

Industrial Hands-on Lyophilization Training

UMass Lowell, Lowell, MA

February 8-10, 2021

Course Description: This course teaches best practices in the design of lyophilization processes for biopharmaceutical products and formulations. The course describes pitfalls to avoid when designing lyophilization processes, and ways to increase efficiency and effectiveness known only to top lyophilization experts.

Instructors: Dr. Muhammad Ashraf (FDA), Dr. Seongkyu Yoon (UMass Lowell), Dr. Akhilesh Bhambhani (Merck), Dr. Bakul Bhatnagar (Pfizer), Dr. Robin Bogner (UConn), William Kessler (Physical Sciences Inc.), Dr. Dan Dixon (Pfizer).

TARGET AUDIENCE:

Senior Research Scientist, Bioprocess Engineer, or equivalent in Pharmaceuticals, Biopharmaceuticals

COURSE OBJECTIVES:

At the completion of this course, the participant will be able to:

- Describe the fundamental processes involved in lyophilization
- Summarize the major considerations involved in formulation design relevant to biologics and their impact on drug product
- Describe the process analytical technology used in lyophilization
- Describe the critical quality attributes of lyophilized products and their measurement
- Summarize the major considerations involved in process design and their impacts on the drug product
- Describe some common pitfalls in vial filling in a manufacturing setting



REGISTRATION:

Register [here](#)

Cost of attendance is \$2,500; 50% discount for academic and government

BioTnet (**Bi**omanufacturing **T**raining **net**work) is a collaborative training network building workforce training and development solutions for the U.S. biopharmaceutical manufacturing industry. The NIIMBL-supported training network includes UMass Lowell, UMass Dartmouth, MassBiologics, and MIT with industry input from Merck & Co., Pfizer, and Millipore Sigma.

