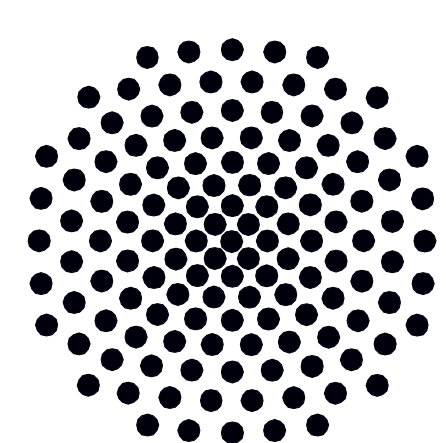




University of Stuttgart

Stuttgart Research Center Systems Biology



Catalysis at the Interface of Biology and Inorganic Chemistry

Prof. Ingrid Span

Department Chemie und Pharmazie

Friedrich-Alexander-Universität Erlangen-
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07.05.2025

10:00 CET

Host:

Prof. Franziska Traube

Lecture Hall 0.106

Allmandring 31

Stuttgart

Systems Biology Seminar Talk

Abstract:

Nature has evolved many highly fascinating biomolecules that can perform complex chemical transformations with high selectivity and efficiency. Proteins are the biomolecules that perform most catalytic reactions in cells, but also nucleic acids have been shown to act as catalysts. While RNA enzymes (ribozymes) occur naturally, DNA enzymes (DNAzymes) have not been discovered so far. Here, I will give an overview of our research interest, which focuses on biomolecules – protein enzymes and DNAzymes – that depend on the presence of metal cofactors and perform exciting chemistry. In particular, the 10-23 DNAzyme that has great potential for gene silencing applications and the [FeFe] hydrogenase DdH that is the most active H₂-producing biocatalyst.

CV:

Seit 10/2021 – Professorin für Bioanorganische Chemie an der Friedrich-Alexander-Universität Erlangen-Nürnberg

02/2017 – 09/2021 – Juniorprofessorin am Institut für Physikalische Biologie der Heinrich-Heine-Universität Düsseldorf

12/2015-01/2017 – Liebig-Stipendiatin am Institut für Physikalische Biologie der Heinrich-Heine-Universität Düsseldorf

12/2014–11/2015 – Wissenschaftliche Mitarbeiterin am Institut für Physikalische Biologie der Heinrich-Heine-Universität Düsseldorf

11/2012–10/2014 – Postdoc in der Arbeitsgruppe von Prof. Dr. Rosenzweig an der Northwestern University, Chicago, USA

Titel: Characterization and structure determination of particulate methane monooxygenase (pMMO) homologs from gram-positive bacteria

08/2012–10/2012 – Postdoc in der Arbeitsgruppe von Prof. Dr. Groll an der Technischen Universität München

02/2009–07/2012 – Dissertation (summa cum laude) angefertigt in der Arbeitsgruppe von Prof. Dr. Groll an der Technische Universität München

Titel: Strukturelle und funktionelle Charakterisierung des Eisen-Schwefel-Proteins IspH in Komplex mit Liganden