

23. Januar 2025, 16.30 – 18.00 Uhr

Raum HS1, Albertstraße 23b

Die Vorlesung findet gemeinsam mit dem Geowissenschaftlichen Kolloquium statt.

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Rusty secrets: Iron's hidden role in a changing environment (Inaugural lecture)

Iron (Fe) is the fourth most abundant element in the Earth's crust and is commonly found near the surface as various iron oxide minerals. These minerals play a crucial role in the global cycles of key elements such as carbon, oxygen, nitrogen, and sulfur. Understanding their behavior is especially important today as climate change and human activities continue to impact our environment.

Previous studies have shown that the properties of iron oxides are dynamic and change over time and space. One of the most important discoveries in environmental geochemistry over the past 15 years revealed that even small amounts of dissolved iron(II) can trigger the rapid transformation of iron oxide minerals. Although these reactions are now recognized as a crucial part of iron cycling, identifying the specific contributions of biogeochemical processes remains challenging, even with advanced analytical techniques.

In this presentation, I will give an overview of the role and importance of iron oxides in natural and human-impacted settings. I will demonstrate how we use advanced analytical tools such as wet-chemical analyses, microscopy, and spectroscopy to unravel the complex biogeochemical cycling of iron and its influence on key environmental processes.

Afterward, you are invited to a get-together with snacks and drinks. Please register at:
<https://terminplaner6.dfn.de/b/04cf2d02c78392788337854237b5f4fd-1044486>