

# CSIR-NCL Integrative Skill Initiative



## Online Skill Development Course in Industrial Catalysis



**Online Course Code: SDP-NCL-CAT-01**

Duration: **17<sup>th</sup> to 19<sup>th</sup> March, 2021** (3 days)

Number of Participants: **30 Max.** (10 participants in each category); **First come first serve.**

Eligibility: **M. Sc., B. E., M. E.**

Course Fees for different categories :

- **Students: Rs. 1,000/-**
- **Faculties: Rs. 5,000/-**
- **Industry Participants: Rs. 25,000/-**

Participants can make payment by DD only. For details see SDP website

**About the course:** Catalysts are the workhorses of chemical transformations in the industry. Approximately 85–90% of the products of chemical industry are made in catalytic processes. A catalyst offers an alternative, energetically favorable mechanism to the noncatalytic reaction, thus enabling processes to be carried out under industrially feasible conditions of pressure and temperature. Main aim of the present course is to give in depth knowledge on theory and visualization of industrial catalysis such as catalyst synthesis; catalyst characterization; batch and continuous reactions, with online /offline product analysis.

**Online Course Content:** Introduction to catalyst; types of catalysts; homogeneous and heterogeneous catalyst limitations; different types of heterogeneous catalysts used in industrial batch and continuous processes; visualization and hands on experience on catalyst synthesis; types of synthesis methods and facility used; catalyst formulation; different types of catalyst characterization techniques; type of information generated from each characterization; interpretation of catalyst characterization to establish physico-chemical properties. The course will also extend to add on knowledge in homogeneous catalysis; theory and hands on experience in computational chemistry.

**Course Instructors:** Scientists from Catalysis & Inorganic Chemistry Division, CSIR-NCL

**Application form is available at**

<http://www.ncl-india.org/files/SDP/Default.aspx>

### Mailing Address

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