



Women in Science – 3<sup>rd</sup> Erlangen Symposium

## Hydrogenases Made Crystal Clear

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Hydrogenases are highly efficient metalloenzymes for hydrogen generation. [FeFe] hydrogenases are highly active and biased toward hydrogen production, but they are also highly sensitive to oxygen. We focus on studying the enzyme from *Desulfovibrio desulfuricans*, because it can adopt a state, in which the active site is protected from degradation by oxygen. We combine X-ray crystallography with single-crystal spectroscopy to understand how the enzyme protects itself from oxygen and to elucidate the catalytic mechanism.