

Katharina ZIMMETER



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05/08/1995

Austrian

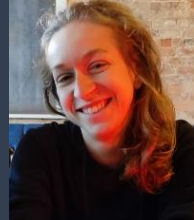


German (C2)

French (C1)

English (C1)

Italian (B1)



RESEARCH EXPERIENCE

- 11/2025 - **Post doctoral researcher** at Laboratoire de chimie de coordination, Toulouse (France)
(Prof. Christelle Hureau, Dr. Emilie Mathieu)
Design and characterization of peptide-based structural mimics of lanthanide methanol dehydrogenase
- 2024-2025 **Temporary research and teaching assistant (ATER)**, Université de Strasbourg (France)
- 2021-2024 **PhD thesis in Biological and Therapeutical Chemistry**
Université de Strasbourg (France), Biometals and Biological Chemistry
(Prof. Peter Faller, Dr. Angélique Sour)
Development of MRI sensors containing a peptide or thiosemicarbazone motif for the detection of copper(II) in biological samples
- 2020-2021 **Master thesis in Chemistry**
Université de Bordeaux (France), CBMN, Institut Européen de Chimie et Biologie
(Prof. Gilles Guichard, Dr. Morgane Pasco)
Stabilization of alpha helical peptides by guanidine stapling
- 2019 **Research internship Erasmus +**
Université d'Angers (France), Substances of natural origin and structural analogs
(Prof. Pascal Richomme, Dr. Séverine Derbré)
Characterisation of a butanolic extract of *Spergularia rubra*
- 2018 **Master thesis in Pharmacy**
Leopold Franzens Universität Innsbruck (Austria),
Laboratory of Medicinal chemistry (Prof. Ronald Gust)
Development of the Synthesis of Erteberel Derivatives as Selective Estrogen Receptor beta Agonists



EDUCATION

- 2021-2024 **PhD in Biological and Therapeutical Chemistry**, Université de Strasbourg
Defense: December 2024: « excellent »
- 2019-2021 **Msc in Chemistry**
Leopold Franzens Universität Innsbruck (Austria), defense: July 2021: « excellent »
- 2014-2019 **Diploma studies in Pharmacy** (equivalent Msc)
Leopold Franzens Universität Innsbruck, Austria, defense: March 2019: « excellent »

PUBLICATIONS

- K. Zimmerer, B. Vilen, C. Platas-Iglesias, B. Vinjamuri, A. Sour, P. Faller, Derivatization of the Peptidic Xxx-Zzz-His Motif toward a Ligand with Attomolar Cu^{II} Affinity under Maintaining High Selectivity and Fast Redox Silencing, *Inorg Chem*, **2023**, 62, 9429–9439.
- K. Zimmerer, A. Pallier, B. Vilen, M. Sanadar, F. Szeremeta, C. Platas-Iglesias, P. Faller, C. S. Bonnet, A. Sour, A Bioinspired Cu²⁺-Responsive Magnetic Resonance Imaging Contrast Agent with Unprecedented Turn-On Response and Selectivity, *Inorg Chem*, **2024**, 63, 23067–23076.
- M. Sanadar, K. Zimmerer, H. Martin, A. Pallier, B. Vilen, P. Faller, A. Sour, C. S. Bonnet, Exploring Bioinspired Ln³⁺ Complexes for Cu²⁺ Detection: Design and Efficacy as MRI Contrast Agents, *Eur JIC*, **2025**, 28, e202500049.
- C. Perdriau, A. Luton, K. Zimmerer, M. Neuville, C. Saragaglia, C. Peluso-Iltis, J. Osz, B. Kauffmann, G. W. Collie, N. Rochel, G. Guichard, M. Pasco, Guanidinium-Stapled Helical Peptides for Targeting Protein-Protein Interactions, *Angew. Chem. Int. Ed.*, **2025**, e202416348.
- K. Zimmerer, B. Vilen, A. Pallier, C. Platas-Iglesias, P. Faller, C. S. Bonnet, A. Sour, Lanthanide complexes bearing a bioinspired Cu^{II} binding site with picomolar affinity: synthesis, structural, relaxometric and luminescence studies, *Dalton Trans*, **2025**, 54, 15432

