Contribution ID: **943** Type: **Poster Presentation**

Pore Scale Modeling of roots and soil interaction

Tuesday, 23 May 2023 16:10 (1h 30m)

We present a spatially and temporaly explicit mathematical model for root-soil interaction at the microscale. This includes a cellular automaton model for dynamic rearrangement of soil particles combined with a particulate organic matter turnover model. Additionally, the impact of root growth and root exudates and their distribution into the soil on soil aggregation and stability are taken into account.

We address the questions how soil aggregation and a growing root mutually interact in soils of different texture. We quantify how root shapes the rhizosphere and the bulk for instance by evaluating the respective dynamical change in porosity.

Participation

In-Person

References

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