Special Issue

Engineering-Inspired Cancer Research

Message from the Guest Editors

Cancer microenvironments are physically and biologically complex. The integration of cancer biology with bioengineering has helped address the challenges posed by these complexities with engineered models of organs and tissues. These models have the unique ability to control physical, chemical, and biological complexity across multiple length scales, making them tools rich with possibilities for studying and identifying key drivers of cancer initiation and progression, as well as therapeutic efficacy. This Special Issue will showcase research papers, short communications, and review articles on a range of engineered solutions for investigating cancer mechanisms based in different tissue microenvironments of the body. Topics of interest include: 1) the interaction and crosstalk of cancer cells with cells and tissues of the host microenvironment; 2) physiological properties of the tumor vasculature and extracellular matrix that promote cancer progression and preclude treatment response; 3) sensors and techniques for biomarker discovery; and 4) cancer treatments and interventions that affect cancer cell dynamics, plasticity, and metabolic pathways.

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Deadline for manuscript submissions

closed (31 March 2023)

Bioengineering

an Open Access Journal by MDPI

Impact Factor 3.7
CiteScore 5.3
Indexed in PubMed

mdpi.com/si/113624

Bioengineering
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Editor-in-Chief

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