

Applications of fractal geometry in tissue engineering and biofabrication

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About | Info for Authors

Tissue engineering and biofabrication are rapidly evolving fields, in which the complexity of biomaterials and biostructures, with typically non-Euclidean or fractal-like geometries, has to be adequately taken into account for promoting improved diagnostic and therapeutic proposals. The presented Research Topic aims to cover main applications of fractals and complex geometries in the fields of tissue engineering and biofabrication and to explore main supporting modeling, design, manufacturing and characterization technologies, detailing also some present challenges and future directions.

Papers presented to this Research Topic are expected to be linked to the following fields of research:

- Fractals and novel biomimetic approaches linked to tissue engineering.
- Fractals for modeling cell-culture processes and tissue formation.
- Fractals for modeling biomaterials with biologic and synthetic origins.
- Fractals for designing microsystems for improved interaction with cells and tissues.
- Fractals for designing cell culture matrices or scaffolds.
- Fractals for designing microstructured implants for enhanced tissue repair.
- Design and manufacturing strategies for obtaining biomimetic geometries.
- Fractals and biofabrication, towards enhanced vascularization of artificial constructs.
- Fractal-based organ-on-chip and life-on-a-chip strategies.