Working towards solutions for emerging, persistent mobile industrial contaminants

Circular Economy in the Soil-sediment-water system

Increasing water consumption, shortage of land in densely populated areas and the impacts of climate change pose challenges to an industrially coordinated sustainable land and water management in Europe. To address these challenges, it is necessary to strengthen circular economy within the Soil-sediment-water system. The circular routes are wide-ranging from water reuse to material recovery, groundwater and soil treatment. Emerging, persistent and mobile industrial contaminants pose a serious threat to sustainable management of these routes.

To tackle the problems these contaminants are causing today and the risks emerging contaminants might pose in the future, several fields of action must work in tandem:

- Monitoring, modelling, and risk assessment
- (Non)technical actions
- Policy, regulatory, and financial frameworks

These actions need to align with innovative solutions and provide foresight into emerging contaminants beyond today's most pressing challenges, such as PFAS.

For more than three years, the EU funded project PROMISCES has developed solutions to enable circular economy routes within the soil-sediment-water system, a project which will end April 2025. A system that is at the heart of NICOLE's industrially co-ordinated sustainable land and water management. It is therefore obvious to initiate this joint event to connect these two communities.

The organising committee invites you to submit abstracts on the following topics:

1. Monitoring, modelling and risk assessment.

Integrating monitoring, modelling and risk assessment into a proactive management of contaminated sites and water cycles not only provides a better understanding of current contamination, but also enables to predict its evolution, identify the associated risks and take informed decisions to protect human health and the environment. This session will provide a unique opportunity to discuss recent advances, challenges and best practices in minimizing the risks associated with emerging, persistent and mobile industrial contaminants.

Contributions are expected on topics such as: innovative strategies for environmental monitoring in soil, water and air – related to soil and groundwater remediation – and prioritization approaches incl. target, non-target and bioanalytical methods, innovative tools for predicting pollutant behavior and transport, assessing their long-term effects/impacts on human health and the environment, supporting decision-makers or optimizing remediation operations.

2. Taking action.

Bringing planning and design into action. The moment of truth. What are you doing regarding mobile industrial contaminants? From optimizing existing approaches, success stories to sharing challenges and lessons learned. From technical to non-technical implications, we are interested in your submissions and strategies to ensure long-term environmental and societal impact including stakeholder communication, community engagement and policy integration. Do you see value in being pro-active? What does cutting edge and/or eco-friendly mean to you?

3. Policy, regulatory and finance frameworks.

Challenges e.g. of CSRD or TNFD – how can we design policies, regulations, and financial systems that effectively address the challenges of persistent and emerging industrial contaminants? And how can we ensure compliance across sites and meet the expectations of the capital market? We invite contributions that propose forward-thinking approaches to strengthen policy, regulatory, and financial systems in response to complex environmental challenges. Contributions should focus on creating innovative frameworks that encourage sustainable resource use, enhance resilience, and drive impactful solutions. For example, proposals could address emerging contaminants like PFAS or explore strategies to manage future persistent pollutants that may not yet be widely recognized. We welcome insights on how to close gaps in governance, anticipate emerging risks, and develop financial incentives that support long-term environmental and economic well-being.

4. Innovation – What is new towards solutions?

With new, persistent, and little-known contaminants in our soil and groundwater, problem owners seek solutions at all levels. What recent innovations help us understand these issues better? What current and emerging solutions treat these impacted systems? Key topics include new, actual analytical protocols or equipment, models, and treatment technologies that address emerging persistent industrial contaminants, including but not limited to PFAS. Which new and innovative methods are accessible today?

5. Emerging concerns – looking beyond PFAS.

This workshop explores the broader landscape of emerging contaminants, moving beyond PFAS to address other substances of growing concern. Key topics include , brominated flame retardants, 1,4-dioxane, substances released from microplastics, such as 6PPD and its transformation product, personal care products, and more. Participants will gain insights into the latest analytical techniques, regulatory trends, and environmental and human health impacts associated with these contaminants and eventually their substitutes. Join us to discuss innovative solutions and strategies for managing the challenges posed by these emerging issues.

Besides the workshops lecture program, this year we are opening the exhibition call on:
Site visit with technical demonstrations.

There will be a possibility to showcase innovative solutions around the workshop. This can vary from monitoring equipment to technical solutions for emerging, persistent mobile industrial contaminants. Two locations are available: At the workshop location (DECHEMA-House) equipment can be presented indoors in the poster and networking area and outdoors directly in front of the building, without ground penetration. At the second location, a special area of the Industrial Site Höchst, approx. 15 minutes by car, it will be possible to take ground penetrating actions of minor size. Parties interested in the exhibition should get in touch with the NICOLE secretariat at the latest by the 31st of January 2025.
For the indoor exhibition an area of 4 m² including two poster walls and a table with chair is available per exhibitor.

Submission Guidelines and expectations of the organizing committee:

Authors are required to submit a one-page abstract of what they would like to present, together with an outline of the structure of the presentation and a short biography, as well as an indication of preference towards oral presentation or poster.

Abstracts which include case studies are encouraged, particularly those highlighting problems encountered, lessons learned and identified solutions. Abstracts must be well-written and clearly and concisely outline the material being proposed for presentation. Abstracts with a pronounced advertising or marketing focus will not be accepted.

Authors are invited to address some of the following questions:

- Why is your abstract of interest to NICOLE / PROMISCES target groups?
- How does the approach has contributed to the sustainability of the project and how has the case study embraced sustainability concepts?
- How does the proposed paper bring innovation to legacy site redevelopment?
- What is still needed in terms of knowledge development and transfer?

The Organizing Committee will carefully review all submitted abstracts, determine their relevance, compare it with other proposed presentations, and, if accepted for the program, assign it to an appropriate format and session. Session organization will be finalized upon final abstract selections. In this process, some valuable abstracts may not be accepted for an oral presentation: in this case, authors may be invited to the poster session, which includes a short speech.

The selected abstracts will be published on the NICOLE Portal after the workshop. By submitting an abstract, you agree to the publication with your name.

Deadlines:

Abstracts (maximum two pages or your alternative/pitch) should be sent by e-mail to Chayenne van Dijk before **Friday the 31st of January 2025**. Afterwards the organizing committee will evaluate the abstracts. The authors of the abstracts will be notified if they have been selected by **Friday the 14th of February**.

The location of the workshop:
The workshop will be organized at the headquarters of DECHEMA in Frankfurt am Main, Germany.

The address is:
Theodor-Heuss-Allee 25
60486 Frankfurt am Main
Germany

Organization committee members:
Carme Bosch – Eurecat
Claudia Neculau
Eric van Hullebusch – IPGP
Horst Herzog – Infraserv
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NICOLE:
www.nicole.org

https://www.linkedin.com/company/network-for-industially-co-ordinated-sustainable-land-management-in-europe

PROMISCES Project:
https://promisces.eu/

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