



MARTIN-LUTHER-UNIVERSITÄT  
HALLE-WITTENBERG



## Soil Science Colloquium - Halle

**Dr. John Köstel**

Agroscope, Zürich

18. November 2025 - 4pm

Seminar room 3.21 (VSP3.3.21), von-Seckendorff-Platz 3, Halle

### **Soil macropore network evolution in a Swedish garden soil in the course of 6 years**

**Abstract:**

Soil macrostructure is known to be dynamic and strongly shaped by biotic factors. The aim of our study was to investigate soil pore network morphology and dynamics in response to plant types growing on the soil. We conducted a six-year long soil structure incubation experiment in a Swedish garden soil by installing 9 soil samples in meshed plastic containers (diameter app. 11 cm, mesh size 0.5 cm) packed with soil aggregates. The plot was covered by a mix of domestic crops and weeds. The soil samples were excavated, X-rayed and re-installed bi-annually. Our results indicate that the soil macrostructure evolution was strongly coupled to the plant species growing on the respective samples. The macropore network was highly dynamic with only a few macropores persisting for more than one year. Large roots did not leave root channels upon decay but rather attracted soil macrofauna that thoroughly restructured the macropore network.