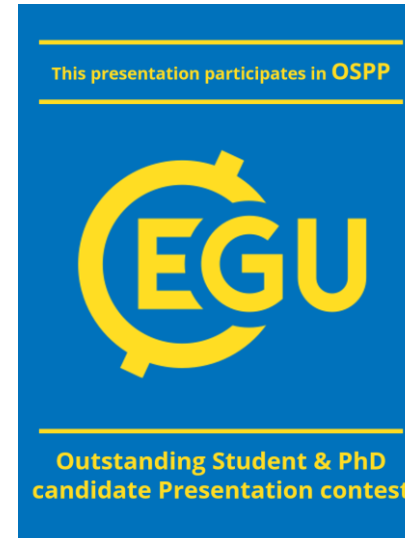


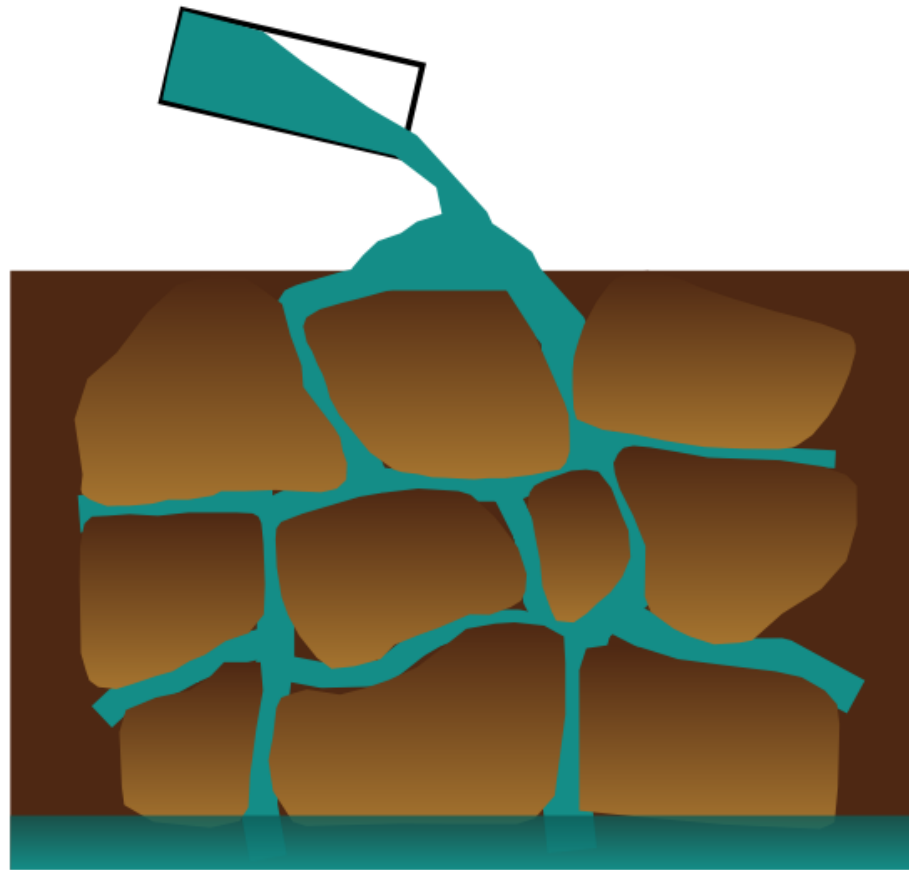


The Mobility and Interaction of Poly(ethylene glycol) in Column Experiments with Cambisol

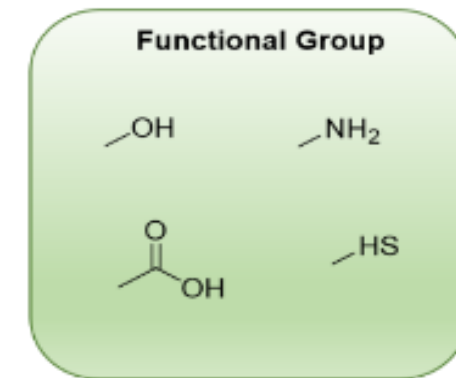
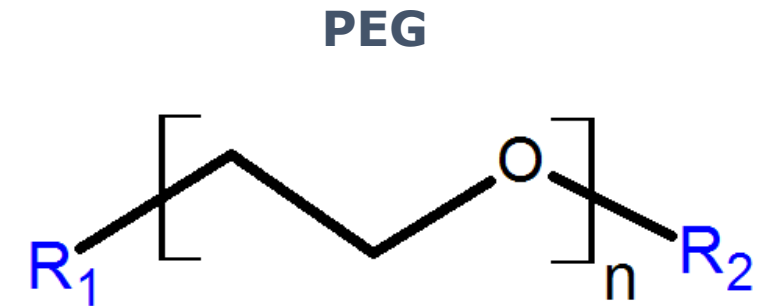


