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Abstract

Nanotechnology driven materials hosted all avenues of science for next-generation technology development. Nanomaterial synthesized by various approaches such as physical, chemical, and biological methods to achieve the defined shape, size, and morphology. Former two methods undoubtedly create high-quality nanomaterials with self-controlled and user-specific modifications in the synthesis procedure to optimize output. However, these methods are not environmentally sustainable and eco-friendly for bulk production. Biological systems created enormous scopes for eco-friendly and cheaper nanomaterial and a variety of nanomaterials has been produced in the last few years. This chapter summarizes some common biological systems such as bacteria, fungi, actinomycetes, algae, and plants used to produce various metallic and non-metallic nanomaterials and their biological applications.