



Topic of the Speech:

Silk in Biomedical and Healthcare Textiles

Dr. Gang Li

College of Textile and Clothing Engineering,
Soochow University
China



Dr. Gang Li is currently a full associate professor at the National Engineering Laboratory for Modern Silk, Soochow University, P. R. China. Dr. Li studied at the Hong Kong Polytechnic University from August 2010 to August 2013 and obtained his Ph.D. in Biomedical textiles and Engineering. After graduate school, Dr. Li worked at the Textile Bioengineering Research Center (TBRC), ITC of the Hong Kong PolyU from August 2013 to June 2014 as a research associate. Prior to his current academic position, Dr. Li has been served at DuPont China Holding Co., Ltd. in Shanghai.

Dr. Li published over 80 academic articles and filed 24 patents between 2006 and 2019, including Biomaterials, Advanced Healthcare Materials and ACS Biomaterials Science and Engineering, etc., etc. Dr. Li presented talks, organized symposia and workshops at various international scientific conferences. His research interests focus on biomedical textiles using a combination of biomaterials, medical and textile engineering.

ABSTRACT SUBMISSION



-For invited speaker only

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Gang Li

College of Textile and Clothing Engineering, Soochow University, China

*Presenter's email: teligang@suda.edu.cn

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.