

## ABSTRACT SUBMISSION



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### **Silk in Biomedical and Healthcare Textiles**

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#### **ABSTRACT (NO MORE THAN 500 WORDS:)**

Biomedical and healthcare textiles using silk have been in routine clinical use to facilitate healing for many years, such as soft tissue repair, healthcare/hygiene products and related needs. Textile technology can be used to fabricate micro or nano fibrous materials for drug delivery applications. Silk fibroin (SF), a natural protein polymer exhibits excellent processability, mechanical properties, biocompatibility and biodegradability, and has been well studied for biomedical uses. SF can be produced into fibers, yarns and membranes, among other formats. Importantly, poorly water-soluble drugs loaded into water-soluble and water-insoluble fibrous SF fibers using electrospinning can be useful in tissue engineering and topical drug administration goals. In this work, two kinds of fibrous implants were fabricated using electrospinning technology. One is that a seamless drug-loaded fibrous membrane was electrospun onto the small tubular intestinal stent for treatment of intestinal cancers. The other is that a SF -based fibrous drug-loaded plug was electrospun for the treatment of Anal Fistula.