

MICROBIAL FERMENTATION WORKSHOP

August 16 - 18, 2017 | San Diego, CA | \$1995

Developed in partnership between UC San Diego's Biological Sciences division and UC San Diego Extension, this 3-day workshop is designed to provide a deep dive into bioreactor principles and bioprocess development. You will be equipped with the fundamental knowledge and practical skills needed to design, develop, optimize, control, scale-up, analyze, and troubleshoot your fermentation processes. Five interactive case studies allow attendees to practice what they have learned. The "Fermentation Firing Line" provides a lively, open ended forum for attendees to pose questions to the instructional team on any fermentation-related subject.

Workshop Objectives:

- Understand the biological principles behind microbial metabolism, growth, and genetic modification
- Understand the principles behind bioreactor design, operation, monitoring, control, and scale up
- Learn how to improve fermentation performance through statistical design and analysis of experiments
- Learn a structured approach to downstream bioprocess design
- Learn how to carry out economic analysis of bioprocess operating and capital costs
- Learn how to solve real-world, industrial fermentation problems

Who Should Attend?

The workshop is intended for scientific, engineering, and business professionals with some prior fermentation-related experience who wish to expand their current knowledge; add essential tools for fermentation design, development, and scale-up; and improve their ability in practical problem solving.

Speakers

James Golden, Ph.D.
Professor, Molecular Biology
UC San Diego

Jeff Lievens, Ph.D.
Senior Advisor to the CEO,
Bioengineering & Technology
Genomatica

Michael Japs
Senior Director, Process Technology
Genomatica

Jon Hansen, Ph.D.
Principal
New Leaf Biotech, LLC

Tim Dodge, M.S.
Senior Staff Scientist
Dupont Industrial Biosciences

Jason Ryder, Ph.D.
Vice President, Process R&D
Hampton Creek

Karen Fortmann, Ph.D.
Senior Research Scientist
White Labs

FOR MORE INFORMATION

Felicia Murray | (858) 534-9353 | unexbio@ucsd.edu | extension.ucsd.edu/industrialbiotech



Workshop Details

Dates and Times:

Wednesday - Friday, August 16 -18, 2017
 8:00 a.m. - 5:00 p.m.
 (Reception 5:00 - 8:00 p.m. on August 17)

Location:

UC San Diego Campus, La Jolla, CA

Agenda

Day 1:

Biological and Bioreactor Principles

- Biological Principles: Growth and Metabolism, Recombinant Organisms for Bioprocesses, Bioreactor Operations
- Case Study -Picking the Ideal Microbe
- Medium Design and Microbe Cultivation
- Fermentation Scale-Up of Bioreactors
- Scale-up Challenges
- Scale Up Case Study

Day 2:

Bioreactor Operations

- Power, Mixing, and Oxygen Mass Transfer
- Media and Air Sterilization
- Bioprocess Monitoring, Control Strategies, PAT
- Fermentation Firing Line
- Case Study – Production of Microbes

**White Labs
 Site Tour and
 Reception**

Day 3:

Bioprocess Development

- Bioprocess Monitoring and Control Case Study
- Design of Experiments, Optimization, and Control Charting
- Intro to Downstream Processing
- Fermentation Firing Line
- Bioprocess Simulation and Economics
- Bioprocess Economics Case Study



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