



CSIR-INDIAN INSTITUTE OF PETROLEUM
(Council of Scientific & Industrial Research)
P.O. IIP Mohkampur, Haridwar Road,
Dehradun-248 005, Uttarakhand (India)
Website: www.iip.res.in



Basic Hands-on Training on 'Bioreactors'

Introduction

With experienced and qualified staff and comprehensive state-of-the-art R&D facilities the institute maintains its leading position in conducting training programs for the personnel from refining industry, petrochemical industry, automotive sector, power plants and related user industry. More than 8000 personnel from India and abroad have been trained on different requirements.

As per the initiatives taken by the institute under CSIR-IIP Integrated Skill Development Training Programs' applications are invited from eligible **Uttarakhand state residents only** for training program on '**Hands-on Training on Bioreactors**', sponsored by **Uttarakhand State Council for Science & Technology (UCOST)**. Our bioprocess laboratory is equipped with range of bench scale autoclavable / in-situ stir tank fermenters, airlift fermenter with automated control system.

Objectives & Scope

Training is aimed at providing in-depth knowledge and hands-on training experience on wide range of instruments/ techniques used in a biotechnology research laboratories /industries for the microbial bioprocess development.

Contents

Theory :

- Introduction to industrial biotechnology
- Fundamental and principles of bioreactors

Practical :

- Understanding of bioreactor
- CIP and SIP of bioreactor
- Preparation of reactor for operation
- (probe calibration)

Practical (continued):

- Optimization of bioreactor parameter for scale up
- Inline / online / offline analysis of parameters during process
- Feeding strategy (Fed batch/ continuous operation)
- Cell harvesting
- Continuous centrifugation
- Extraction of intracellular product through high pressure homogenizer

After successful completion

A person will be able to handle the equipment regularly used in bioprocesses like various fermenters (auto-clavable / in-situ), allied utilities like, compressor, chiller, boiler, fermenter operating software (SCADA), operating probes, centrifuges etc.

Pre-requisites

No pre-requisites beside Educational qualification being **B.Tech / M.Tech / M.Sc (in Biotech / Life Sciences)** or **M.Pharm**
20 - 35 years of age.
(Age/qualification relaxation as per Govt. of India Rules/discretion of Director, CSIR-IIP).

Who Should join

Uttarakhand resident, new to the Biotech industry, having desire to develop career in the Bioprocess development /Scale-up research area.

Salient features of the program

- Theory: Practical :: 25 : 75
- Interactive sessions for in-depth knowledge sharing.
- Evaluation of trainees will consist of both Theory & Practical component.
- Certificates /Skill cards will be awarded on successful completion of the training

How to Apply & Selection

- Candidates have to apply as per the application format in the given link below along with one set of self-attested documents attached(Hard copy of application).
- Selection of the candidates will be based on merit & interview (if required) to meet suitability for the course.
- All documents in original to be shown at the time of interview / enrolment.

Form download PDF [Form19](#)

Form download MS Words [Form19](#)

Please send hard copy of application and documents at following address:

Sh C D Sharma,
Co-ordinator, Skill Development Training Program
CSIR-Indian Institute of Petroleum
Mohkampur, Haridwar Road
Dehradun-248005

You may also correspond, send soft copy of application at following e-mail:

e-mail: cdsharma@iip.res.in, skill@iip.res.in

e-mail: aniljain@iip.res.in

Contact phone nos.

Sh C D Sharma, Tel No 0135-2525950(O), M- 9412028789, 8630808928
Dr Anil K Jain, Tel 0135- 2525751(O), M-9897119578

Training venue :

CSIR-Indian Institute Of Petroleum
P.O.: IIP Mohkampur, Haridwar Road, Dehradun-248 005, Uttarakhand (India).

No TA/DA and accommodation for interview will be provided to the candidates.

Important dates

Last date for submission of Application	:	08/01/2020
Declaration of participant	:	13/01/2020
Enrolment dates	:	14/01/2020
Commencement of course	:	15/01/2020

CSIR-Indian Institute of Petroleum, Dehradun