



**TRAINING ON
SPECTROSCOPIC & CHROMATOGRAPHIC
TECHNIQUES FOR MATERIAL
CHARACTERIZATION**



NOVEMBER 13-16, 2017



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 (MS) INDIA**

About the Institute

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-produce 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

Newer materials are being developed every day for diversified applications and to meet the consumer demand for improved performance. It is true even for the basic human needs of food and clothing. Food has to be nutritious and free from harmful substances such as heavy metals and pesticides. Similarly, textiles today not only meet the basic human need for clothing and fulfill various quality parameters but are also expected to have various functional characteristics such as anti bacterial, flame retardant, UV protective etc. The latter is achieved by application of various functional finishes and dyes to the fabrics using various auxiliaries and finishing agents in the process. At the same time, textile industries need to adopt environment friendly processing and fulfill various eco parameters in view of the concern for the environment and safety of the textile users. Spectroscopy and chromatography are the two modern techniques which prove to be very helpful in study and characterization of materials. Various forms of spectroscopy such as UV- Visible Spectroscopy, FTIR, Atomic Absorption Spectroscopy (AAS) are powerful tools in characterization of any materials. Chromatography on the other hand is a separation tool where compounds of interest present in a complex matrix are separated and then identified and characterized. A thorough knowledge of these methods is very much important for the personnel working in the industry, research and for students. This unique training programme on spectroscopic and chromatographic methods for material characterization has been designed by CIRCOT for the benefit of industry personnel as well as researchers to provide them hands on training and to acquaint them with the basics of these techniques and their applications.

Objectives

- To acquaint the trainees about basic and advanced spectroscopic and chromatographic methods for the characterization of materials including textiles
- To demonstrate and to provide hands on training on various analytical techniques

Course content

- An overview of spectroscopic and introduction to chromatographic techniques used in characterization of materials
- UV-Visible spectroscopy and its application
- Concept of colour, colour coordinates, colour difference and its measurement using reflectance spectrophotometer
- Application of FTIR spectroscopy for chemical group characterization
- UV transmittance measurement and its use in determination of UPF
- Atomic Absorption Spectroscopy (AAS) for analysis of heavy metals
- Basics of HPLC, its operation and applications
- GC-MS and its application in material characterisation

Facilities Available

- UV – Visible spectrophotometer
- Computerized Color Matching System
- FTIR
- UPF analyzer
- Atomic Absorption Spectrophotometer
- HPTLC
- HPLC
- Gas Chromatograph (GC)
- Gas Chromatograph-Mass Spectrophotometer (GC-MS)

Date and Venue

November 13-16, 2017 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. 12,000 + 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

The interested participants may send their application in the prescribed format which is available on the website 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 **November 6th, 2017**. The bank account detail 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
NEFT IFSC	SBIN0004114

How to Reach CIRCOT

From Airport (Domestic) : 10 km
From Airport (International) : 12 km
Nearest Railway Station : Dadar (1.7km)
Nearest Bus Stop : Kapol Nivas, Dr. Ambedkar Rd, Matunga East, Five Gardens bus stop
Landmark : Five Gardens, Matunga

Organizers

Course Director : Dr. P. G. Patil, Director, ICAR-CIRCOT
Course Coordinator : Dr. Sujata Saxena, Principal Scientist, Head I/c, CBPD
Course Co-coordinator : Dr. A. S. M. Raja, Sr. Scientist, CBPD
Dr. Virendra Prasad, Sr. Scientist, CBPD
Mr. A. Arputhraj, Scientist, CBPD

Address for Correspondence

Er. Ashok Kumar Bharimalla
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