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CONVENTIONS

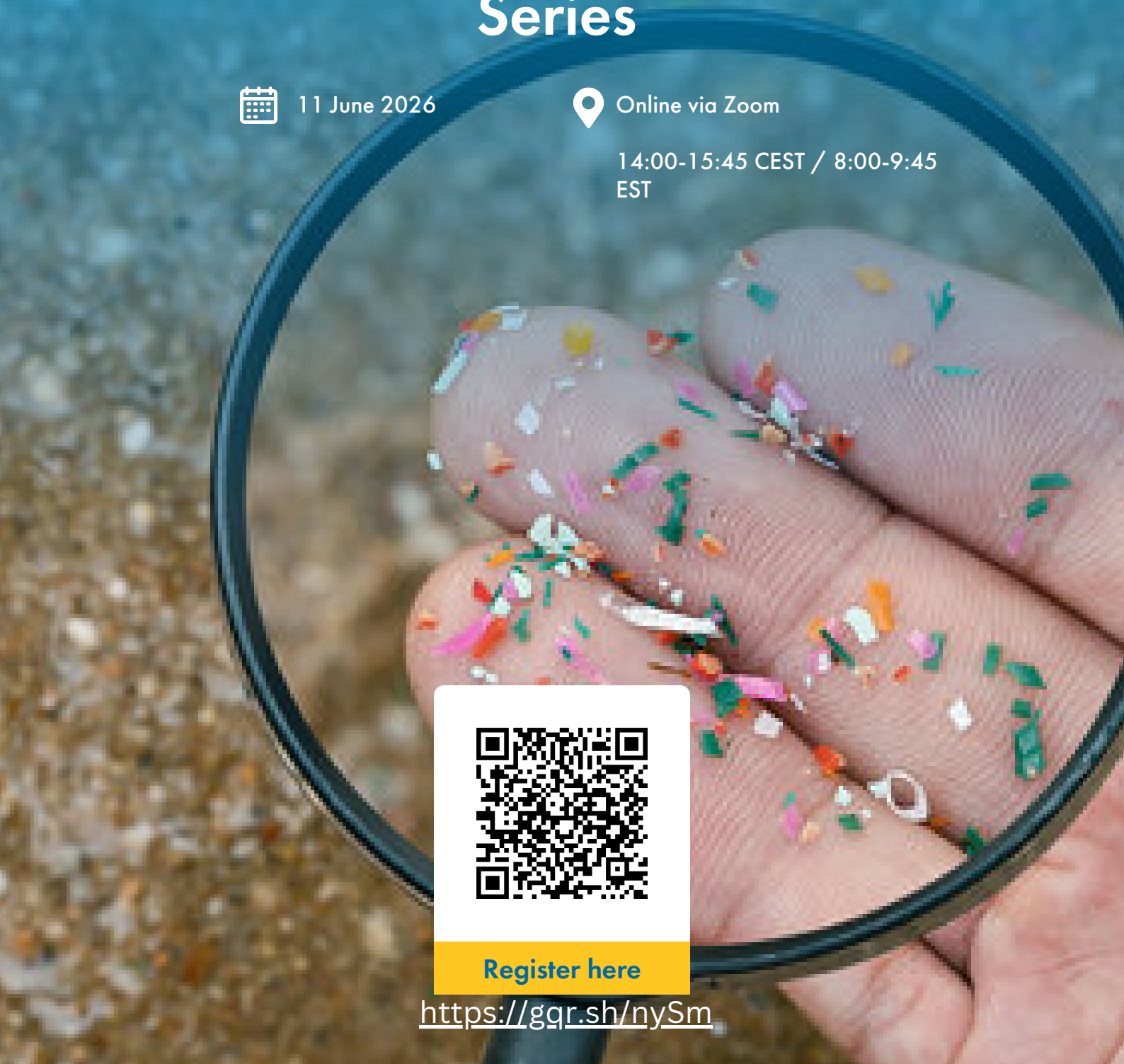
Webinar

UNITAR Micro-Nanoplastics Series

11 June 2026

Online via Zoom

14:00-15:45 CEST / 8:00-9:45 EST



Register here

