

CSIR-NCL Integrative Skill Initiative

Skill development Course in

Basic to Advanced Training in Infrared (IR) Spectroscopy



Course Code: SDP-NCL11

Duration: 12th to 30th Mar, 2018, 3 Weeks

Number of Participants: 20-30

Eligibility: M. Sc., M. Pharm., B. E.,
B. Tech., M. E., M. Tech.

Course Fees:

- Students: Rs.10,000/-
 - Faculties: Rs. 25,000/-
 - Industry Participants: Rs. 50,000/-
(Fee includes breakfast, tea and lunch)
- Accommodation (Three weeks + 2 days):
- Students: Rs. 500/-
 - Faculty/Professionals: Rs. 1000/-
- Participants can make payment either by DD or online transfer. For details see SDP website

How to Apply

Application form is available at
(<http://www.ncl-india.org/files/SDP/Default.aspx>)

Mailing Address

Coordinator,
CSIR-NCL Skill Development Program,
CMC Division, CSIR- National Chemical
Laboratory, Dr. Homi Bhabha Road,
Pune-411008, India.

Email: ncl.sdrc@ncl.res.in
(Application will also be accepted by email)

About the course: Infrared (IR) spectroscopy is an extremely powerful tool to characterize the functional groups in molecules. IR spectroscopy is widely used in industry as well as in academic research. It is a simple and reliable technique for measurement, quality control and dynamic measurement. It is also employed in forensic analysis - in civil and criminal analysis. In this course, we will learn about IR spectroscopy – from the basic principles to data analysis. Hands on training of recording IR spectra using a spectrometer in the solid as well as liquid samples will be provided. Furthermore, methods of analysis (baseline subtraction, curve-fitting, multi-peak fitting, deconvolution, etc.) of the IR spectra will be discussed. Hands on training on the same will be provided on training data-sets. After completing the course the candidate will be able to record, analyse, and interpret the IR spectra independently.

Course Content: basic principles of IR spectroscopy, Lambert-Beer law, operating principles of IR spectrometer, demo of IR spectrometer, recording IR spectra (hands on training), methods of IR spectral analysis (baseline subtraction, curve-fitting) on training data-sets, multi-peak fitting, line-shape analysis, deconvolution, advanced concepts and applications.

Course Instructors: Dr. Sayan Bagchi and team

