Biomaterials Translational

VOL 01

生物材料转化电子杂志（英文）
Volume 1 Issue 1 December 2020

Additive Manufacturing
Aragonite-enriched bone graft substitute

Dental Implant
Osteoinduction using bioactive glass

Plant Virus Hydrogel
Bone repair with osteoporotic animal models

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Biomaterials Translational is an electronic journal, which will be printed on demand of readers.

Biomaterials Translational is an international journal publishing research at the interface of translational medicine, biomaterials science and engineering. The journal publishes original, high-quality, peer-reviewed papers including original research articles, reviews, viewpoints and comments. Translational medicine is an interdisciplinary field that applies emerging new technologies and sciences to the prevention, diagnosis and treatment of human disease, with a particular focus on animal disease models in the application of biomaterials for treatments. Thus, the journal highlights breakthrough discoveries in basic science and clinical application of biomaterials, as well as other significant findings related to the translation of biomaterials.

The scope of the journal covers a wide range of physical, biological and chemical sciences that underpin the design of biomaterials and the clinical disciplines in which they are used.

Original articles will be considered for publication within, but not limited to, the following domains:

- Investigation of human biology and pathogenesis of diseases with potential applications of biomaterials in treatment
- Synthesis, characterization and biomedical potential of metallic, ceramic, polymeric, composite and hybrid biomaterials
- Physical, chemical, biological, pharmaceutical and toxicological features of biomaterials
- Drug and gene delivery system design, with a focus on its application to disease conditions
- Short-term and long-term biocompatibility of biomaterials
- *In vivo* disease models and the biology of the host response in application of novel biomaterials
- Biomaterials design for modern diagnosis and therapeutic clinical practice (bioimaging, biosensing, biotherapy)
- Stem cell–biomaterial-based tissue engineering

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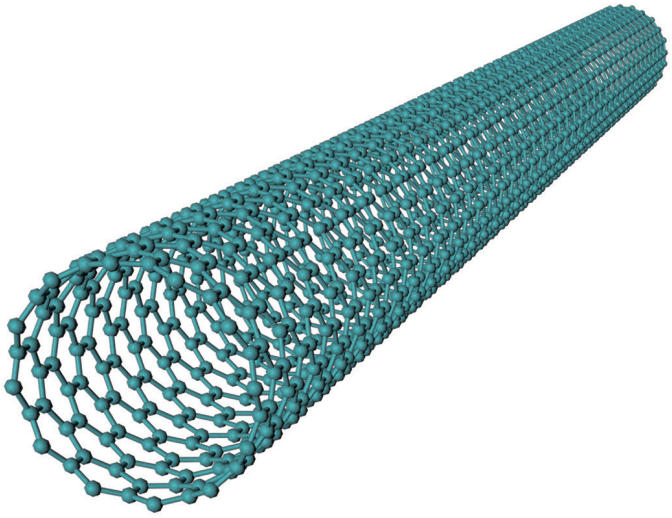

