**Training School Metabarcoding of Plant Microbiomes II**
Rhizosphere Analysis: Metabarcoding with ONT and Culturomics

Nitra (Slovakia), 14-18 July 2025

**First Circular**

The 2nd face-to-face Training School of the MiCropBiomes COST Action and extension of the Online Metabarcoding of Plant Microbiomes Training School series will be focused on gaining **direct, hands-on experience** with current techniques used in the analysis of plant-associated microbial communities. These include **Oxford Nanopore Technologies (ONT) sequencing of 16S rRNA and ITS amplicons**, and **bacterial cultivation with MALDI-TOF MS identification**. Through the full workflow—from field sampling to sequence data—the training will offer both **technical competence and critical insight** into experimental design, troubleshooting, and data interpretation.

Beyond the technical content, the training school is also intended to foster **networking and peer learning** in a supportive, collaborative environment. Participants will work together to address a real experimental question: *"How does the rhizosphere microbiome change following compost application?"* This experience will provide valuable context for applying these methods in your own research.

The techniques introduced during the training school represent the **state-of-the-art in studying plant–microbe interactions**. Amplicon sequencing using **ONT** allows for flexible and real-time analysis of microbial communities, while **cultivation-based methods combined with MALDI-TOF MS** provide valuable insight into functional and taxonomic properties of cultivable microbes. Together, these approaches enable researchers to explore both the diversity and activity of microbial populations in the rhizosphere. The skills acquired during this training can be directly applied in a range of research and applied contexts — from fundamental studies in microbial ecology to the development of sustainable agricultural practices, including microbial inoculants and soil health monitoring.

We are pleased to welcome you to Nitra and look forward to working together in a stimulating and friendly environment.

**At a glance:**

- **Date**: July 14-18, 2025.
- **Venue**: AgroBioTech Research Centre (ABT), Slovak University of Agriculture in Nitra, Tr. A. Hlinku 2, 949 76 Nitra, Slovakia
- **Organiser**: Dr. Juraj Medo, Slovak University of Agriculture
- **Contact details**: juraj.medo@uniag.sk
- **Trainees**: Max. 12 persons.
- **Targeted trainee audience**: from beginners to occasional users; academic or commercial.
- **Trainee grant**: The financial support from COST CA22158 is a fixed contribution of up to 1,200 € for max. 12 persons to cover accommodation costs and travel expenses. Trainees grants do not necessarily cover all expenses related to attending the training school.
- **Application procedure**: Submission through registration form https://forms.gle/eQ7dghumXzwmNoYH7
- **Deadline for application:** June 10, 2025.
- **Announcement of eligible trainees:** June 13, 2025.

## About the Slovak University of Agriculture in Nitra and AgroBioTech Research Centre:

The **Slovak University of Agriculture in Nitra (SUA)** is a leading institution in agricultural education and research in Slovakia, with a long-standing tradition in training experts in the fields of crop production, animal science, food technology, environmental sciences, and biotechnology. The university is internationally active and has participated in numerous European research and educational projects. SUA provides a dynamic academic environment combining tradition, innovation, and a strong focus on applied science.

The **AgroBioTech Research Centre** is a key facility within the university, serving as a hub for interdisciplinary research in agriculture, biotechnology, and environmental sciences. It is equipped with state-of-the-art laboratories and modern infrastructure, supporting both fundamental and applied research. The Centre brings together experts in plant and soil biology, microbiology, molecular biology, and analytical chemistry, creating a vibrant space for collaboration and innovation.

The hands-on training school will take place in the laboratories of AgroBioTech Centre, where participants will have access to modern molecular techniques, including DNA extraction, PCR, nanopore sequencing, real-time analysis of microbial communities and microbial culturing. The location offers not only excellent research facilities but also a welcoming academic setting in the heart of Slovakia's agricultural region.


Slovak University of Agriculture


AgroBioTech

## About Nitra:

**Nitra** is one of the oldest cities in Slovakia, rich in history, culture, and academic life. Located in the southwestern part of the country, it lies in a fertile agricultural region and serves as an important center for education and research. With its historic castle, scenic surroundings, and vibrant university atmosphere, Nitra offers a welcoming and inspiring environment for learning and collaboration.

**Trainers:**

**Dr. Ting He**
Faculty of Science and Engineering Chemical and Pharmaceutical Biology, Antonius Deusinglaan 1 Groningen, 9713 AV - The Netherlands

**Dr. Joël Pothier**
Zürich University of Applied Sciences, School of Life Sciences and Facility Management, Einsiedlerstrasse 31, 8820 Wädenswil - Switzerland.

**Dr. Renata Artimová, Dr. Marek Barta**
Institute of Forest Ecology Slovak Academy of Sciences Department of Plant Pathology and Mycology
Akademická 2 949 01 Nitra - Slovakia

**Prof. Miroslava Kačániová, Prof. Jana Žiarovská, Dr. Lucia Urbanová, and Dr. Juraj Medo**
Slovak University of Agriculture in Nitra, Tr. A. Hlinku 2, 949 76 Nitra - Slovakia

**Accommodation:**

The university can provide accommodation in shared double rooms at the student dormitories. Alternatively, participants are welcome to arrange their own accommodation in Nitra, where several hotels and guesthouses are available within walking distance of the campus.

**Miscellaneous:**

- When traveling to Nitra, we recommend using the airport in Bratislava (BTS) or in Vienna (VIE).
- Vienna airport: There is a direct bus connection from Vienna airport to Nitra (operated by https://www.flixbus.com/, drivers speak English) There is no need to travel to Vienna city centre. In Bratislava, you can switch to the bus to Nitra (several buses an hour, flixbus.com is the easiest way to buy tickets) from the bus station at Mlynske Nivy (Central Bus Station Nivy). Use https://cp.hnonline.sk/en/ to find the best connection. We highly recommend buying the bus tickets in advance, using the provided links.
- Bratislava airport: If you use Bratislava airport, you must use public transport to travel to Bratislava bus station (Mlynske Nivy or Nivy) and then by bus to Nitra.
- The railway connection to Nitra (Nitra, Hlavna stanica) is rather problematic, but the buses are good. The best railway connection to Nitra is from railway hub Nove Zamky.
- Slovakia is a Schengen state and EURO zone member. Payment by Visa or Mastercard is available in most places.
- In Slovakia the power plugs and sockets are of type E, the standard voltage is 230 V, and the standard frequency is 50 Hz, same as in Austria or Germany.
- The official language is Slovak. Be aware that lot of people educated before 1990s do not speak English and have your translator ready.
- In July, Nitra typically experiences warm summer weather with daytime temperatures ranging between 25–30 °C, but please note that all indoor activities will take place in the air-conditioned AgroBioTech Centre, where the temperature is maintained at around 20 °C.