

## CURRICULUM VITAE

### PERSONAL INFORMATION

Family name, First name: Senger, Moritz  
Date of birth: 16.08.1985 Nationality: German

[google scholar](#)

[ORCID: 0000-0001-9225-4910](#)

[www.uu.se/en/departement/chemistry-bmc/research/biochemistry/senger-group](http://www.uu.se/en/departement/chemistry-bmc/research/biochemistry/senger-group)

[Web of Science ResearcherID O-1086-2017](#)

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[Bluesky](#)



Moritz Senger's fundamental research centres on bio-catalysis in enzymes. He leads a research group at the intersection of physics, chemistry and biology at Uppsala University.

His PhD work at Freie Universität Berlin led to a complete re-evaluation of the catalytic mechanism of [FeFe]-hydrogenases. During his time as *Marie Skłodowska-Curie postdoctoral fellow* at Uppsala University he specialised in driving catalytic processes by light, a process with high potential for bio-tech applications. Funded by the two *Swedish Starting Grants (VR, FORMAS)* and a *NovoNordisk fellowship* his research group investigates the molecular mechanisms of enzymatic catalysis for sustainable energy solutions.

### • EDUCATION

- 2026 Docent in Biochemistry  
Department of Chemistry for Life Sciences, Uppsala Universitet, Sweden
- 2018 PhD in Physics (Supervisor: Prof. Joachim Heberle)  
Molecular Biophysics, Department of Physics, Freie Universität Berlin, Germany
- 2013 Diploma in Physics (equivalent of M.Sc., Supervisor: Prof. Joachim Heberle)  
Molecular Biophysics, Department of Physics, Freie Universität Berlin, Germany

### • CURRENT POSITION

- 2024 – 2030 Principal Investigator  
Biochemistry, Department of Chemistry for Life Sciences, Uppsala Universitet

### • PREVIOUS POSITIONS

- 2025 Principal Investigator – Guest research group  
Department of Biochemistry and Biophysics, Stockholm University
- 2022 – 2024 Postdoctoral Researcher, Prof. Berggren Lab  
Biophysical and Bioinorganic Chemistry, Molecular Biomimetics, Department of Chemistry, Ångström Laboratory, Uppsala Universitet, Sweden
- 2020 – 2022 Postdoctoral Researcher, Prof. Hammarström Lab  
Physical Chemistry, Department of Chemistry, Ångström, Uppsala Universitet, Sweden
- 2018 – 2019 Postdoctoral Researcher, Prof. Heberle Lab  
Molecular Biophysics, Department of Physics, Freie Universität Berlin, Germany

### • FELLOWSHIPS AND AWARDS (ca. 16 MSEK, 1.45 million EURO)

- 2026 *AI4TekNat Seed Fund* (150.000 SEK ca. 13.700 Euro)
- 2026 *NBIS/SciLifeLab Bioinformatics Support* (288 hours=36 days expert support)
- 2025 Interview in Copenhagen “*NOVO NORDISK Emerging Investigator Grant– Industrial and Environmental Biotechnology*” (11.2 Million DDK ca. 15 MSEK), (final five, two funded).
- 2025 - 2029 *FORMAS Career grant for early-career researchers*  
(4.463.000 SEK, ca. 385.000 EURO)
- 2025 – 2027 *Carl-Trygger-Stiftelse Research Fellowship*  
Postdoc stipend (860.700 SEK, ca. 75.000 EURO)
- 2024-2028 *Vetenskapsrådet Starting Grant*  
(4.000.000 SEK, ca. 360.000 EURO)
- 2024 - 2027 *NovoNordisk Postdoc Fellowship – Industrial and Environmental Biotechnology*  
(2.363.500 DDK ca. 317.000 EURO)

- 2023 Interview “Assistant Professor in Integrative Structural Biology with Focus on Structural Dynamics at the Department of Biochemistry and Biophysics Stockholm University (SU FV-3836-22)” (listed third, best teaching evaluation).
- 2022 – 2024 *Olle-Engkvist-Stiftelse Research Fellowship* to Prof. Gustav Berggren  
I wrote the grant but for formal reasons could only be a co-applicant  
Postdoc stipend (67.000 EURO)
- 2023 *Wenner-Gren Travel Fellowship* (18.000 SEK, ca. 1800 EURO)
- 2023 *ÅForsk Travel Fellowship* (30.000 SEK, ca. 3000 EURO)
- 2020 – 2022 *Marie Skłodowska-Curie Actions Individual Fellowship (H2020-MSCA-IF)*  
Natures Hydrogen Evolution Catalyst (Nat-HEC 897555) (191.852 EURO)
- 2021 Lab Sustainability Initiative Biophysical and Bioinorganic Chemistry Uppsala University  
Co-applicant with three other initiative members, Lab Sustainability Grant (6000 EURO)
- 2020 *Cleve-Gahn-Svanberg Grant* for joined projects within the Department of Chemistry (UU)  
Co-applicant with four other department members,  
Research infrastructure Grant (44.350 EURO ca. 50% to my project)

