

Water: from molecule to industrial applications
The annual workshop at Biofilms Research Centre for Biointerfaces,
Malmö University, 2025
The venue: STUDIO, Nordenskiöldsgatan 24, Malmö

Thursday, 23rd OCTOBER

09:00-09:30 **Registration** and coffee, at STUDIO MALMÖ, Nordenskiöldsgatan 24, Malmö.

09:30-09:40 **Prof. Caroline Wigren Kristoferson, Pro-Vice Chancellor, Malmö University**

Day 1, Session 1 Bulk water 1 (Chair: prof. Vitaly Kocherbitov)

09:40-10:25 **Keynote lecture**
Prof. Anders Nilsson, Stockholm University
TITLE: The origin of the anomalous properties of water determined using x-ray lasers

10:25-10:45 **Dr. Valera Veryazov, Lund University**
TITLE: Quantum chemical description of hydrogen bond

10:45-11:00 **Dr. Vasantha Gowda, Malmö University**
TITLE: NMR relaxation insights into water dynamics and carbohydrate–water interactions

11:00-11:30 **Coffee**

Day 1, Session 2 Bulk water 2 (Chair: proj. Börje Sellergren)

11:30-12:10 **Keynote lecture**
Prof. Georgios Kontogeorgis, Danish Technical University
TITLE: The two-state theory for water thermodynamics: Past – Present – Future

12:10-12:40 **Prof. Jan Swenson, Chalmers University**
TITLE: Glass transition and relaxation behaviour of confined water and aqueous solutions; implications for bulk water

12:40-13:00 **Assoc. Prof. Foivos Perakis, Stockholm University**
TITLE: Supercritical fluctuations in cryoprotected aqueous solutions

13:00-14:00 **Lunch**

Day 1, Session 3 Water in formulations (Chair: prof. Johan Engblom)

14:00-14:40	Keynote lecture Prof. Emma Sparr, Lund University <i>TITLE: Lipid self-assembly at drying interfaces</i>
14:40-15:00	Dr. Shuai Bai, Lund University <i>TITLE: The dynamics of freezing, annealing and drying during freeze-drying, investigated using synchrotron X-ray micro tomography.</i>
15:00-15:30	Coffee
15:30-15:50	Prof. Sebastian Björklund, Malmö University <i>TITLE: Humidity scanning of soft matter systems</i>
15:50-16:10	Dr. Karlis Berzins, Copenhagen University <i>TITLE: Full inelastic spectroscopic analysis of pharmaceutical biointerfaces in aqueous-rich environments</i>
16:10-16:30	Dr. Jenni Engstedt, Malmö University / Camurus AB <i>TITLE: Hydration-induced lipid redistribution in swelling of controlled release liquid crystalline depots</i>
16:30-16:45	Dr. Nikolaj Sorgenfrei Blom, Camelot Scientific <i>TITLE: Is water a bridge to new scientific breakthroughs?</i>
16:45-18:00	Poster session with mingle
18:00	Conference dinner, Studio

Friday, 24th OCTOBER

08:45-09:00 **Coffee**

**Day 2, Session 1 Water: Surface Interactions and Confined Environments
(Chair: assoc. prof. Lindsay R. Merte)**

09:00-09:45	Keynote lecture Prof. Mischa Bonn, Max Planck Institute for Polymer Research <i>TITLE: Spectroscopic light on confined and interfacial water</i>
09:45-10:00	Mrs Kayleigh Davies, PhD student, Malmö University <i>Title: Charging and discharging of water interfaces</i>
10:00-10:15	Mr. Andrea Grespi, PhD student, Lund University <i>TITLE: Water electrolysis on gold</i>

10:15-10:30 **Mrs. Sana Khayyamifar, PhD student, Malmö University**
TITLE: Surface interactions of amorphous TiNiSn with aqueous solutions for flexible thermoelectric applications

10:30-11:00 **Coffee**

Day 2, Session 2 Water: Surface Interactions and Confined Environments (Chair: prof. Denis Music)

11:00-11:40 **Keynote lecture**
Prof. Björgvin Hjörvarsson, Uppsala University
TITLE: Why does water matter? A materials science perspective

11:40-12:00 **Assoc. prof. Katja Frid, Malmö University**
TITLE: The role of water in freeze-thaw deterioration of cementitious materials

12:00-12:20 **Prof. Lars Wadsö, Lund University**
TITLE: Water and calorimetry

12:20-12:40 **Dr. Martynas Talaikis, Vilnius University**
TITLE: Vibrational spectroscopic Insights into water structure at biological Interfaces

12:40-13:00 **Dr. Ivan Argatov, Malmö University**
Title: Mathematical modeling of interfacial properties of water

13:00-14:00 **Lunch**

Day 2, Session 3 Water at industry and environment (Chair: Dr. Justas Barauskas)

14:00-14:40 **Keynote lecture**
Prof. Kenneth M. Persson, Lund University
TITLE: Everyone is talking about water - but why is this topic so urgent now? Water use, water resilience and water management in Sweden and the world.

14:40-15:00 **Assoc. Prof. Mats Persson, Malmö University**
TITLE: Knowledge compilation for water and sewage

15:00-15:20 **Mrs. Lina Røbekk Olsen, Sandberg development**
TITLE: Water – a re/source for growth

15:20-15:30 **Concluding remarks**

See also links

- BRCB: Biofilms Research Centre for Biointerfaces
- <https://www.mau.se/BRCB>
- Open Lab South: list of equipment and expertise that we openly share
- <https://openlabsouth.se/>

Organizing committee

Vitaly Kocherbitov (HS)
Johan Engblom (HS)
Denis Music (TS)
Lindsay Richard Merte (TS)
Emelie Nilsson (HS)
Andriani Tsompou (HS)
Tautgirdas Ruzgas (HS)

Invajo - Registration

Biofilms - Research Center for Biointerfaces invites you to the 20th Annual workshop on 23-24 October 2025

This year the workshop will focus on Water Research (www.mau.se/BRCB). We will discuss bulk properties of water, water at interfaces and nanoconfinements, and water in industrial applications. The event will cover presentations, informal discussions, poster presentations and a dinner on October 23. This is an excellent opportunity to network and discuss the latest research and applications related to water.

Organizing committee

Vitaly Kocherbitov, Johan Engblom, Denis Music, Lindsay Richard Merte, Emelie Nilsson, Andriani Tsompou, Tautgirdas Ruzgas

We welcome scientists, students, clinicians, and industry for a two-day workshop on research relevant to different aspects of Water.

Date: 23 and 24 October, 2025

Place: Studio

Nordenskiöldsgatan 24, 211 19 Malmö

The workshop is free of charge for all participants.

Exhibition:

For companies: for possibilities to exhibit during the workshop, please contact Tautgirdas Ruzgas ([tautgirdas.ruzgas\(at\)mau.se](mailto:tautgirdas.ruzgas@mau.se))

Poster session: to participate with a poster please contact Andriani Tsompou ([andriani.tsompou\(at\)mau.se](mailto:andriani.tsompou@mau.se))