging techniques to obtain a more complete and accurate representation of a patient's anatomy and pathology. In radiotherapy, multimodal imaging is used to precisely locate and target cancerous tissue, while minimizing exposure to healthy tissue. The following are some of the ways in which nanoparticles are used for multimodal imaging in radiotherapy:

1. Computed tomography (CT)
2. Magnetic resonance imaging (MRI)
3. Positron emission tomography (PET)
4. Single-photon emission computed tomography (SPECT)
5. Ultrasound

By combining these imaging modalities, radiation oncologists can obtain a more comprehensive understanding of a patient's anatomy and the extent of the cancerous tissue, allowing for a more precise and effective treatment plan. This approach can also help to reduce the risk of complications and side effects associated with radiotherapy, as healthy tissue is less likely to be affected.

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Editor-in-Chief

Prof. Dr. Raimondo Schettini
Department of Informatics, Systems and Communication, University of Milano-Bicocca, viale Sarca, 336, 20126 Milan, Italy

Message from the Editor-in-Chief

The imaging term, specific with journal, is to be considered in its broadest sense. Image processing, image understanding and computer vision are all terms related to imaging acquisition, its processing and the extraction of relevant information from the scene to obtain the underlying knowledge. All tasks related to the above items are oriented toward specific applications in a broad range of areas and topics. The *Journal of Imaging* is conceived as an efficient vehicle in the scientific community for the communication and transmission of the progress and research results in the topics covered.

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Contact Us

Journal of Imaging
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

Tel: +41 61 683 77 34
www.mdpi.com

mdpi.com/journal/jimaging
jimaging@mdpi.com
@J_Imaging_MDPI