## • SUPERVISION

### Supervision Uppsala University, Sweden

- 2025-2027 Postdoc Robin Stipp (Main supervisor)
- 2024-2030 PhD students Laura Kiesewetter, Ivan Voloshyn (Main supervisor)
- 2024-2025 M.Sc. students Viktor Åkerfeldt, Sofie Berglund, Evelina Andersson (Main supervisor)
- 2025 B.Sc. students Carl Björkman (Main supervisor)
- 2024-2030 PhD students Sadat Chowdhury, Kendra Njo, Filip Perschke, Melina Sjögren (Co-supervisor)
- 2020-2024 PhD students Bregitta Nemeth, Holly J. Redman, Marco Lorenzi, Afridi Zamander, Larissa Kurth, Princess R. Cabotaje, Conrad Schumann (Informal supervisor)
- 2020-2026 M.Sc. Student Tor Andersson (2026), Larissa Kurth, 3x Guest students (M.Sc. level) Maximilian Böhm (2020), Leopold Fichet (2021), Tobias Kernmayr (2021) (Co-supervisor)

### Co-Supervision Freie Universität Berlin, Germany

- 2016-2018 2x M.Sc. Konstantin Laun (2018), Viktor Eichmann (2017), 1x B.Sc. Konstantin Laun (2016), 2x Guest students (M.Sc. level) Olga Shulenina (2017), Iuliia Baranova (2018)

## • TEACHING ACTIVITIES

### **Uppsala Universitet, Sweden (ca. 360 hours in total)**

- 2025 Biokemisk teknik, 10 hp HT2025-1KB428 – Course responsible  
100 hours, Bachelor level, ca. 20 students
- 2025 Enzymologi o bioorganisk katalys, 15 hp HT2025-1KB424 – Lecturer  
16 hours, Master level, ca. 25 students
- 2025 Forskning i kemi - teori och praktik I, 5 hp VT2025-1KB046 – Course responsible  
76 hours, Master level, ca. 30 students
- 2025 Forskning i kemi - teori och praktik II, 5 hp VT2025-1KB047 – Course responsible  
43 hours, Master level, 4 students
- 2025 Utveckling av biologiska läkemedel, 7.5 hp VT2025-1KB429 – Lecturer  
12 hours, Master level, ca. 55 students
- 2025 Biokemi II, 15 hp VT2025-1KB421 – Seminar supervision  
20 hours, Bachelor level, ca. 50 students
- 2024 Enzymologi o bioorganisk katalys, 15 hp HT2024-1KB424 – Lecturer  
16 hours, Master level, ca. 25 students
- 2024 Biokemisk teknik, 10 hp HT2024-1KB428 – Lecturer  
64 hours, Bachelor level, ca. 25 students
- 2024 Biochemistry II, 15 hp VT2024 – Seminar supervision  
2 hours, ca. 40 students
- 2024 Examensarbete C i kemi 1KB010 VT2024 –Topic specialist  
4 hours, Bachelor level
- 2023 Fysikalisk Kemi för K2 –VT2023-1KB308 - Project supervisor  
4 hours

### **Freie Universität Berlin, Germany (1493 hours in total)**

- 2018 – 2019 Seminar supervision for Production and biophysical analysis of selected membrane proteins, (4.4 h total, 0.4 h per week, ca. 15 students, English)
- 2017 Tutoring for the lecture Physics for non-physicists, (22 h total, 2 h per week, ca. 20 students, German)
- 2015 – 2016 Tutoring for the lecture Introduction into Structure of Matter (for teachers) (16.5 h total, 1.5 h per week, ca. 20 students, German)
- 2015 Lab internship care for Advanced Biophysics (11 h total, 1 h per week, groups of 2-3 students, 10 ECTS, English/German)
- 2010 – 2013 Student assistant for the Basic Physics Experiments Course for physicists and non-physicists (1440 h total, 240 h per semester ca. 40 h per month, groups of 6-10 students, English, German)