Nimo Kwarkye¹, Elisabeth Lehmann², Ivo Nischang², Jürgen Vitz²,
Ulrich S. Schubert², Thomas Ritschel¹, Kai U. Totsche¹

Fluid flow paths and porous media structure can be estimated through tracer application.

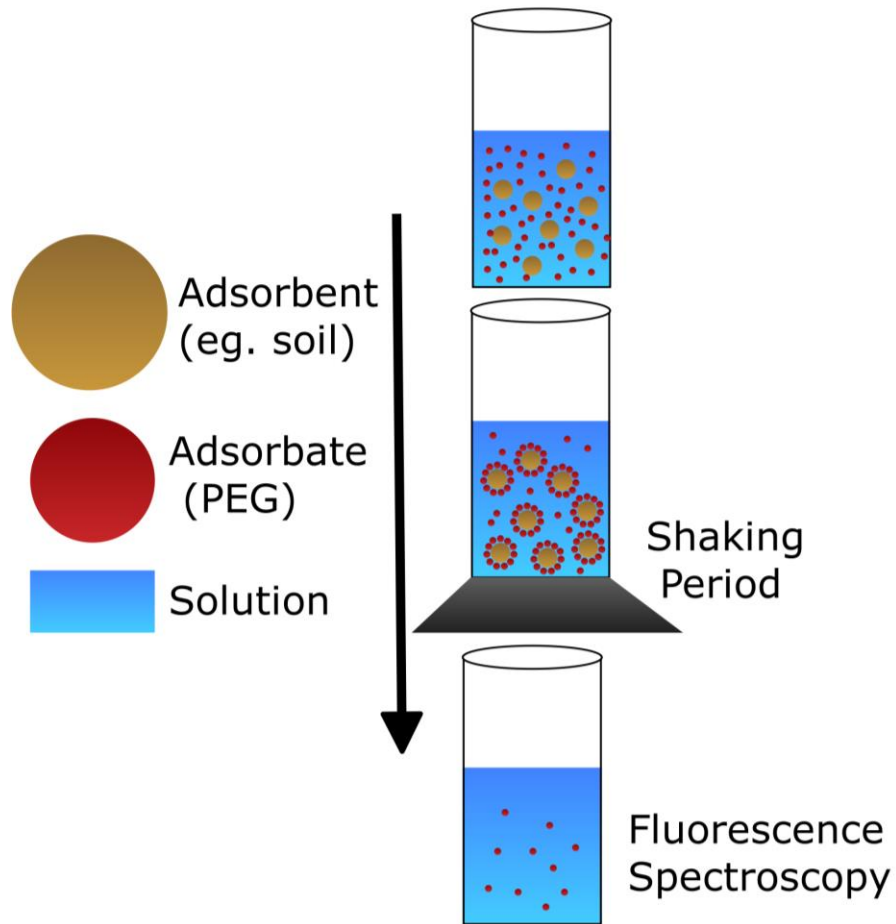


■ Subsurface
■ Tracer Flow path

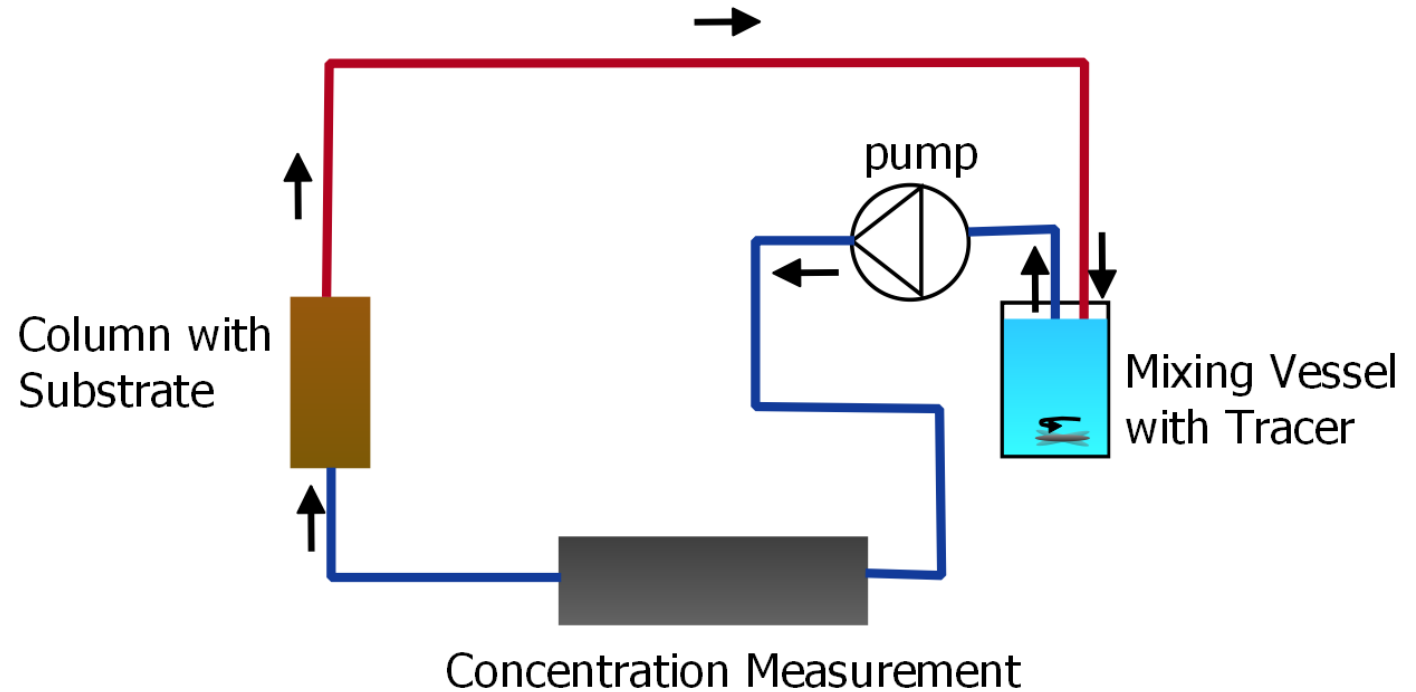


Batch and column experiments were performed to observe adsorption of PEG onto different substrates.

