

Special Issue

AI-Driven Predictive Modeling in Radiation Therapy: Toward Precision and Personalized Clinical Applications

Message from the Guest Editor

This Special Issue highlights the transformative role of artificial intelligence and predictive modeling in modern radiation therapy, with a particular emphasis on clinical relevance and real-world. As oncology moves toward more precise and patient-centered treatment paradigms, AI-driven tools—such as machine learning, radiomics, and dosiomics—are revolutionizing how clinicians plan, adapt, and evaluate radiotherapy. This Special Issue aims to serve as a cross-disciplinary platform that bridges technical innovation with clinical practice. By sharing the practical applications, challenges, and successes of AI-based predictive modeling, we seek to foster meaningful collaborations between oncologists, engineers, and data scientists working to shape the next generation of radiation therapy.

Keywords:

- . AI-Based Radiotherapy
- . Predictive Modeling in Oncology
- . Personalized Radiation Therapy
- . Radiomics and Dosiomics
- . Adaptive Radiotherapy
- . Treatment Outcome Prediction
- . Explainable AI in Medicine
- . Multimodal Data Integration
- . Clinical Decision Support Systems
- . Precision Cancer Treatment

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About the Journal

Message from the Editor-in-Chief

Cancers is an international online journal addressing both clinical and basic science issues related to cancer research. The journal is publishing in Open Access format, which will certainly evolve to ensure that the journal takes full advantage of the rapidly changing world of information and knowledge dissemination. It publishes high-quality clinical, translational, and basic science research on cancer prevention, initiation, progression, and treatment, as well as other related topics, particularly to capture the most seminal studies in the rapidly growing area of immunology, immunotherapy, and tumor microenvironment.

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