



## Carbon/Graphene-Enriched Biomaterials and Applications

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### Message from the Guest Editors

Dear Colleagues,

Graphene has recently emerged as a suitable alternative material for applications in biomedical and regenerative fields.

Graphene is a two-dimensional (2D) carbon-based material with  $sp^2$ -bonded carbon atoms arranged in a honeycomb lattice structure, with extraordinary electrical, mechanical, physical, and optical properties.

However, graphene has especially great potential in tissue engineering, conservative surgery, and regenerative medicine. Graphene and its derivatives have been widely investigated, since its discovery in 2004, to develop electrical and biomedical devices such as drug delivery systems, biosensors, and regenerative therapies.

The potential applications of graphene in biological systems are numerous and include its use in cell imaging and drug delivery as well as biosensors. Several reports have shown that, when grown on graphene-coated biomaterials, there is an increase of adhesion and proliferation of different cells. Moreover, it is widely recognized that graphene increases cell proliferation, and influences the differentiation of stem cells into certain cell lines.





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## Message from the Editor-in-Chief

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