Centre of Excellence
Biopharmaceutical
Technology

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Ignite Innovate Incubate

सत्यमेव जयते
DEPARTMENT OF BIOTECHNOLOGY
Ministry of Science & Technology
Government of India

nbm
NATIONAL BIOPHARMA MISSION

BCIL

Hands on Training-
Harvest Technologies for Biopharmaceuticals

Description: As we move into the century of biology, the two breakthroughs hybridoma technology and recombinant DNA technology have served as the genesis of the modern biotech era. Harvest technologies serve as a bridge between upstream and downstream units, thereby enabling efficient large-scale production of recombinant protein. Type of clarification technique would depend on the type of expression system used (E. coli/CHO/P. pastoris). Techniques like Depth filtration, Micro filtration, alternating tangential flow filtration (ATF), Acoustic Wave Separator (AWS) and centrifugation help to remove cell debris from the protein rich supernatant and. This two-day course work organized by the DBT Center for Biopharmaceutical Technology and National Biopharma Mission at IIT Delhi will broadly cover important cell clarification topics including cell clarification using depth and microfiltration, ATF and AWS technology and will also include hands on training on some of the key techniques.

Outline:

Day 1 (21 – 06 – 2022)		
Timing	**Session 1**	**Teaching Faculty**
8:30 - 9:00	Breakfast	
9:00 - 10:00	Lecture 1: Introduction to Harvest Technologies	Ankur Bhatnagar (Biocon)
10:00 - 10:30	Lecture 2: Depth filter technologies	Garima Thakur (CBT, IIT Delhi)
10:30 - 11:00	Lecture 3: Clarification by Depth filtration (DF)	Merck
11:00 - 11:15	Tea Break	
11:15 - 12:00	Lecture 4: Clarification by Microfiltration (MF)	Merck
12:00 - 13:00	Lecture 5: Introduction to Cellicon (Cell retention device)	Merck
13:00 - 14:00	Lunch	
Session 2		
14:00 - 18:00	Hands-on Training (7-8 members in each group) Group 1: MF and DF technology with Pmax optimization Group 2: Cellicon device with controller	CBT, IIT Delhi & Merck
18:00 - 19:00	Dinner	

Day 2 (22 – 06 – 2022)		
Timing	**Session 1**	**Teaching Faculty**
8:30 - 9:00	Breakfast	
9:00 – 13:00	Hands-on Training (7-8 members in each group) Group 1: Tangential Flow Depth Filtration (TFDF) Group 2: Alternating tangential flow filtration (ATF)	CBT, IIT Delhi & Repligen
13:00 – 14:00	Lunch	
Session 2		
14:00 – 15:00	Lecture 1: Introduction to ATF	Repligen
15:00 – 16:00	Lecture 2: Introduction to TFDF	Repligen
16:00 - 16:30	Lecture 3: Acoustic wave separation (AWS) for CHO cell clarification	Shantanu Banerjee (CBT, IIT Delhi)
16:30 – 17:30	Lecture 4: Latest development in mammalian cell culture process and harvest technologies	Rahul Bhambure (NCL, Pune)
17:30 – 18:00	Discussion and Wrap-up	