

Special Issue

Advances in Surgical Devices and Medical Robotics

Message from the Guest Editor

Concurrently, 3D printing and tissue engineering are transforming the design and functionality of surgical devices and implants. Additive manufacturing enables the rapid fabrication of patient-specific anatomical models, custom implants, and surgical guides, improving preoperative planning and intraoperative accuracy. In parallel, tissue engineering leverages biomaterials, stem cells, and biofabrication strategies to create scaffolds and living constructs that promote tissue regeneration and functional restoration. The convergence of these technologies—particularly through bioprinting and biohybrid robotic systems—signals a paradigm shift from inert surgical tools to biologically integrated, patient-tailored therapeutic platforms. Together, robotics, 3D printing, and tissue engineering represent a synergistic frontier in bioengineering, with profound implications for precision surgery, translational research, and personalized healthcare.

This special edition of MDPI's *Bioengineering*, focused on surgical devices, robotics, 3D printing and tissue engineering. Your expertise and insight would significantly improve the quality of this publication. Thank you for your consideration.

Guest Editor

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