



Fermentation & Cell Culture Workshop

This Workshop will provide an insight and overview into the fundamentals of Bioreactors and Fermentation Technology for both experienced individuals and those with a rudimentary understanding of the processes. The program will provide Product and Process learning experiences through lectures and hands-on laboratory exercises with emphasis on control systems and overall design of traditional unit operations. It will provide the end-user a better understanding of the biological process of Bacterial Fermentation and the operating parameters within the process. Attention is directed to the latest product technologies.



Main lecture topics:

- Fermentation, Cell Culture and Genetic Engineering basic concepts.
- Fermentor and Bioreactor control systems overview including measurement and scalability concepts.
- Operate equipment and learn of developments in re-usable and disposable fermentation technologies.

First Day Lecture Only (\$495) / Full Four (4) Day Workshop with Day 1 of Lectures and Days 2-4 of hands-on lab exercises (\$1,995). Handouts and workshop materials will be provided.
Breakfast, breaks and lunch are included.

RATIONALE:

Attendees will learn the latest developments in Bioreactor and Fermentation products and applications. Practical lab exercises and illustrations will teach the participants the 'How-to' apply these technologies on their projects and process operations.

TARGET AUDIENCE:

R&D Personnel, PD Engineers /Scientists, Pilot- plant Operations, Protein Purification Staff.

**FOR MORE INFORMATION, PLEASE SEE OUR WEBSITE: <http://bdtc-pr.com>
e-mail: training@bdtc-pr.com Tel. 787-806-4100 Fax 787-806-4008**



Objectives:

- Identify basic requirements and standard measurements needed for process optimization in fermentation /cell culturing.
- Describe examples of Biotechnology Produced Products
- Consider concepts of designing small-scale experiments that reflect large scale processes for improvement and optimization.
- Identify relevant applications and optimize the scale-up process from R&D to Production.
- Understand the latest designs in re-usable and disposables technologies.
-



Mark Trotter, M.Sc., M.B.A
Trotter Biotech Solutions

Mr. Trotter, with over twenty years experience in the pharmaceutical and life science industries, has a broad range of work experience, from Pharmacologic chemistry R&D project leader in academia to Marketing Management with laboratory & process equipment manufacturers. He is a member of PDA, ASM (American Society of Microbiology) Society for Biologic Engineering and ISPE.



José M. Bruno-Bárcena
Assistant Professor Department of Microbiology and Bio-manufacturing Training & Education Center (BTEC) NC State University

Dr. Bruno, an assistant professor in the NCSU, Microbiology Department, and a teaching assistant professor with BTEC, is an upstream bioprocess development specialist with over 14 years of experience in team building and management, academic research, design of pilot plants and process development laboratories (up to 500 liters) including analytical and process equipment identification and operation.



Zuleika Sanoguet, MS, Biochemistry
Bioprocess and Development Training Complex

Mrs. Sanoguet, our training technician has 8 years of experience in research and development using fermentors for expressing proteins in bacteria. Her experience also included downstream processing and protein characterization with FT-IR Spectroscopy. Publications in protein characterization and seminars in upstream and downstream processing include some of her accomplishments.