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**Electrospun Nanofibers for Neural and Tissue Engineering**

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Electrospinning has been exploited for almost one century to process polymers and other materials into nanofibers with controllable compositions, diameters, porosities, and porous structures for a variety of applications. Owing to its small size, high porosity, and large surface area, a nonwoven mat of electrospun nanofibers can serve as an ideal scaffold to mimic the extra cellular matrix for cell attachment and nutrient transportation. The nanofiber itself can also be functionalized through encapsulation or attachment of bioactive species such as extracellular matrix proteins, enzymes, and growth factors. In addition, the nanofibers can be further assembled into a variety of arrays or architectures by manipulating their alignment, stacking, or folding. All these attributes make electrospinning a powerful tool for generating nanostructured materials for a range of biomedical applications that include controlled release, drug delivery, and tissue engineering. This talk will focus on the use of electrospun nanofibers as scaffolds for neural and bone tissue engineering.