

## Eawag Seminar Invitation

# Reactive transport: basic concepts and challenges

Speaker **Prof. Dr. Jesus Carrera**

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When **December 7, 11.00 – 12.00 a.m.**

Where **Forum Chriesbach, room C20, Eawag Dübendorf**

Abstract I briefly review the basic concepts necessary to understand reactive transport which basically involves solute transport and chemical reactions. These act as sink-source terms and alter the appearance and nature of transport. Therefore, I will first outline how different types of reactions affect transport. From this, I will introduce the general reactive transport equation which is facilitated by viewing reactions and species as a vector space. While the approach leads to a quite compact formulation, a number of challenges remain open. I will address those related to redox reactions (microbial communities) and those related to the very nature of transport through porous media (mixing, which drives reactions, is not equal to spreading, but both are equated in conventional transport formulations).