



## NTHRYS WORKSHOPS

# Microbial Life Detection Protocols

### 8:45 AM - 10:15 AM: Session 1: Sample Collection from Extreme Environments

Practical session on collecting microbial samples from extreme environments. Protocols for aseptic collection of samples from glaciers, hydrothermal vents, and deserts.

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

Networking and refreshments.

### 10:30 AM - 12:00 PM: Session 2: Microbial Detection Using Fluorescent Microscopy

Hands-on workshop on detecting microbial life using fluorescence microscopy. Protocols for staining microbes with fluorescent dyes and analyzing them under the microscope.

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

Catered lunch and networking opportunity.

### 1:00 PM - 2:30 PM: Session 3: Raman Spectroscopy for Biosignature Detection

Hands-on training on using Raman spectroscopy for detecting microbial biosignatures.

Protocols for identifying biomolecules in extraterrestrial soil and rock samples.

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

Time for a stretch and informal discussions.

### **2:45 PM - 4:15 PM: Session 4: Molecular Detection of Microbes in Space Samples**

Practical session on molecular techniques for detecting microbes in space samples.  
Protocols for PCR amplification and sequencing of microbial DNA from space missions.

### **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**