



## NTHRYS WORKSHOPS

# Impedance Microbiology For Bioprocess Monitoring

### **8:45 AM - 10:15 AM: Session 1: Monitoring Fermentation Processes with Impedance**

Hands-on workshop on monitoring fermentation using impedance. Protocols for real-time tracking of microbial activity and metabolite production during fermentation.

### **10:15 AM - 10:30 AM: Coffee / Tea / Snacks Break**

Networking and refreshments.

### **10:30 AM - 12:00 PM: Session 2: Impedance-Based Control of Bioreactors**

Practical session on controlling bioreactors using impedance measurements. Protocols for optimizing microbial growth and product yield in bioreactors through impedance feedback loops.

### **12:00 PM - 1:00 PM: Lunch Break**

Catered lunch and networking opportunity.

### **1:00 PM - 2:30 PM: Session 3: Continuous Monitoring of Bioprocesses Using Impedance Sensors**

Hands-on training on continuous bioprocess monitoring.  
Protocols for integrating impedance sensors into bioprocess workflows for enhanced monitoring and control.

### **2:30 PM - 2:45 PM: Short Break**

Time for a stretch and informal discussions.

### **2:45 PM - 4:15 PM: Session 4: Impedance Techniques for Monitoring Cell Culture and Growth**

Practical session on impedance monitoring of cell cultures.  
Protocols for assessing cell viability, growth kinetics, and metabolic activity using impedance measurements.

### **4:15 PM - 4:30 PM: Coffee / Tea / Snacks Break**

Last networking opportunity with snacks.

### **4:30 PM - 5:30 PM: Closing Session: Implementing Changes and Technology Adoption**

Group discussions on implementing new techniques learned today.  
Dialogue on overcoming challenges in adopting new technologies in similar sectors.  
Feedback session and closing remarks.

Certificate Issue

### **5:30 PM: Workshop Concludes**