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## Recent trends in nanofiber innovations and commercial perspective

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Nanomaterials have shown a great deal of interest in nanotechnology field. The nanofibers among such materials emerged with greater impact in recent technological cutting-edge research development because of ease of production, light weight, breathability, biodegradability and three-dimensional structure. In general, insight into the applications of nanofibers as a new entrant in to current era that include water filtration, hazardous dye removal, tissue engineering, drug delivery, nerve regenerations along with other functional applications. A broader perspective about nanofiber production of nanofibers by electrospinning machine challenges. Our recent journey to development of innovative product and transforming into viable commercial products. Recent projects include recyclability of nanofibers, nanofibers for food safety, nanofibers used as water filtration and nanofibers for drug release. Some basic instruments such as for nanofiber morphology analysis Scanning Electron Microscope (SEM) or Transmission Electron Microscope (TEM), for chemical structure analysis, Fourier Transform Infrared Spectroscopy or X-ray Photoelectron Spectroscopy or Raman Spectroscopy has been used for crystallinity analysis wide angle X-ray diffraction has been used and for other solution measurements UV-Vis spectrophotometer has been used. Conclusively, several types of nanofibers can be manufactured by using different polymer solution on electrospinning machine. Different types of fibers have different physical and chemical characteristics, like morphology, biodegradability, recyclability, crystallinity, solubility and other characteristics. According to end use applications nanofibers can be composited or incorporated with any functional materials.

### Biography

Muzamil Khatri is PhD scholar at Shinshu University, Japan. He started his research in 2016 and has more than 10 publications and filed 1 patent. In the field of advanced nanomaterial research, his central focus has been the development of nanofibers for various applications. To accelerate research and innovation at the nanoscale, he has been contributing to work on biomedical, chemistry and reduction of health hazardous issue to get make environment greener.

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