

# Urban Wünsch

Assistant Professor

Researcher working on all things dissolved in water — disentangling the composition of complex environmental samples to understand the fate of organic substances in aquatic systems. As of late 2026: 34 publications (10 as lead), H-index 19, 2100+ citations.

✉ urban.wunsch@chalmers.se 📍 Gothenburg, Sweden, SE

## Education

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### Technical University of Denmark

PhD Resolving the chemical structures responsible for the UV-visible spectroscopic properties of dissolved organic matter in aquatic environments

*Until  
2018*

### University of Applied Sciences Bremerhaven

M.Sc. Biotechnology

*Until 2014*

### University of Applied Sciences Bingen

B.Sc. Biotechnology

*Until 2011*

## Work

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### Chalmers University of Technology, Architecture and Civil Engineering

Assistant Professor

*2025 – Present*

### DTU Aqua, National Institute for Aquatic Resources

Assistant Professor

*2024 – 2025*

Postdoc

*2020 – 2024*

### Chalmers University of Technology, Architecture and Civil Engineering

Postdoc

*2018 – 2020*

### Technical University of Denmark, National Institute for Aquatic Resources

PhD student

*2014 – 2017*

## Teaching

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### **Blue Bioeconomy Innovation**

2023 – 2024

Course responsible

M.Eng, ~40 students

### **Ocean science & technology**

2015 – 2025

Teaching topics in master-level courses

### **Machine learning for spectroscopic data analysis**

2018 – Present

Co-organizer of online course

For Master- and PhD-students

### **Introduction to Chemistry & Urban spaces and functions for civil engineers**

2018 –  
2020

Teaching, bachelor-level courses

Large classrooms

## Supervision

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### **Julia Iwan (PhD)**

2025 – Present

Main supervisor

### **Frederik Lenk (B.Sc.)**

2024 – 2024

Main supervisor

Special course

### **Maria Papadimitraki (Research Assistant)**

2023 – 2023

Co-supervisor

University of Southern Denmark

### **Emilie Tage Andresen (B.Sc.)**

2022 – 2022

Co-supervisor

DTU Chemistry (Denmark)

### **Linea Gry Ebbesen (B.Eng.)**

2022 – 2022

Co-supervisor

DTU Environment (Denmark)

## **Laila Vinther & Cecilie Hjelm Hvas Hansen (M.Sc.)**

2021 – 2021

Co-supervisor, voluntary special course

DTU Environment (Denmark)

## **Evelyn Namuga Kasule (B.Sc.)**

2021 – 2021

Co-supervisor

DTU Environment (Denmark)

## **Signe Melbye Andersen (M.Sc.)**

2020 – 2022

Co-supervisor

DTU Aqua (Denmark)

## **Anders Dalhoff Bruhn Jensen (PhD)**

2019 – 2023

Co-supervisor

DTU Aqua (Denmark)

## **Xianyu Kong (PhD)**

2019 – 2022

PhD committee member

Alfred Wegener Institute (Germany)

## **Nashita Moona (PhD)**

2018 – 2021

Co-supervisor

Chalmers (Sweden)

## **Projects**

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### **Patent application (DTU)**

2024 – Present

Determination of dissolved organic matter photosensitivity based on fluorescence ratios

Main author

### **drEEM toolbox for MATLAB**

[dreem.openfluor.org](https://dreem.openfluor.org)

2018 – Present

MATLAB toolbox for the multiway decomposition of fluorescence EEMs into underlying fluorescence components (PARAFAC).

Main developer

## Skills

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### Dissolved organic matter characterization

EEM spectroscopy

Absorbance spectroscopy

HPSEC

FT-ICR-MS

### Chemometrics

PCA

PARAFAC & PARAFAC2

N-PLS

ACMTF

## Awards

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### A new approach to laccase discovery from the sea

2023

Independent Research Fund Denmark

2.5 million DKK, named applicant

### New eyes on old GAC

2022

FORMAS, Sweden

146,000 SEK, co-applicant

### Oxidation Demand and Rate (ODaR) as a sensitive proxy of biostability in drinking water

2021

FORMAS, Sweden

26,000 SEK, co-applicant

### Enhancing Biogeochemical Fingerprints of Natural Organic Matter with Data Fusion

2019

Åforsk Foundation

400,000 SEK, main applicant

### An optical sensor for reducing biocide dependence in chemical manufacturing

2019

Vinnova, Swedish Governmental Agency for Innovation Systems

474,000 SEK, co-applicant

### 2-year postdoctoral scholarship

2019

Carl Tryggers Stiftelse

552,000 SEK, main author

### Invited participation in the Dissertations Symposium in Chemical Oceanography

2018

National Science Foundation & National Oceanic and Atmospheric Administration

## **Student travel award and invited participation**

2018

International Humic Substances Society

## **Scholarship for conference participation**

2017

Otto Mønsted Fond

## **Scholarship for external research stay**

2015

Kaj og Hermilla Ostenfeld's Fond

## **Conferences**

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### **Photosensitivity of fluorescent dissolved organic matter across the arctic ocean**<sup>2023</sup>

Aquatic Sciences Meeting 2023, Mallorca, Spain

### **Combining Physical and Mathematical Chromatography to Decipher the Molecular Fingerprints of Dissolved Organic Matter**

2021

20th Conference of the International Humic Substances Society (online)

### **Mathematical chromatography deciphers the molecular fingerprints of dissolved organic matter**

2021

Aquatic Sciences Meeting 2021 (online)

## **Interests**

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### **Association for the Sciences of Limnology and Oceanography (ASLO)**

Member since 2014

### **International Humic Substances Society (IHSS)**

Member since 2018