PROCESS DESIGN:
SCIENTIFIC CONCEPT TO ENGINEERING REALITIES

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BIOTECH PROCESS DESIGN

• Cell Culture – Dr. Anton Edmund
• Clarification – Raj Beri
• Purification – Chris Lim
• Facility and Equipment Design – Judy Bodette
PROCESS DESIGN?

LAB ➔ PRODUCTION

• Time
• Money
• Science
• Regulation
• Politics
WITH MORE TIME, $, AND KNOW-HOW
REAL WORLD PROCESS DESIGN

- What goes right
- What goes wrong
- What you can do about it

ACTUAL EXAMPLE
PROBLEM AREA

- Bioreactor used microcarriers
- Process did not use centrifuge prior to filtration
- Cleaning Standard Changed
- Stray bits of microcarrier now seen in equipment
- No CIP process to eliminate