

# Training on Electrospinning for Nanofibre Production & Its Applications



**January 23-25, 2018**

**Organized by**

**ICAR - Central Institute for Research on Cotton Technology (ICAR-CIRCOT)  
D.A.R.E., Ministry of Agriculture & Farmers Welfare, Govt. of India  
Adenwala Road, Matunga, Mumbai- 400019 (MH) INDIA**

## Introduction

The ICAR-Central Institute for Research on Cotton Technology (ICAR-CIRCOT), one of the premier constituent institutes of the Indian Council of Agricultural Research (ICAR), was established in the year 1924. The Institute is conducting research and development on all aspects of post-harvest technology of cotton and value addition to cotton by-product with following mandate:

- Basic and strategic research on processing cotton and its agro-residues, development of value added products and quality assessment
- Skill development and business incubation services and function as referral laboratory for cotton fibres.

The Institute has been conducting skill development programmes to propagate, encourage and guide entrepreneurs to successfully adopt and market commercially viable technologies and to equip people with best practices in cotton ginning, quality evaluation of cotton fibres and value addition to by-products.

## About the training programme

The technique of Electrospinning has evinced more interest and attention in recent years due to its versatility and potential for applications in tissue engineering, biosensors, filtration, wound dressings, drug delivery, and enzyme immobilization. The nanoscale fibers are generated by the application of strong electric field on polymer solution or melt. Electrospinning produces nanofibers from conducting polymers. The sub-micron range spun fibers produced by this process, offer various advantages like high surface area to volume ratio, tunable porosity and the ability to manipulate nanofiber composition in order to get desired properties and function. Electrospinning is one of the most preferred processes for production of nanofibers due to its varied advantages like cost effectiveness, zero effluent discharge, adaptability and scalability.

ICAR-CIRCOT is a pioneer institute in the field of nanotechnology with a decade of research experience in formulation of nano materials for variety of applications. The institute has established an electrospinning production facility and has well equipped laboratory for characterization of nano materials. Since there is a lot of scope for research in this area, the need was felt for sensitising the research community about the basics and advances in the field of electrospinning. Hence ICAR-CIRCOT is organising a three day training programme on "Electrospinning for Nanofibre production and its applications" primarily targeting the fundamentals of process, methods of electrospinning, optimisation and characterisation of electrospun materials. This programme will be useful to faculty members, students, research personnel from industry and academics.

## Objectives

- To acquaint participants about the basics of electrospinning.
- To impart knowledge on preparation and characterization of electrospun nanofibres.
- To demonstrate the various applications of electrospun nanofibres.



## Course content

- Basic principles of electrospinning
- Different configurations of electrospinning systems
- Process optimization
- Nanofibre characterization techniques
- Applications of electrospinning on textiles
- Applications of electrospinning in filtration, Sensing in agriculture.

## Facilities Available

- Biaxial electrospinning setup
- BET Surface area analyser
- SEM (Scanning Electron Microscope)
- AFM (Atomic Force Microscope)
- FTIR (Fourier Transform Infrared Spectroscopy)
- XRD (Xray powder Diffraction)
- AAS (Atomic Absorption Spectroscopy)

## Date and Venue

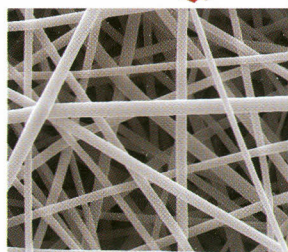
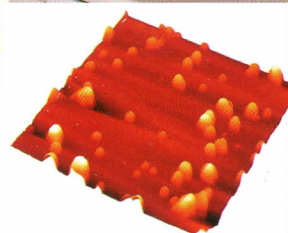
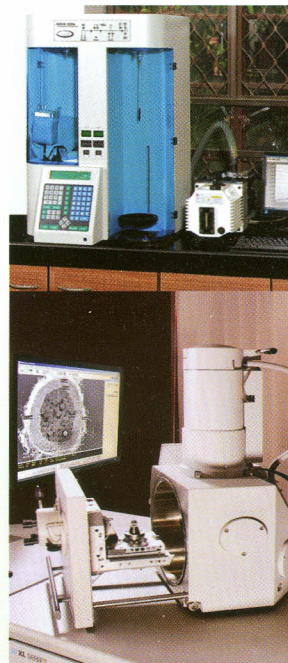
**January 23-25, 2018** at ICAR-Central Institute for Research on Cotton Technology (CIRCOT), Adenwala Road, Matunga (East), Near Five Gardens, Mumbai 400019.

## Accommodation

Guest house accommodation at ICAR-CIRCOT is limited and shall be provided at standard rate on first-come-first-serve basis in sharing basis (A/c) accommodation.

## Fees

The programme fee is Rs. 10,000 + service tax (as applicable) per person. The charges include course fee, course material, breakfast and working lunch. The fee does not include travel, lodging and conveyance and other personal expense. There is 50% concession for students, academicians and participants from NARS.





## How to apply

Interested participants may send their application in the prescribed format which is available on the website [www.circot.res.in](http://www.circot.res.in). The fee in the form of DD drawn/ at par Cheque in favour of “**Director, CIRCOT**” payable at Mumbai, may be sent to the below mentioned address so as to reach us on or before **16<sup>th</sup> January, 2018**. The Bank account details for NEFT transfer is given below:

Account Name	Director, ICAR-CIRCOT
Bank Name	State Bank of India, Commercial Branch, Dadar East, Mumbai – 400014
Account No.	10001710244
IFSC Code	SBIN0004114

## How to reach CIRCOT

From Airport (Domestic)	: 10 km
From Airport (International)	: 12 km
Nearest Railway Station	: Dadar (1.7 km)
Nearest Bus Stop	: Kopol Nivas on Dr. B.R. Ambedkar Road Matunga (E), and Five Gardens Bus Stop
Landmark	: Five Gardens, Matunga

## Organizers

Course Director	: Dr. P. G. Patil, Director, ICAR-CIRCOT
Course Coordinators	: Dr. R. Guruprasad, Scientist, MPD Dr. N. Vigneshwaran, Sr. Scientist, CBPD Dr. G. Krishna Prasad, Scientist, MPD Dr. T. Senthilkumar, Scientist, MPD

## Address for correspondence

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Designed by : Mrs. Laxmi Manoj Singh, YP-JJ,TTD