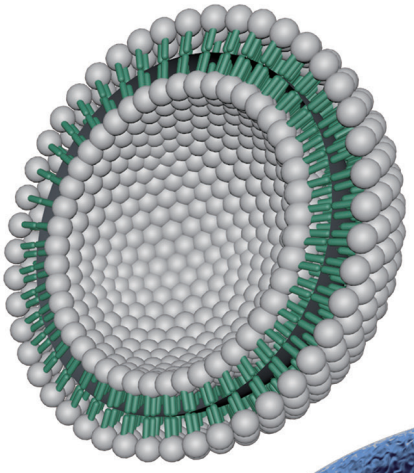

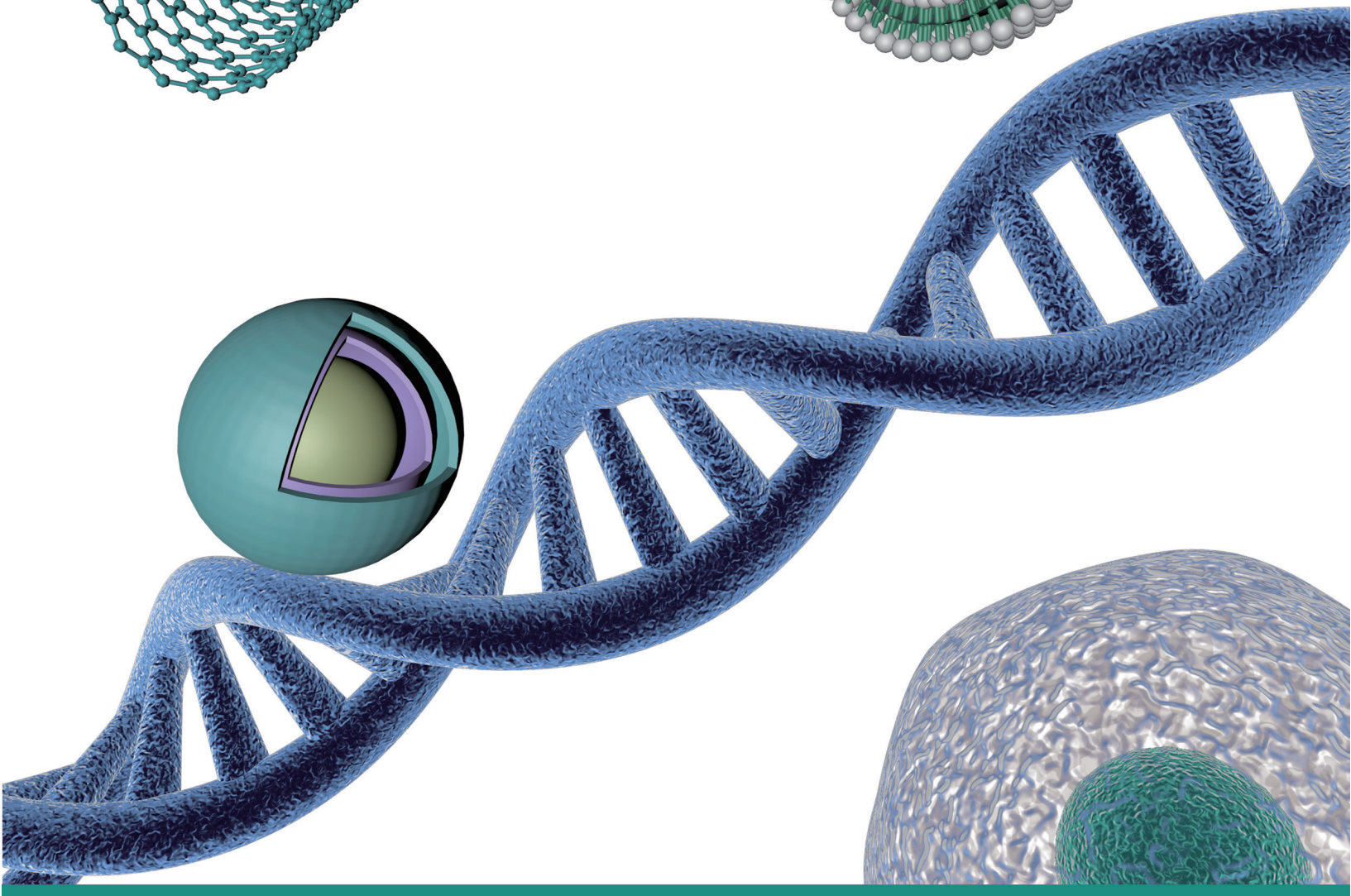

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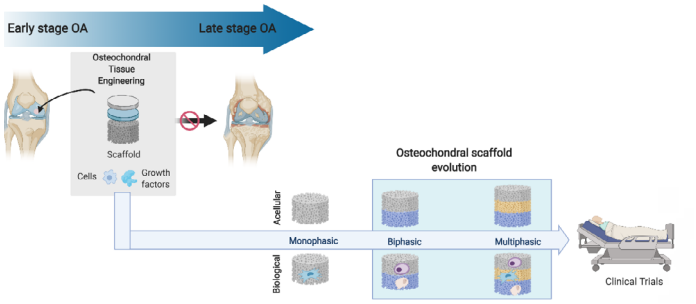
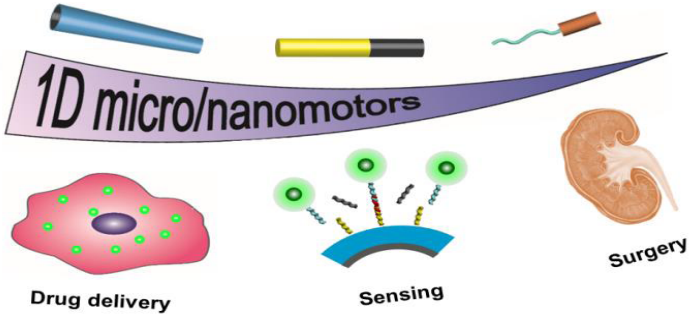
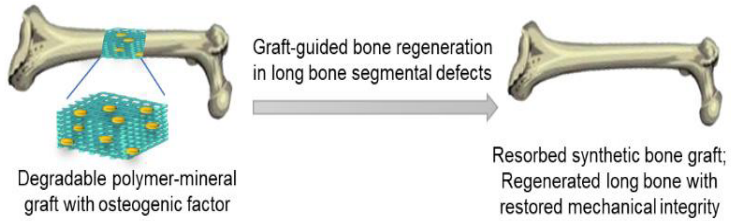


Osteoarthritis (OA) is a joint disease typified by the loss of cartilage and the changes in the underlying bone, leading to joint replacement. Osteochondral scaffold therapy has shown potential for treatment of OA at early stage to slow down its progression and delay the use of joint replacements.



One-dimensional (1D) micro/nanomotors are the most promising micro/nanomachines in biomedicine. We have summarized several design rules and fabrication strategies of 1D micro/nanomotors. The biomedicine applications of the motors in drug delivery, sensing and surgery from subcellar to *in vivo* level are discussed.



This review discusses major degradable polymers and their osteoconductive mineral composites as synthetic bone grafts for the regenerative reconstruction of critical-size long bone segmental defects. Emphases are given to the successes and limitations of synthetic bone grafts based on conventional and amphiphilic polyesters, polyanhydrides, polycarbonates and polyethylene glycol-based hydrogels.

RESEARCH ARTICLES