



**UNU
BIOLAC**

Instituto de Biotecnología
UNIVERSIDAD NACIONAL AUTÓNOMA DE MÉXICO



CALL FOR APPLICATIONS 1st IBt-UNAM & UNU-BIOLAC INTERNATIONAL WORKSHOP

BIOPROCESS WITH RECOMBINANT MICROORGANISMS

**FERMENTATION, RECOVERY AND PURIFICATION
FULL FELLOWSHIPS**

MAIN GOAL: TO PROVIDE PRACTICAL AND INTEGRAL TRAINING THROUGH THE DEVELOPMENT OF A SUBMERGED FERMENTATION PROCESS AT PILOT SCALE, USING A RECOMBINANT MICROORGANISM, AS WELL AS THE MAIN DOWNSTREAM RECOVERY AND PURIFICATION OPERATIONS.

FROM 1st TO 7th JUNE, 2025 @ PILOT PLANT - IBt -UNAM- CUERNAVACA, MORELOS, MÉXICO

ADDRESSED TO:

PROFESSIONALS, TEACHERS, AND GRADUATE STUDENTS OF CHEMICAL AND BIOCHEMICAL ENGINEERING, FOOD INDUSTRY, CHEMISTRY, BIOLOGY, PHARMACY, MEDICAL, AND RELATED AREAS TO BIOTECHNOLOGY, WHO HAVE BASIC THEORETICAL KNOWLEDGE OF FERMENTATION AND WISH TO OBTAIN PRACTICAL KNOWLEDGE IN BIOPROCESSES.

COURSE-WORKSHOP SYNOPSIS:

IN THIS COURSE, PRACTICAL PRODUCTION OF AN INTRACELLULAR ENZYME AT A PILOT SCALE USING A RECOMBINANT BACTERIA WILL BE DEVELOPED.

THE PROCESS STARTS WITH A FREEZE-DRIED CULTURE, GOING THROUGH THE PROPAGATION OF THE STRAIN (FROM FLASK TO A 10L FERMENTER), CULTIVATION IN A 30 L BIOREACTOR AND FINALIZING WITH THE HARVESTING AND PARTIAL PURIFICATION OF THE ENZYME.

ALONG THE PRODUCTION PROCESS, THE PRODUCTION KINETICS, DISSOLVED OXYGEN DEMAND, GROWTH AND SUBSTRATE CONSUMPTION WILL ALSO BE DETERMINED. IN THE EXTRACTION AND PURIFICATION PROCESS, THE DATA WILL BE RECORDED TO CALCULATE YIELD BALANCES AND RATES OF INTEREST PARAMETERS IN EACH OF THE OPERATIONS AND IN THE WHOLE PROCESS.

THE COURSE ALSO INVOLVES A FINAL SESSION OF ANALYSIS AND DISCUSSION OF RESULTS.

OFFICIAL LANGUAGE: SPANISH

More information at:



leobardo.serrano@ibt.unam.mx
veronica.albiter@ibt.unam.mx



www.ibt.unam.mx



(52 55) 5622 7630

1st INTERNATIONAL COURSE-WORKSHOP

BIOPROCESS WITH RECOMBINANT MICROORGANISMS

FERMENTATION, RECOVERY AND PURIFICATION



UNU
BIOLAC



Instituto de Biotecnología
UNIVERSIDAD NACIONAL AUTÓNOMA DE MÉXICO



THEORETICAL ASPECTS:

- CONSTRUCTION OF RECOMBINANT MICROORGANISMS (THEORY AND PRACTICAL).
- KINETICS AND ENGINEERING OF STERILIZATION OF THE CULTURE MEDIUM.
- MICROBIAL KINETICS, MODELS FOR BIOMASS, PRODUCT AND SUBSTRATE.
- EXTRACTION AND PURIFICATION OF PROTEINS.
- DEVELOPMENT OF INDUSTRIAL FERMENTATION PROCESSES WITH RECOMBINANT MICROORGANISMS.

FELLOWSHIP INCLUDES: TRAVEL TICKETS, HOUSING AND MEALS, COURSE CERTIFICATE, NOTES, HANDS-ON WORK, THEORETICAL & DISCUSSION SESSIONS.

LENGTH: 60 HOURS (FROM SUNDAY TO SATURDAY)

UP & DOWNSTREAM OPERATIONS:

ESTERILIZATION, FERMENTATION, CENTRIFUGATION, CELLULAR RUPTURE, IONIC INTERCHANGE CHROMATOGRAPHY, FREEZE-DRYING.

APPLICATIONS FOR FELLOWSHIPS

APPLICATION FILE MUST INCLUDE:

Letter of motivation
2 letters of recommendation
Curriculum vitae

Send application file to:

Dr. Leobardo Serrano Carreón

Email: leobardo.serrano@ibt.unam.mx

Application dates: March 17th to March 28th 2025