

BayCEER Kolloquium

Lectures in Ecology and
Environmental Research



Winter 2023/24

Donnerstag/Thursday
14.12.2023
12:15 in H6, GEO



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Soil Physics, BayCEER

Soil structure, water, and organic matter – responses to different land management systems

Soil structure, the spatial arrangement of solids and pores, determines a state of a soil which can be directly linked to various soil functions, such as water and carbon storage. In agricultural soils, the structure is shaped by the applied land management system (tillage system, crop rotation, fertilization) and land management changes can affect these soil functions on different time scales. For example, the accessibility of plant residues and organic amendments to the microorganisms through pores determines their mineralisation rates, and in consequence, the capacity of soil to store organic carbon. In addition, the feedbacks between plant growth and macro-fauna activity can change soil hydraulic properties and thus water dynamics in soils. However, these small-scale interactions between land management, soil biology, and soil structure are still difficult to quantify. X-ray computer tomography can be used to give us new insides into a small but complex world.

