



## NTHRYS WORKSHOPS

# Astrobiology And Microbial Genetics

### 8:45 AM - 10:15 AM: Session 1: Genome Sequencing of Extremophiles

Hands-on training on sequencing the genomes of extremophiles.  
Protocols for extracting DNA and sequencing microbial genomes from extreme environments.

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

Networking and refreshments.

### 10:30 AM - 12:00 PM: Session 2: Genetic Adaptations to Extraterrestrial Environments

Discussion on genetic adaptations in microbes for survival in space.  
Protocols for identifying specific genetic traits and mutations that enable microbial life in extraterrestrial environments.

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

Catered lunch and networking opportunity.

### 1:00 PM - 2:30 PM: Session 3: CRISPR-Cas9 Applications in Exo-

## Microbiology

Practical session on using CRISPR-Cas9 for microbial genetic editing.  
Protocols for engineering microbial strains with enhanced survival traits for space missions.

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

Time for a stretch and informal discussions.

### **2:45 PM - 4:15 PM: Session 4: Metagenomics for Astrobiological Exploration**

Hands-on workshop on metagenomics for astrobiology.  
Protocols for studying microbial communities in extraterrestrial analog environments using metagenomics.

### **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**