

STAI

SEMINARS ON TECHNOLOGICAL ADVANCES AND
INNOVATION



**TRANSMISSION
ELECTRON
MICROSCOPY FACILITY
@TIFR MUMBAI**

**Bhagyashree Chalke
Rudheer Bapat**



**TATA INSTITUTE OF FUNDAMENTAL RESEARCH
MUMBAI**

APR

16th

2024

TIFR H Auditorium 16:00 Hrs

Transmission Electron Microscopy facility @TIFR Mumbai

Bhagyashree Chalke

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TIFR MUMBAI

Transmission Electron Microscope (TEM) is a vital tool for material characterization. Crystal structure realization, defect analysis, compositional analysis can give an in-depth information from the samples which in turn helps in designing novel materials, optimizing synthesis process. In-situ TEM studies carried out on samples by applying external electric field, magnetic field, heat etc can help to study real time dynamics in the sample.

In this talk we will try to give an overview of TEM facility at TIFR Mumbai. In TIFR Mumbai campus we have TECNAI 20 TEM, aberration corrected TITAN TEM with Energy Dispersive Spectrometer (EDS) and Electron Energy Loss Spectrometer (EELS) accessories for analytical studies. We will also discuss about TEM sample preparation which is extremely important to get the desirable results. In the first half we will talk about the specifications, accessories, various operating modes, techniques in TEM and in the second half we will give examples of published works of samples studied using these microscopes.

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Tea/Coffee 15:45 Hrs