भाकृअनुप
ICAR

Celebrating 100 Years
ICAR-CIRCOT

ISO 9001:2015

ICAR-CIRCOT Training on

नैनो प्रौद्योगिकी के अनुप्रयोगों में उन्नतियाँ

Advances in Applications of Nanotechnology

(Self-Sponsored)

Date: Nov 10-14, 2025

Venue: ICAR-CIRCOT, Mumbai

Organized by

भा. कृ. अनु. प. – केंद्रीय कपास प्रौद्योगिकी अनुसंधान संस्थान

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 (MS) INDIA

Introduction

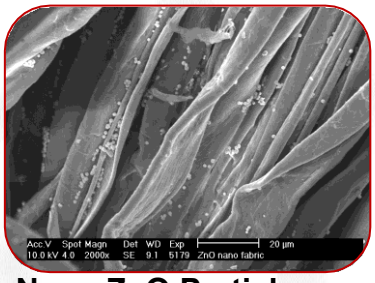
The ICAR-Central Institute for Research on Cotton Technology (ICAR-CIRCOT), one of the premier constituent institutes of the Indian Council of Agricultural Research (ICAR), was established in the year 1924. The Institute is conducting research and development on all aspects of post-harvest processing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

About the Training

Nanotechnology deals with the manipulation of atoms, molecules, or molecular clusters to create functional materials and devices with enhanced & desirable properties. The first use of the concept of 'nanotechnology' was in "*There's Plenty of Room at the Bottom*", a talk given by physicist ***Richard Feynman*** in 1959. ICAR-CIRCOT has done pioneering work in the field of nanotechnology and has developed more than two decades of experience and expertise in synthesis & characterization of nanomaterials and its application in textile finishing, fertilizers, biocomposites and pulp & paper. In 2015, ICAR-CIRCOT has established India's First Nanocellulose Pilot Plant at Mumbai. With this background, advanced trainings are being arranged to share the knowledge with diverse stakeholders. This training module, ***21st in the series***, is designed to impart basic and advanced knowledge of nanotechnology and its applications.

Objectives

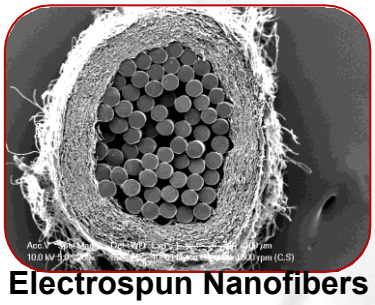
- ✓ To acquaint the participants with recent advances in the field of nanotechnology
- ✓ To impart hands-on training on synthesis & characterization of nanomaterials
- ✓ To demonstrate the application of nanomaterials in textiles, composites, pulp & paper, filtration, sensors, agriculture & allied sectors



Nano-ZnO Particles on Cotton Fabric

Course Contents

- Basics & Advances in Nanotechnology
- Synthesis of Nanomaterials (Methods: Physical, Chemical, Mechanical & Biological)
- Characterization of Nanomaterials
- Application of Nanomaterials in Textiles, Composites, Filtration, Paper and Agriculture
- Life cycle analysis of nanomaterials & Nanotoxicology
- Business Incubation opportunities in Nanotechnology



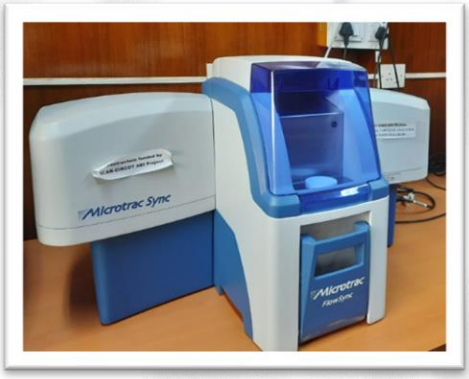
Electrospun Nanofibers on Nylon Filaments

Training Fee

- The training fee is Rs. 20,000 + 18% GST per person for industry participants and Rs. 10000 + 18% GST for students, academicians and participants from NARS, R&D Organizations, Institutions, Colleges and Universities. The fee includes programme fee, course material, breakfast, tea and working lunch. The fee does not include travel, lodging, dinner, conveyance and other personal expenses.
- Participants from NEH regions are exempted from paying fees. The entire expenditure of these participants, including travel (restricted to 3 tier AC), boarding & lodging will be borne by the Institute as per the guidelines of Govt of India.

