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Abstract

Biomaterials Science: The Prospects of Research and Applications

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Abstract:

Human body, the most sophisticated tool of the planet with its marvelously intricate design, is an incomprehensible machine. There has been an endless striving towards medical treatment and biotechnology to regenerate and supersede severely damaged, paralyzed, or irreparable, tissues, organs, and bones. Used since antiquity, Biomaterials, which have seen a revolution in the 1970s, is recently witnessing an immense expanse and future research scope due to its wide range of properties and multi-approach classifications. Biomaterials science integrates the elements of biology, chemistry, material science, tissue engineering, biotechnology, instrumentation allowing the developments of medical devices such as orthopedics for joint replacements, ophthalmic in contact lenses, scaffolds for tissue regeneration, bioceramic in dentistry applications, prosthetics, and orthotics. Advanced research is being led in related areas of bioceramics, polymeric biomaterials, cell-biomaterial interaction, nano biomaterials, tissue engineering, and new synthesis and processing methodologies like Additive manufacturing. This poster presentation explores the developments and scope in the domain of biomaterial science.

Biography:

Nidhi Gupta is currently an undergraduate student pursuing her degree in Bachelor of Technology from Visvesvaraya National Institute of Technology, India. She strives to pursue research in the field of Materials Science, particularly the domain of Smart Materials, Nano-Materials, and Technology. Furthermore, she is exploring the area of Computational Materials Science and would like to contribute to the society through her skills and knowledge.

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