



MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY
JAIPUR

Department of Physics
TEQIP sponsored

“Online Workshop on Surface Spectroscopic Techniques”

Dated: 8 - 12th June, 2020

Online mode: through Google Meet

Aim and scope of the workshop

This workshop is primarily organized for PhD, Post Graduate and Undergraduate students of MNIT Jaipur to disseminate knowledge about the various surface sensitive characterization techniques such as X-ray Photoelectron Spectroscopy (XPS), Auger Electron Spectroscopy (AES), Rutherford Backscattering Spectrometry (RBS) etc.

XPS is a versatile technique used to precisely determine the elemental composition and chemical environment of the samples by measuring the kinetic energy of the photoelectrons. AES is another surface sensitive technique based upon the Auger Effect, which enables the users to have indepth profiling of the samples. RBS is a spectroscopic analytical technique that uses the backscattering of high energy ion beams from the samples to determine the structure and composition of thin film samples.

The aim of this workshop is to introduce students to these surface spectroscopic techniques so that they can use this information to characterize their samples. In addition to the fundamental knowledge, technical aspects and practical problems will also be discussed during the workshop. Analysis of the XPS data will be demonstrated by CasaXPS processing software.

The workshop will include **2 hours** online lectures and **2-3 hours** of assignments and discussion on the related topics.

The tentative time schedule of the workshop is given below.

Date/Time	Title
08.06.2020 (11:00 am - 1:00 pm)	Introduction to materials surfaces/interfaces and their characterization
09.06.2020 (11:00 am - 1:00 pm)	X-ray Photoelectron Spectroscopy: Qualitative and quantitative analysis
10.06.2020 (11:00 am - 1:00 pm)	Characterization and depth profiling by Auger Electron Spectroscopy
11.06.2020 (11:00 am - 1:00 pm)	Rutherford Backscattering Spectroscopy
12.06.2020 (11:00 am - 1:00 pm)	Interactive session on characterization of surfaces in characterization techniques

There are **no participation fees**, and the maximum number of participants is **limited to 40 students only**. The participants will be selected based upon their **statement-of-purpose** filled in the registration form before 5th June, 2020. A performance **report/certificate** will be issued to the **successful candidates**. Candidates can send applications to the contact person.

Contact person: Dr. Rajnish Dhiman (rajnish.phy@mnit.ac.in)

Co-ordinators:

Prof. S. K. Sharma, Dr. Rajnish Dhiman, Dr. Rahul Singhal