#### • PEDAGOGIC COURSES

- 2026 Teaching and Assessing Academic Writing (2.5 days), Uppsala University
- 2025 Supervising Student Presentations (2.5 days), Uppsala University
- 2025 Supervising Doctoral Students (15 days), Uppsala University
- 2025 Assessment, grading and feedback Course (5 days), Uppsala University
- 2025 Academic Teacher Training Course (25 days), Uppsala University
- 2024 Physical Chemistry Education Conference (1 day)
- Fysikalisk kemididaktik workshoppen (Goteborg)
- 2022 Curious about Leadership Course 2022 (2 days), Uppsala University

#### • PUBLIC OUTREACH ACTIVITIES

##### Uppsala University

- 2026 Invited Talk 8<sup>th</sup> PhD mini conference, Uppsala Universitet
- 2024 Presented the Biochemistry Program to high school classes
- 2021 Forskar Fredag (Talk and experiment)
- European Researchers Night (Talk and experiment)

##### Freie Universität Berlin, Germany

- 2015-2019 Lange Nacht der Wissenschaften (Talk + Lab Tours)
- 2016-2019 Freshman Lab Tours

#### • APPOINTMENT/BOARD PARTICIPATION

- 2024 - 2025 Opponent/subject specialist for Master and Bachelor projects, Uppsala University
- 2023 External referee for an application to the *Swiss National Science Foundation – Expert Call Inorganic Chemistry, Physical Chemistry, Chemical Engineering, Industrial Biotechnology*
- 2010 - 2019 Oral examiner (second) on a B.Sc. and M.Sc. level, Prof. Heberle, Freie Universität Berlin, Germany
- 2018/06/01 Member of the PhD thesis defence committee of Nils Schuth, Freie Universität Berlin, Germany

#### • ORGANISATION OF SCIENTIFIC MEETINGS

- 2025 Organising Committee Swedish Chemical Society Meeting 2027
- 2025 Organising Committee Tiselius Symposium
- 2024 Invited talk about scientific career development to the COLOTAN PhD network (Marie Skłodowska-Curie Grant Agreement No. 956851.)
- 2022/12/15 Chair of the 3<sup>rd</sup> session of the Hydrogenases and Metalloenzymes Christmas Symposium 2022
- 2018/06/28 Co-organisation of 1. Hydrogenase Minisymposium in Berlin
- One-day symposium on a PI level focused on Hydrogenase research (ca. 30 participants)

#### • REVIEWING ACTIVITIES (Verified reviews on [ORCID: 0000-0001-9225-4910](https://orcid.org/0000-0001-9225-4910))

Nature Catalysis (1), Nature Communications (2) ACS Catalysis (2), EES catalysis (1), Sustainable energy & fuels. (1), Inorganic chemistry. (1), Analytical Methods (4), Journal of Inorganic Chemistry (1), Scientific Reports (1), Sensors (4), Applied Sciences (5), International Journal of Molecular Sciences (2)

#### • MEMBERSHIPS OF SCIENTIFIC SOCIETIES

- Since 2025 Member of “Svenska Kemisamfundet”
- Since 2020 Member of the Research Network “Swedish Consortium for artificial Photosynthesis” CAP

Since 2020 Associated Member, *SUNERGY* Initiative  
 2018 – 2019 Member of the Cluster of Excellence: Unifying Systems in Catalysis (*UniSysCat*)  
 2013 – 2016 Member International Max-Planck Research School (*IMPRES*) Multiscale Bio-Systems

• **MAJOR COLLABORATIONS**

-Groups of Prof. Chris Greening and Prof. Rhys Grinter, Australia  
 Melbourne/Monash University

Novel Hydrogenases

*Two recent joint publications in Cell and Nature*

-Groups of Prof. Johannes Messinger/ Leif Hammarström/ Gustav Berggren, Sweden

Department of Chemistry, Ångström Laboratory, Uppsala University

Physical Chemistry/ Biomimetics of Hydrogenases

*14 joined publications*

-Groups of Prof. Thomas Happe and Prof. Ulf-Peter Apfel, Germany

Ruhr-Universität-Bochum and Fraunhofer-Umsicht Oberhausen

[FeFe]-Hydrogenases and their Mimics

*12 joined publications*

-Group of Prof. Ross Milton,

Department of Inorganic and Analytical Chemistry, University of Geneva, Switzerland

