



## 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](http://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, petrochemical, automotive, power 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 for 'CSIR-IIP Integrated Skill Development Training Programs' applications are invited from eligible Indian nationals for the program on 'Hands-on Training on Bioreactors'. 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 besides Educational qualification being B.Tech/M.Tech/M.Sc/B.Pharm/M.Pharm ( those appeared in the final exam may also apply )  
**20 - 45** years of age.  
(Age/qualification relaxation as per Govt. of India Rules/discretion of Director, CSIR-IIP).

#### Who Should join

**Any Indian citizen** new to the Biotech industry, having desire to develop career in the Bioprocess development /Scale-up research area .

Salient features of the program	
<ul style="list-style-type: none"> <li>• Theory: Practical :: 25 : 75</li> <li>• Interactive sessions for in-depth knowledge sharing.</li> <li>• Evaluation of trainees will consist of both Theory&amp; Practical component.</li> <li>• Certificates /Skill cards will be awarded on successful completion of the training.</li> </ul>	
Contact for Registration	Course Fees / Terms and Conditions
<p>Please send hard copy of application and documents at following address:</p> <p><b>Sh C D Sharma</b>  <b>Co-ordinator, Skill Development Training Program</b>  <b>CSIR-Indian Institute of Petroleum</b>  <b>Mohkampur, Haridwar Road</b>  <b>Dehradun - 248005</b></p> <p>You may also correspond, send soft copy of application at following e-mail:</p> <p><b>e-mail: cdsharma@iip.res.in</b>  <b>e-mail: aniljain@iip.res.in</b></p> <p>Contact phone nos.  <b>Sh C D Sharma, Tel No 0135-2525778, M- 9412028789,</b>  <b>Dr Anil K Jain, Tel 0135- 2525751(O), M-9897119578</b></p>	<p>A non-refundable course fee of Rs.15000/-(Rupees Fifteen Thousand only) for Student/unemployed candidate and Rs.75,000/-(Rupees Seventy Five Thousand only) for Company sponsored candidate to be paid at the time of admission.</p> <p>Course Fee shall be paid through E-payment option.</p> <p><b>Bank Account Details facilitating e-transfer of Payment</b></p> <p><b>Name of Bank : State Bank of India</b>  <b>Name of the account holder : Director, Indian Institute of Petroleum, Dehradun.</b>  <b>Bank Account No : 30266912400</b>  <b>Branch : IIP Township, Mohkampur, Dehradun, India</b>  <b>Contact Person : Dr. Anil K Jain,</b>  <b>e-mail : aniljain@iip.res.in</b></p> <p><b>SWIFT Code : SBININBB380</b>  <b>11 Digit IFS Code : SBIN0002359</b>  <b>MICR No. : 248002007</b>  <b>GSTIN : 05AAATC2716R2ZK</b></p>
How to Apply & Selection	
<ul style="list-style-type: none"> <li>• Candidates have to apply as per the application format in the given link below.</li> <li>• Selection will be made based on criteria after scrutiny of applications.</li> <li>• All documents in original to be shown on the interview/ selection day and one self-attested set of documents to be submitted on the date of interview/selection</li> </ul> <p>Form download (PDF) <a href="http://www.iip.res.in/skill/form18.pdf">http://www.iip.res.in/skill/form18.pdf</a>  Form download (MS Word) <a href="http://www.iip.res.in/skill/form18.doc">http://www.iip.res.in/skill/form18.doc</a></p> <p><b>Training venue : CSIR-Indian Institute Of Petroleum</b>  P.O.: IIP Mohkampur, Haridwar Road, Dehradun-248 005, Uttarakhand (India).  No TA/DA and accommodation for interview will be provided to the candidates.</p>	
Important dates	
<b>Last date for submission of Application</b>	<b>: 13/02/18</b>
<b>Declaration of participant</b>	<b>: 15/02/18</b>
<b>Enrolment dates</b>	<b>: 16/02/18</b>
<b>Commencement of course</b>	<b>: 19/02/18</b>
CSIR-Indian Institute of Petroleum, Dehradun	