COMMUNICATIONS

- French Bioinorganic Chemistry Meeting (FrenchBIC), Orléans, **2025**, oral communication: « A Bioinspired Cu²⁺-Responsive Magnetic Resonance Imaging Contrast Agent with High Selectivity and Relaxivity Response »
- 11th international Conference on f-elements (ICFE), Strasbourg, **2023** oral communication: « Peptide-inspired sensors for the Cu^{II}-detection in biological samples by MRI »
- 16th International Symposium on Applied Bioinorganic Chemistry (ISABC-16): Ioannina (Greece) **2023**, poster and flash presentation « Towards Peptide-based sensors for the copper detection in biological samples by MRI »
- 4^e journées du Groupement de recherche « Agents d'imagerie moléculaire » (GDR-AIM): Orléans, **2022** poster presentation
- 1st International Conference on Metal Binding Peptides (MBP), Nancy, **2022** poster presentation «Synthesis, spectroscopic and relaxometric characterization of Cu^{II}-responsive MRI agents

AWARDS

- Doctoral scholarship of the Ministry of National Education in France, competition of the Doctoral School of Chemical Science in Strasbourg 2021
- Best Poster Price at the 1st International Conference on Metal Binding Peptides (MBP), Nancy, 2022

TEACHING AND SUPERVISION

2024/25 Teaching assistant: **192 h teaching in Bachelor classes**

2021-2024 Teaching mission during the PhD: **64 h per year in Bachelor classes**

Lecture: Chemical Equilibria

precipitation equilibria, acid-base reactions, redox reactions, complexes

Tutorial Classes: Organic Chemistry, Metabolic Chemistry, General Chemistry

functional groups, stereochemistry, reaction mechanisms, enzymes and cofactors, mechanisms of enzymatic reactions, radioactivity, basics of chemical kinetics and thermodynamics, chemical bonds, hybridisation

Laboratory classes: Experimental Chemistry, Inorganic Chemistry

titrations, spectroscopy, electrochemical cells, synthesis, purification and characterisation of metal complexes

Internship Supervision: 3 MSc students (3 months, 3 months, 2 months)

2018-2019 Teaching assistant during my Master thesis (ca. **200 h**)

Laboratory classes: Pharmaceutical technology, Bioanalytics and Clinical Pharmacy, Drug Analysis

SCIENTIFIC MEDIATION

- **Kid's University** 2024 and 2025
conception and animation of a workshop about proteins and the roles of copper in the body
- **Fête de la Science** 2023
animation of a chemistry experiment of children
- **Scientific interventions in secondary school classes**
2023-2025, presentation of academic research
- **My thesis in 180 seconds:** Alsace semi-finals 2024

TECHNICAL SKILLS

- ✓ Organic synthesis
- ✓ Solid phase peptide synthesis
- ✓ Complex chemistry: Cu and lanthanides
- ✓ Purification by column chromatography (silica, reverse phase)
- ✓ NMR spectroscopy (1D and 2D)
- ✓ Mass spectrometry
- ✓ HPLC
- ✓ UV-Vis absorbance spectroscopy
- ✓ Fluorimetry
- ✓ Circular Dichroism
- ✓ EPR (basics)

Volunteer commitment: Association Atribus (since 2021, ca. 5 h/week, Strasbourg)

Responsible person for food distribution and supplies, coordination of volunteers, organisation of events



Reference contacts

- **Prof. Peter Faller:** PhD-supervisor, Université de Strasbourg, pfaller@unistra.fr, +33 (0)3 68 85 69 49
- **Dr. Angélique Sour:** PhD-co-supervisor, Université de Strasbourg, a.sour@unistra.fr, +33 (0)3 68 85 13 63
- **Dr. Morgane Pasco:** supervisor of the Master internship, Université de Bordeaux, m.pasco@iecb.u-bordeaux.fr, +33 (0)5 40 00 30 15
- **Dr. Aline Maisse-François:** teaching tutor, Université de Strasbourg, amaisse@unistra.fr