

Special STSM Offer hosted by Unibo - DISTAL

Vertical Transmission of Seed Endophytes in Kiwifruit (*Actinidia chinensis* var. *chinensis*): Culturomics and Metabarcoding Analysis

The Offer: We invite a researcher with a strong microbiological and molecular background to join our research team to work on investigating vertical transmission of seed endophytes in kiwifruit (*Actinidia chinensis*). You will actively participate in our ongoing study characterizing the endophyte and epiphyte communities from kiwifruit seeds at different physiological stages, using both culturomics and metabarcoding approaches.

Research Objective: To characterize the diversity, composition, and functional potential of endophytic microorganisms transmitted from parent plants through seeds in kiwifruit, and to understand if successful, how vertically transmitted microbiota may influence plant development and health.

Training and Research Activities: During your visit, you will be trained in and contribute to:

1. **Microorganism Collection & Isolation:** Surface sterilization of kiwifruit and aseptic collection of seeds; isolation of endophytic and epiphytic microorganisms from seeds at different developmental stages.
2. **Genomic DNA Extraction:** Traditional CTAB-based DNA extraction from isolated microorganisms and seeds; quality assessment and quantification.
3. **Molecular Identification:** PCR amplification and sequencing of 16S rRNA (bacterial) and ITS (fungal) regions; taxonomic identification of isolated strains.

Host Institute: Alma Mater Studiorum – University of Bologna, Italy

Lab: Prof. Francesco Spinelli's Research Group

Department: Department of Agriculture and Food Sciences (DISTAL)

Contact Person: Prof. Francesco Spinelli (francesco.spinelli3@unibo.it)

Focus Area: Plant microbiome, vertical transmission, endophytes, seed biology, microbial ecology, 16S/ITS metabarcoding.

STSM Duration: 3 months

Funding: The participant must apply for a standard COST STSM grant for travel/accommodation. The host lab will provide all equipment, reagents, and technical supervision.

Selection Criteria: Only 1 participant will be selected. Ideal candidates have:

- Background in microbiology, molecular biology, or plant sciences.
- Experience with DNA extraction, culturing techniques, or molecular identification methods.
- Interest in plant microbiome research and collaborative team science.

How to Apply: Interested researchers should submit a 1-page proposal covering:

1. **Motivation & Expertise:** Explain your interest in this project and highlight your experience with microbiology, DNA extraction, microbial isolation, or sequencing-based microbiome analysis.
2. **Research Background:** Brief description of your research experience and how it relates to plant biology, microbial ecology, or food crop systems.
3. **Expected Outcomes:** Describe how participation in this vertical transmission project will advance your research profile and career development in microbiome science.