Nitrogenases

-Group of Prof. Sebastian Westenhoff

Biochemistry, Department of Chemistry, BMC, Uppsala University, Sweden

Time-resolved crystallography

| Collaborator               | Research field                                                | Institution                                                                                   |
|----------------------------|---------------------------------------------------------------|-----------------------------------------------------------------------------------------------|
| Prof. Chris Greening       | Novel hydrogenases                                            | Department of Microbiology, Monash University, Australia                                      |
| Prof. Ross Milton          | Nitrogenases                                                  | Department of Inorganic and Analytical Chemistry, University of Geneva, Switzerland           |
| Prof. Thomas Happe         | [FeFe]-Hydrogenases, Biochemistry                             | Photobiotechnology, Ruhr-Universität-Bochum, Germany                                          |
| Prof. Ulf-Peter Apfel      | Inorganic Chemistry/ Electrochemistry                         | Ruhr-Universität Bochum & Fraunhofer UMSICHT, Oberhausen                                      |
| Prof. Eckhard Hofmann      | Crystallography                                               | Ruhr-Universität-Bochum, Germany                                                              |
| Prof. Sebastian Westenhoff | Time-resolved crystallography                                 | Biochemistry, Department of Chemistry, BMC, Uppsala University, Sweden                        |
| Prof. Leif Hammarström     | Photoredox Catalysis, Proton-coupled electron transfer (PCET) | Physical Chemistry, Department of Chemistry, Ångström Laboratory, Uppsala University, Sweden  |
| Prof. Haining Tian         | 3D Organic Polymer Nano-Photocatalysts                        | Physical Chemistry, Department of Chemistry, Ångström Laboratory, Uppsala University, Sweden  |
| Prof. Johannes Messinger   | Energy converting enzymes                                     | Biomimetics Program, Department of Chemistry, Ångström Laboratory, Uppsala University, Sweden |
| Prof. Gustav Berggren      | Semi artificial photosynthesis, EPR spectroscopy              | Biomimetics Program, Department of Chemistry, Ångström Laboratory, Uppsala University, Sweden |
| Dr. Henrik Land            | CO-dehydrogenases and New [FeFe]-hydrogenases                 | Biomimetics Program, Department of Chemistry, Ångström Laboratory, Uppsala University, Sweden |
| Prof. Günther Knör         | Inorganic Chemistry, Redox Dyes                               | Johannes-Kepler-Universität Linz, Austria                                                     |

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|-----------------------|---------------------------------------------------|-----------------------------------|
| Prof. Sven Stripp     | IR spectroscopy of Metalloenzymes                 | Universität Potsdam, Germany      |
| Prof. Joachim Heberle | Near field IR spectroscopy on cells               | Freie Universität Berlin, Germany |
| Dr. Michael Haumann   | Biophysics of Metalloenzymes                      | Freie Universität Berlin, Germany |
| Dr. Basem Soboh       | <i>In-vitro</i> maturation of [NiFe] hydrogenases | Freie Universität Berlin, Germany |

## • CONFERENCES

**Svedberg Centennial Workshop (Swedish Chemical Society)** (2026, Uppsala, Sweden, talk)  
**Institut de Biologie Structurale (IBS)** (2026, Grenoble, France, invited talk)  
**HT-DYNA Proton Transfer Symposium** (2025, Berlin, Germany, talk)  
**SweProt** (2025, Tällberg, Sweden, talk)  
**Swedish Chemical Society Meeting** (2025, Västerås, Sweden, talk)  
**University of Geneva (Inorganic and Analytical Chemistry)** (2025, Grenoble, Switzerland, invited talk)  
**17th International Symposium on Applied Bioinorganic Chemistry (ISABC)** (2025, Uppsala, poster)  
**Gordon Research Conference on Metallocofactors** (2024, Boston, USA, poster)  
**Optical Spectroscopy in Sweden** (2024, Goteborg) (talk)  
**13th International Conference on Hydrogenases** (2023, Walla Walla, USA) (talk)  
**4th International Conference on Proton-Coupled Electron Transfer (PCET4)** (2023, Spain, talk)  
**Consortium of Artificial Photosynthesis March (CAP)** (2022) (invited talk)  
**International Solar Fuels Conference** (2021) (online)  
**RSC Symposium - Biohybrid Approaches to Sustainable Energy Conversion** (2021) (online)  
**ICH2019** (2019, Lisboa, PRT) (poster)  
**Klosters Winter Seminar** (2019, Klosters, CH) (invited talk)  
**EUROBIC 14** (2018, Birmingham, UK) (poster)  
**Hydrogenase 16** (2016, Marseilles, FR) (poster)  
**ECSBM 15** (2015, Bochum) (poster)  
**ISF1** (2015, Uppsala, SWE) (poster)  
**PCET** (2014 Skokloster, SWE) (poster)  
**German Biophysical Society Meeting** (2012, Göttingen) (poster)  
**IMPRS on Multiscale Bio-Systems** (annually: 2013-2016, Potsdam): (poster + talk)  
**Klosters Winter Seminar** (annually: 2012-2017, Klosters, CH) (poster)

## • PARENTAL LEAVE

2023 - 2026 80 days