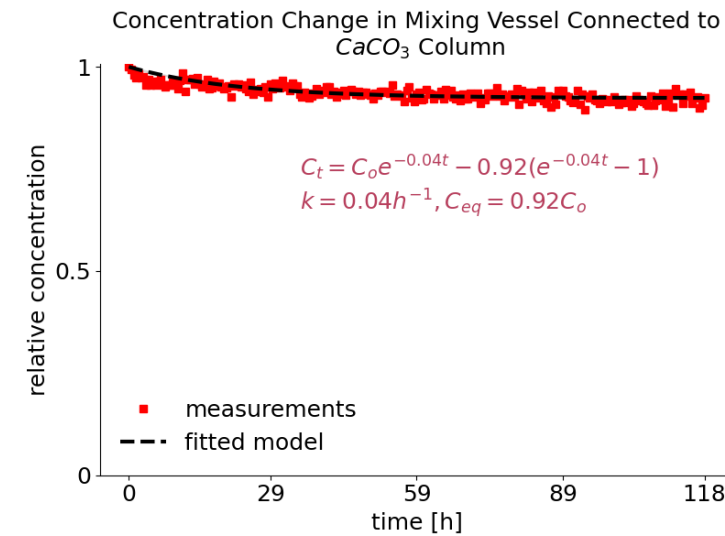
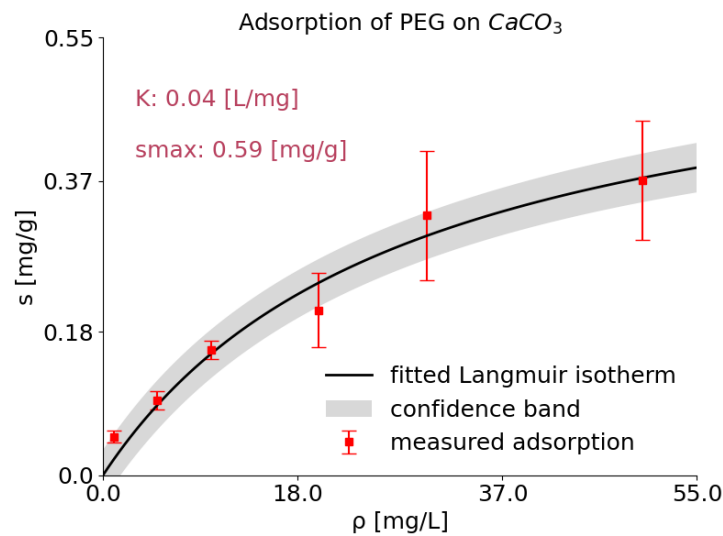
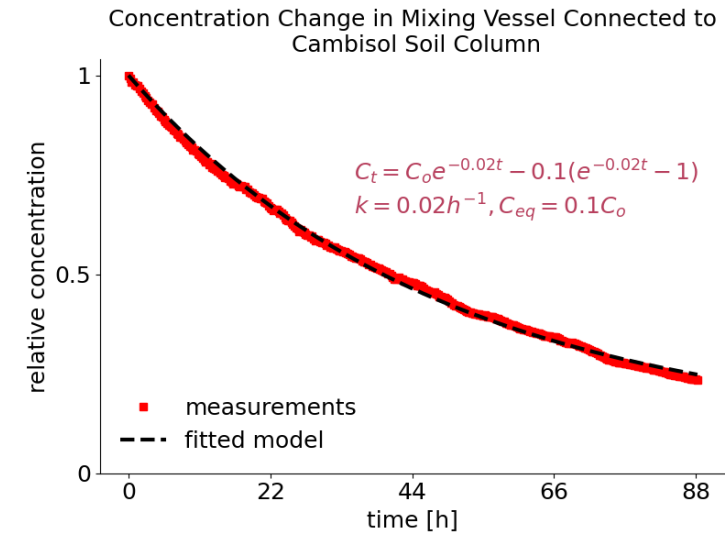
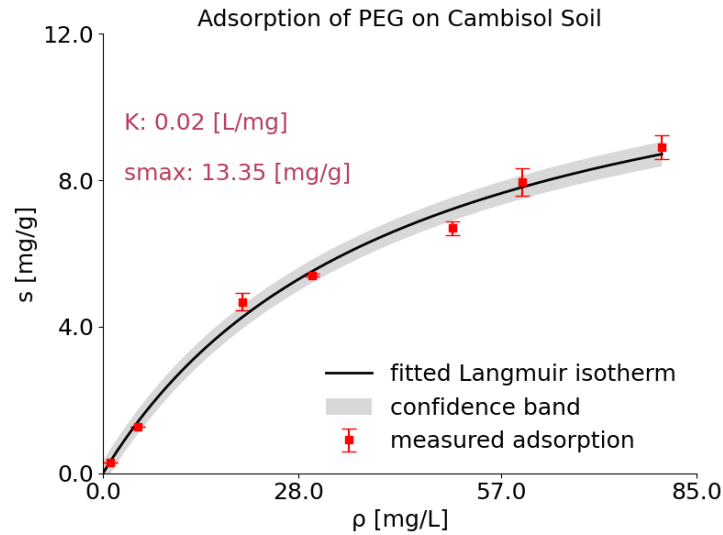
Batch Experiment



