

Special Issue

AI-Powered Oncologic Nuclear Medicine in Clinical Translation: Advanced Assessment of Tumor Load and Microenvironment

Message from the Guest Editor

Recent advances in artificial intelligence (AI) and machine learning have profoundly impacted oncologic nuclear medicine, opening new avenues for precision diagnostics and theranostics. This Special Issue aims to showcase cutting-edge research on how AI methods enhance the quantitative and biological understanding of tumor burden and its microenvironment. Topics include the integration of radiomics and deep learning into PET and SPECT imaging workflows, automated tumor segmentation, predictive modeling for therapy response, and multi-omics approaches that bridge imaging, pathology, and immunology. By moving beyond conventional SUV metrics, AI-driven tools allow for a more nuanced characterization of tumor heterogeneity, immune contexture, and treatment dynamics. We particularly welcome original research and reviews that address the clinical translation of these technologies, regulatory and standardization challenges, as well as real-world implementation in oncology. Our goal is to provide a platform for interdisciplinary exchange and to accelerate the integration of AI-powered nuclear medicine into personalized cancer care.

Guest Editor

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Message from the Editor-in-Chief

I am honored and enthusiastic to serve as Editor-in-Chief of *Current Oncology*. Since its establishment in 1994, *Current Oncology* has been playing an important role in the advancement of cancer care by disseminating new knowledge in the cancer care continuum. *Current Oncology* is affiliated with several key cancer societies and provides a global platform to share scientific progress in oncology. We strive for high standards and work together to maintain a rigorous and unbiased peer review process to publish high-quality articles. We have an outstanding editorial team which is committed to the success of *Current Oncology*.

Editor-in-Chief

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