

Special Issue

3D Printing and Biomaterials for Hearing and Balance Restoration

Message from the Guest Editor

Hearing and balance disorders affect hundreds of millions worldwide, leading to communication challenges, increased fall risk, and reduced quality of life. Advances in biomaterials and additive manufacturing (3D printing) offer promising opportunities to restore auditory and vestibular function. To fully realize these advances, a molecular-level understanding of material–tissue interactions is essential. This Special Issue will highlight research at the intersection of molecular science, biomaterials, bioengineering, and otology. Topics of interest include molecularly engineered biomaterials for middle and inner ear reconstruction; characterization of cell–material and protein–surface interactions in printed scaffolds; and design of bioactive and drug-eluting materials that modulate inflammatory, regenerative, and neural processes. Contributions on molecular mechanisms governing osseointegration, fibrosis, or immune response to implants, as well as the integration of bioelectronics and molecularly guided drug delivery into 3D-printed devices, are highly encouraged

Guest Editor

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