



Gesellschaft Deutscher Chemiker
Ortsverband Bonn



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**Tuesday, June 6 at 5 pm (17 Uhr s.t.)
in Hörsaal 2**

What layered iron compounds can offer, and more ...

I will introduce recently-found 2D inorganic compounds based on layers of Fe^{2+} ($S=2$) ions, in order to highlight how they form a unique platform for new paradigms on spin-dynamics and magneto-dielectric couplings. Here, depending on the crystal structure, the spin-degrees of freedoms and fine anionic compositions are the key-ingredients to tune the exchanges, crystal field ... etc. Especially, I will show in a specific 2D-Ising-ferromagnet ($\text{BaFe}_2(\text{PO}_4)_2$) the occurrence of giant magneto-crystalline anisotropy. It results in the collective freezing of magnetic domains which mediates the passage from a soft to a '*super-hard*' magnet. This unique situation offers various unexpected peculiarities including the ability to imprint any unreturnable magnetization to the sample within simple temperature/field cycles.