Trond Mæhlum

Senior research scientist, Department of hydrology and water environment

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Born: 21.02.1964 *Nationality: Norwegian*

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NORWEGIAN INSTITUTE OF BIOECONOMY RESEARCH

Key qualifications

My area of expertise is environmental technology with specialization in water resource management, hydrogeology and aquatic chemistry. I have worked with environmental consultancy and applied research for more than 30 years. Experience with planning, design and monitoring of nature-based systems (NBS) for the treatment of point sources and diffuse pollution. Water qualities include leachate from landfills, domestic sewage, runoff from agriculture and urban areas. Special interest in water treatment in constructed wetlands, ponds, soil infiltration and biofilters. Examination of filter media and treatment processes - in the laboratory and on a full scale. Lecturer and external examiner in environmental technology and water resource management. Management experience from project management and as research manager/head of research department.

Higher education

1993 – 1998	PhD. Faculty of Mathematical Sciences and Technology, Norwegian University of Life Sciences, NMBU, Ås, Norway
1987 – 1991	Cand.agric. Faculty of Natural Resource Management, Norwegian University of Life Sciences, Ås, Norway

Positions

2016 –	Senior Research Scientist, Department of Hydrology and Water Environment Norwegian Institute of Bioeconomy Research, Ås, Norway
2015 – 2016	Department Head, NIBIO - Norwegian Institute of Bioeconomy Research, Department of Urban Greening and Environmental Engineering, Ås, Norway
2006 – 2015	Department Head, Bioforsk - The Norwegian Centre for Agricultural and Environmental Research, Department of Environmental Technology, Soil and Environment Division
2000 – 2005	Research manager, Jordforsk, Centre for Soil and Environmental Research, Department Ecological Engineering Ås, Norway
1991 – 2000	Research Scientist, Jordforsk, Centre for Soil and Environmental Research, Department Environmental Technology, Ås, Norway

Contact information and links

Visitor address	Sagabygget, Oluf Thesens vei 43, NO-1433 Ås, Link to map
Homepage	Link to personal NIBIO page
Network & dissemination	CRIStin, ResearchGate, Google Scholar, LinkedIn, ORCID (0000-0002-6703-2969)

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Selected recent projects

2020 – 2028	The Norwegian Research Council/NMBU - earthresQue (SFI) - Centre for the sustainable use of surplus materials and waste in the circular economy. Role: Coordinator for activities within landfill investigations
2018 – 2023	EU project (H2020) SiEUGreen – Innovative green and smart cities. Role: Leader of the Work package leader within environmental technology for circular urban agriculture.
2015 – 2020	NIBIO strategic institute program – Green cities with testing of blue-green infrastructure for flood retention and multifunctionality. Role: Work package leader for measures such as urban ponds and wetlands.
2022 – 2023	Miljødirektoratet – The Norwegian Environment Agency - Assessment of leachate from landfills in Norway - Factual basis (open report - collaboration with NIVA and NGI). Role: Project employee.

Other relevant experiences

1997 – 2024	Guest lecturer at NMBU within water pollution and environmental technology
2002 – 2024	External examiner at NMBU within water pollution and environmental technology
2000 – 2012	Member of Scientific Committee, IWA Specialist Group Constructed Wetlands
2014 – 2016	Deputy Member of Board. Department of environmental Sciences, Norwegian University of Life Sciences, NMBU, Ås
1998 – 2008	Member of Technical Meetings committee in the Norwegian Water Association

Languages

Norwegian	Mother tongue
English	Oral and written very good level

Courses and certification

Vehicles	Car and buss (Codes AM BE C1E C DE S T)

Membership in academic associations and networks

1990 –	Norwegian water association (Norsk vannforening)
1995 –	The international water association (IWA)
2010 –	VAnnforsk
1991 –	The Nordic Association of Agricultural Scientists (NJF), and the Norwegian Association of Agricultural Scientists (Jordforeningen)
2000 –	Tekna – The Norwegian Society of Graduate Technical and Scientific Professionals

Supervision of students

PhD: 4 candidates and master's degree: 13 candidates at NMBU, since 1993

Publications and dissemination

Publications, peer-review	➢ 40
Other scientific publications (proceedings, book chapters)	➢ 40
Technical reports	➢ 60

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Selected recent publications

Knutsen, H., **Mæhlum, T**., Haarstad, K., Slinde, G.A., Arp, H.P. 2019. Leachate emissions of short- and long-chain perand polyfluoralkyl substances (PFASs) from various Norwegian landfills. Environmental Science: Processes & Impacts Volum 21.(11) s. 1970-1979. http://dx.doi.org/10.1039/c9em00170k.

