

Brabantse Delta to recover vivianite from wastewater

The Brabantse Delta Water Authority is starting preparations for a world first full scale installation to recover the iron-phosphate crystal vivianite from wastewater. The Wetsus-born innovation will be part of the EU LIFE project PHOS4EU. The installation at the Nieuwveer sewage treatment plant in near Breda is to be constructed as part of the project in 2025. After previously successful trials, they aim to extract 60% of the phosphate from the wastewater with the new facility. The project is based on the ViviMag® technology that is now owned by Kemira.



Congress 2023
Leeuwarden
October 9-10

wetsus
european centre of *excellence*
for sustainable *water technology*

Environmental **resilience**
to **novel** entities

WETSUS
20
years

Wetsus Congress 2023: Environmental resilience to novel entities

The program of our Wetsus Congress, October 9 and 10, is almost complete. You can find it on our [website](#), together with the [registration form](#). In plenary sessions on Monday October 9, the theme *Environmental resilience to novel entities* will be addressed from an international context and from the sustainable innovation perspective. Tuesday October 10 is all about science. The 12 parallel sessions are based on Wetsus' scientific program.

Keynotes

- Veronica Manfredi, LLM, Director Zero Pollution, DG Environment, European Commission
- drs. Erwin Nijse, Director-General for Business and Innovation at the Ministry of Economic Affairs and Climate Policy
- Nienke Homan, CEO Impact Hydrogen
- prof.dr.ir. Walter van der Meer, CEO Oasen NV/prof. University of Twente
- Gerrit Veenendaal, director NieuWater
- ir. Carla Frijters, development Manager Flocculent sludge systems Paques BV

- dr.ir. Mateo Mayer, director & co-founder Aqa.earth
- dr.ir. Geert Kessel, Plant Pathologist, Wageningen University and Research,
- ir. Pieter Hack, entrepreneur, chairman of the board Pure Water Group and REDstack.
- prof. Christoph Salzmann, University College London
- dr. Caroline Moermond, RIVM

Parallel sessions

- Lake restoration: why and how
- The road to Circular sewage treatment in 2050
- Monitoring and prevention of Emerging Chemicals in waste and drinking water
- Managed aquifer recharge for drought resilience
- Ice insights, a closer look into ice
- Sustainable water management: the challenge of emerging substances
- Lake restoration: why and how: an interactive round table discussion
- Extracellular polymeric substance (EPS): the ubiquitous, multifunctional microbial biopolymer
- Treatment of emerging pollutants in wastewater and drinking water sources
- Advanced membranes for effective water treatment
- Natural Water Production
- From nano plastics to inks, understanding possible contaminants from plastic recycling

Wetsus Congress 2023: your company at the demonstration floor?

Like during our previous Congresses, we will organize an exhibition/demonstration floor. Lunches and other networking moments are all held at the exhibition floor, so plenty of exposure is guaranteed. Interested in a spot? Please send an e-mail to [Roely Watzema](mailto:Roely.Watzema@wetsus.nl), without any obligation.



Icy innovation – Wetsus research shows greatly improved industrial separation process

With a recent publication, the dehydration team has shown the workings of the pilot-scale application of eutectic freeze crystallization (EFC) for separating organics from a watery solution. With this method a solution is simultaneously converted in crystals and ice. Lactose is industrially recovered by first concentrating it by evaporation and then slowly cooling this solution to produce the crystals. This is a very energy intense process; a state-of-the-art evaporator costs 30 to 80% more energy to run than EFC. And EFC can continuously produce 60 kilograms of highly pure ice and 16 kg of lactose per hour. Building from this conceptual design, yields of at least 80% and up to 95% of the input lactose can be achieved. An in-depth interview with first author Ruben Halfwerk and Cool Separations Jaap van Spronsen is available in the Technisch Weekblad of the 7th of July, or online.

Read more [here](#).

(Halfwerk, Ruben, Louise Verdonk, Doekle Yntema, Jaap Van Spronsen, and Albert Van der Padt. 2023.

“Scaling up Continuous Eutectic Freeze Crystallization of Lactose from Whey Permeate: A Pilot Plant Study at Sub-Zero Temperatures.” Food Research International (Ottawa, Ont.) 168 (112764): 112764.

<https://doi.org/10.1016/j.foodres.2023.112764>)

Dutch Junior Water Prize

Every year, Wetsus organizes the **Dutch Junior Water Prize**. In this competition, we are searching for research projects that can help solve major water challenges. Students can apply by sending their ‘*profielwerkstuk*’, ‘*meesterproef*’ or another report to us. The winning team (of maximum two persons in the age of 15-20) represents The Netherlands at the Stockholm Junior Water Prize, where they experience an inspiring week with students from all over the world. Also, they can win up to 15.000 USD at the international competition!

Are you a supervisor of students with a water related project? Or do you know students who are working on this subject? Please let them know about our competition!



For more information you can check our webpage [here](#)! If you have any questions, don't hesitate to contact Monique.suelmann@wetsus.nl.

Wetsus' Honours Program

Parents, teachers, and students filled the Atrium of Wetsus to witness the end results of the schoolyear-long scientific projects from our honours students. The gifted high schoolers we invite every year to tackle a water technological problem under the supervision of one of our PhD students, showed of their newly gained scientific knowledge, proud results and poster-crafting skills in a closing competition. The winners were the group that managed to make PHA-bioplactic straws. They made use of truly renewable, with proper properties, by exploiting an untapped resource stream. The jury especially praised the group on their extensive lab skills, and the wide-reaching methods they used to get to their final product.



Visiting Wetsus



Regularly, we organize an event for groups that want to learn more about Wetsus but are not connected to the water tech sector. Recently, we welcomed about 100 people for an introduction by Executive Board member Johannes Boonstra and a labtour. The next event will be on October 17. Next year, we will organize an Open Door Day together with our WaterCampus partners.

Events

Date: 8 September 2023: [Defense Xiaoxia Liu](#)

Date: 11 September 2023: [Defenses João Pereira and Barbara Vital](#)

Date: 21 September 2023: [Theme meetings \(members only\)](#)

Date: 27 September 2023: [Defense Olga Sójka](#)

Date: 9 and 10 October 2023: [Wetsus Congress](#)

Date: 23 November 2023: [Wetsus Members Only Congress](#)

Date: 29 November 2023: [Thema-avond Bodem](#)

[All details](#)