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HARNESSING BIOMATERIALS IN NANOMEDICINE

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Biomaterials are substances that are engineered to make them suitable for interaction with a biological system. Biomaterial constructs and self-assemblies have been explored for drug and protein carriers, cell engineering and tissue scaffolds or to manage the interactions between artificial devices and the body, just to make some examples of the more recent developments. Biomaterials involve not only synthetic materials (polymers, ceramics and composites) but also biological materials such as proteins, cells and tissues. The potential range of applications for biomaterials is rapidly increasing with different physical, mechanical and medical properties required for different applications. The appeal of protein-based fibers for biomedical applications stems from the fact that many proteolytic enzymes capable of degrading commonly used natural polymers are already present in the body. In the case of protein-based biomaterials, degradation of these materials leads to the production of amino acids that pose no risk and can be reabsorbed by the body. One of research interest is in fabricating protein nanofibers for medical purposes. They have developed protein nanofibers using electrospinning method for wounds induced in mice. These interesting studies in biomaterials will be presented during the presentation.

BIOGRAPHY

Asha Srinivasan completed her MSc and PhD from University of Bradford, UK. She was worked at Max Plank, Germany followed by her Postdoctoral Research at Thomas Jefferson University, USA. Currently, she heads PG program in Nanoscience and Technology at Department of Nanoscience and Technology, Faculty of Life Sciences, JSS Academy of Higher Education and Research, Mysore, India. Her area of research involves in the development of aerosol formulations for pulmonary delivery, development of nanoformulation of biologics especially antibody, harnessing biomaterials in nanomedicine and endocytosis of nanomedicine.

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