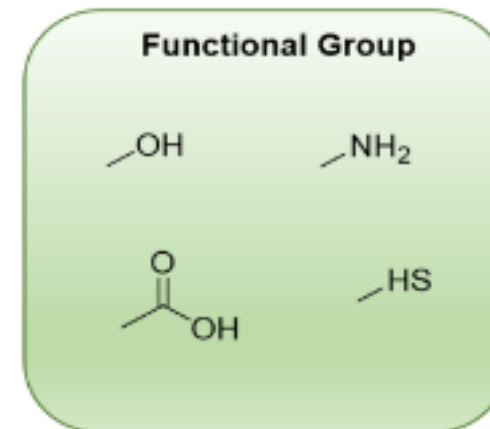
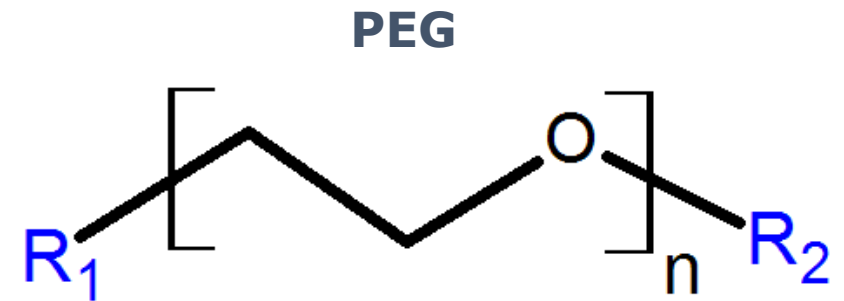
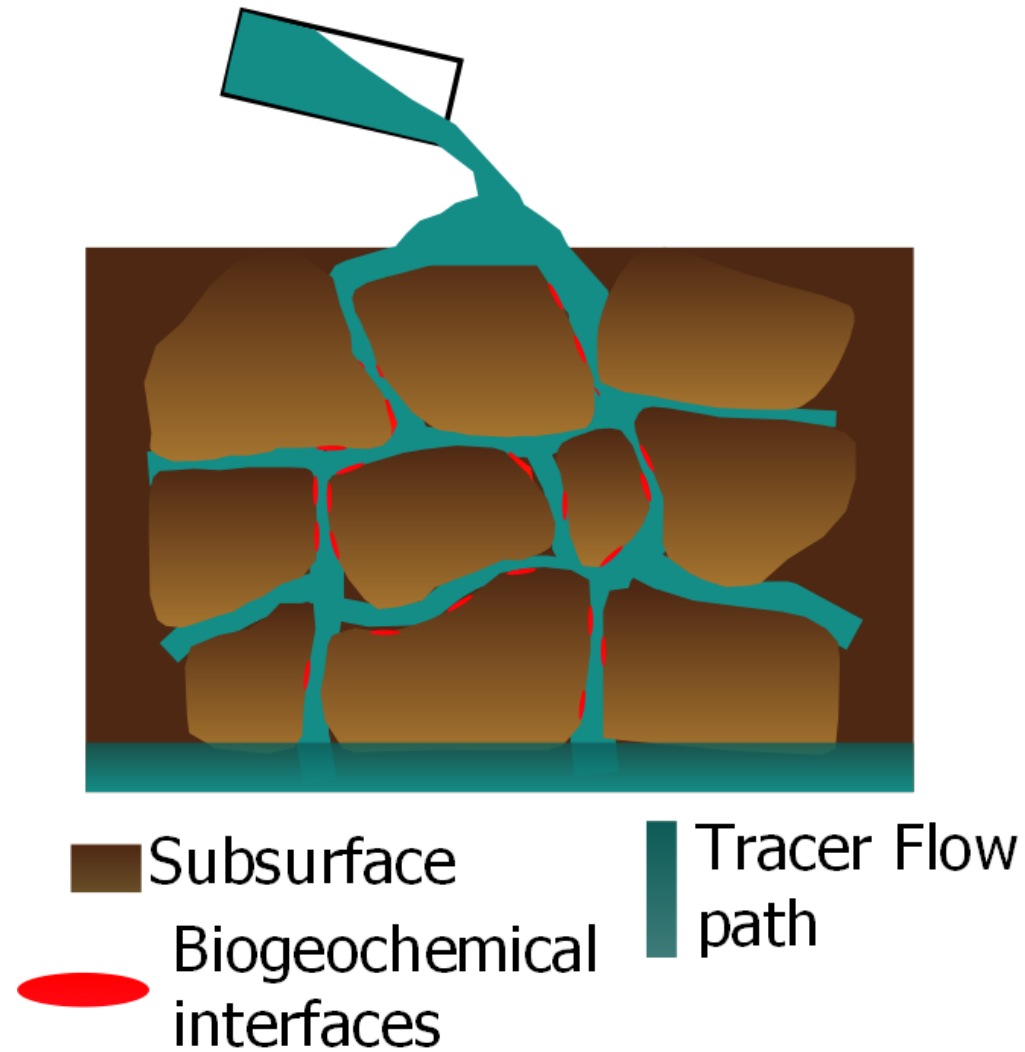
Closed Flow Column Experiment



Fitted isotherm in batch experiment indicated maximum adsorption capacity at the soil interface.



Application of PEGs presents the ability to quantitatively characterize the amount of reactive surfaces in a media.



Thank you!!!

Further reading

Ritschel, Thomas, Katharina Lehmann, Michaela Brunzel, Jürgen Vitz, Ivo Nischang, Ulrich S. Schubert, and Kai U. Totsche. 2021. “Well-Defined Poly(Ethylene Glycol) Polymers as Non-Conventional Reactive Tracers of Colloidal Transport in Porous Media.” *Journal of Colloid and Interface Science* 584 (February): 592–601.
<https://doi.org/10.1016/j.jcis.2020.09.056>.