Paruch, A., **Mæhlum, T**., Eltun, R., Tapu, E., Spinu, O. 2019. Green wastewater treatment technology for agritourism business in Romania. Ecological Engineering: The Journal of Ecotechnology ;Volum 138. s. 133-137. http://dx.doi.org/10.1016/j.ecoleng.2019.07.005.

Schmidt, I., French, H.K., **Mæhlum**, T. 2019. Infiltrasjon av urbant overvann i grøntanlegg. Vann ;Volum 54.(2) s. 89-101.

Paruch, A., T. **Mæhlum** and L.J. Robertson 2014. Changes in microbial quality of irrigation water under different weather conditions in Southeast Norway. *Environmental Processes,* 2(1), 115-124.

Haarstad, Ketil; Bavor, Herbert John; **Mæhlum, Trond**. 2012. Organic and metallic pollutants in water treatment and natural wetlands: a review. *Water Science and Technology* ;Volum 65.(1) s. 76-99

Selected recent reports

Mæhlum, T. & Hatland, A.M. 2024. Miljøovervåkning av sigevann fra Spillhaug avfallsdeponi i Aurskog-Høland kommune Årsrapport 2023. NIBIO Rapport 10(33). 50 s. NIBIO, Ås. Tilgjengelig fra: https://hdl.handle.net/11250/3121003.

Eiter, S., Fjellstad, W., Føreid, B., Hanserud, O.S. & **Mæhlum**, T. 2022. Klima- og miljøkriterier i urbant landbruk: Faggrunnlag og anbefalinger for Oslo kommune. NIBIO Rapport 8(18). 38 s. NIBIO, Ås. Tilgjengelig fra: https://hdl.handle.net/11250/2978635.

Slinde, G.A., **Mæhlum**, T., Ranneklev, S.B., Mjelde, M., Trannum, H., Grung, M., Tobiesen, A.E. & French, H. 2023. Vurdering av sigevann fra deponier i Norge - Faktagrunnlag. Rapport, 101 s. Tilgjengelig fra: https://www.miljodirektoratet.no/publikasjoner/2023/mars-2023/vurdering-av-sigevann-fra-deponier-i-norge-faktagrunnlag/.

Mathiesen, H.F., Bjørkelo, K., Aune-Lundberg, L., Borch, H., Borchsenius, B.T., Dramstad, W., Frydenlund, J., Hanslin, H.M., Hobrak, K., Mohr, C.W., **Mæhlum**, T., Pedersen, C. & Søgaard, G. 2022. Kartlegging og formidling av blå og grønne verdier. NIBIO Rapport 8(70). 72 s. NIBIO, Ås. Tilgjengelig fra: https://hdl.handle.net/11250/3001968.

Selected recent lectures/oral presentations

Mæhlum, T. 2024. Behandling av sigevann fra avfallsdeponier i våtmarksanlegg – eksempler på utforming og effekt. Fagtreff i Norsk Vannforening og NBS (nature-based solutions) naturbaserte løsninger - grønne versus grå, Oslo.

Mæhlum, T. 2023. Gjenbruk av vann til grønnstruktur som alternativ til bruk av kranvann Foredrag på FAGUS Grønn Galla, Drammen.

Mæhlum, T., Ranneklev, S.B. & Slinde, G.A. 2023. Sigevann fra avfallsdeponier – innhold av miljøfarlige forbindelser og mulige tiltak basert på resipientforhold. Fagtreff i Norsk vannforening om Miljøfarlige stoffer i vannmiljøet, Miljødirektoratet, Oslo.

Mæhlum T. 2019. Multifunctional nature-based systems for improvement of urban runoff - Examples using constructed wetlands, ponds and biofilters in Norway. Int. Conf. on Chemistry and the Environment, ICCE 2019, Thessaloniki.