Facilities Available

- High pressure homogenizer
- High energy Ball Mill and Vibratory mill
- Nanoparticle size analyzer (DLS)
- Atomic Force Microscope (AFM)
- Electrospinning and Electrospraying facilities
- High shear homogenizer
- BET analyzer, ICP-MS
- Fluorescence & Polarized Microscope
- Scanning Electron Microscope (SEM)
- Spectrofluorimeter
- FTIR, Raman Spectrometer
- Laser Diffraction Size Analyzer
- Textile processing, finishing & Characterization facilities
- Bio-Nanocomposites making & Characterization facilities
- Nanocellulose Pilot Plant



Particle size analyzer

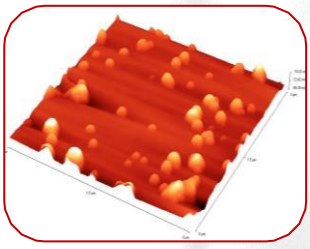
Nanocellulose Pilot Plant

Date and Venue

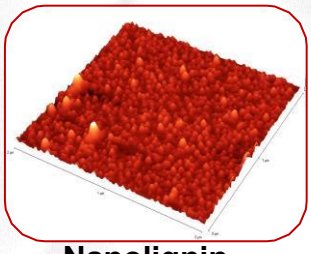
November 10-14, 2025 at ICAR- Central Institute for Research on Cotton Technology (CIRCOT), Adenwala Road, Matunga (East), Near Five Gardens, Mumbai 400019.

How to reach ICAR-CIRCOT, Mumbai

From Airport (Domestic)	: 10 km
From Airport (International)	: 12 km
Nearest Railway Station	: Dadar (1.7 km)
Nearest Bus Stop	: Kapol Nivas on Dr. B.R. Ambedkar Road, Matunga (East), and Five Gardens Bus Stop
Land Mark	: Five Gardens, Matunga (East) (Opp. Customs Quarters)
Google Map Link	: https://goo.gl/maps/fst1KuarqCnYA5T26



Nanocellulose



Nanolignin

Accommodation

Guest house accommodation at ICAR-CIRCOT, Mumbai is limited and sharing accommodation will be provided at standard rates, on first- come-first-serve basis.

Registration

Interested participants may submit their application in the prescribed format in google forms via the link - **https://tinyurl.com/circotnano2025**. Last date for Registration is Nov 5, 2025. The fee has to be paid to the below mentioned account by **NEFT transfer** OR, using **UPI ID**.

Account Name	**Director, ICAR-CIRCOT**
Bank Name	State Bank of India, Commercial Branch Dadar East,Mumbai 400014
Account No	10001710244
IFSC Code	SBIN0004114
UPI ID	**circot@sbi**

Organizing Committee

Programme Director : **Dr. S. K. Shukla,**
Director, ICAR-CIRCOT, Mumbai

Course Director : **Dr. N. Vigneshwaran,**
PS & Head In-charge, CBPD

Course Coordinators : Dr. D.M. Kadam, PS & Head, ETTD
Dr. A. K. Bharimalla, Principal Scientist
Dr. A. Arputharaj, Senior Scientist
Dr. T. Senthilkumar, Senior Scientist
Dr. G.T.V. Prabu, Senior Scientist
Dr. M. K. Mahawar, Senior Scientist
Dr. Kanika Sharma, Scientist

Nano-ZnO finished Cotton fabrics

Address for correspondence

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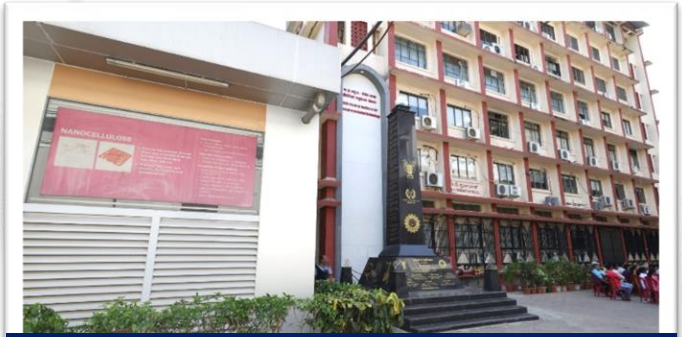
Principal Scientist & Head In-charge, CBPD
ICAR-Central Institute for Research on Cotton Technology
Adenwala Road, Matunga (E), Mumbai-400 019
Mobile No. : 08291478515 / 09702878249
Email : circotnano@gmail.com
Website : circot.icar.gov.in

NCC-Starch film for packaging



ICAR-CIRCOT, Mumbai

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