

## **Interplay of iron and sulfate reducers: preliminary results from microbial co-culture**

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Iron and sulfur biogeochemical cycling are tightly linked in anaerobic sub-surface environments. Microbial reduction of ferric iron coupled with organic matter degradation precedes or often coexists with microbial sulfate reduction within the diagenetic sequence. These metabolic processes play a central role in the precipitation of diagenetic iron sulfides and carbonate minerals. Whereas pure cultures of these microorganisms are relatively well documented, the potential interactions between different metabolic processes remain poorly known. For instance, it has been recently established that dissimilatory iron-reducing *Geobacter Metallireducens* have the ability to directly exchange electrons with other syntrophic partners in cell aggregates. In this study, we will present mixed culture experiments of iron(III)-reducing bacteria (*Geobacter spp.*) and sulfate-reducing bacteria (*Desulfovibrio spp.*) in the presence of acetate as a electron donor and sulfate and poorly crystalline ferric oxyhydroxides as electron acceptors.