https://gqr.sh/nySm

Background

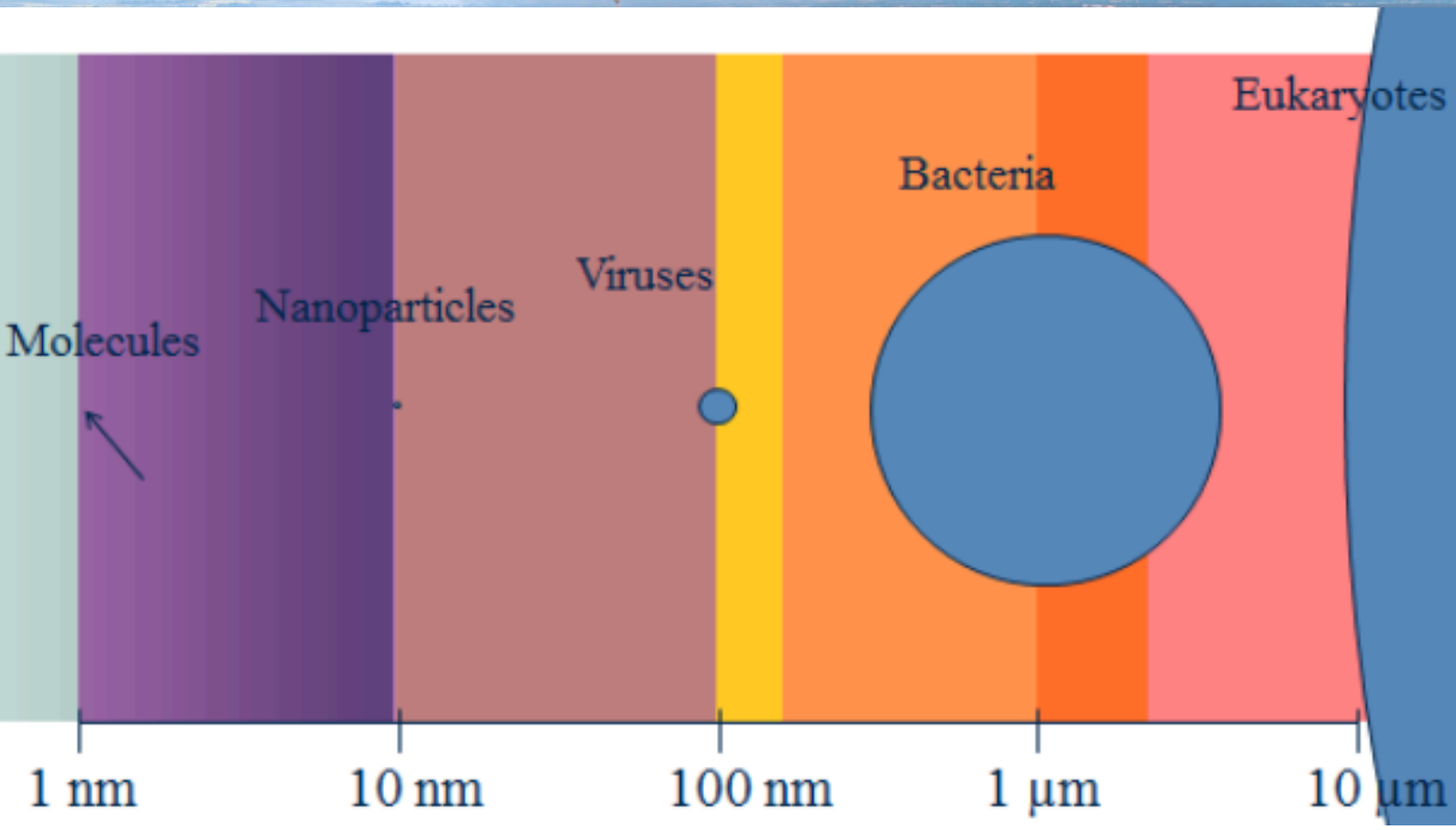
Micro- and nanoplastics are emerging as a significant environmental and public health concern, representing the final stages of plastic degradation across air, water, and land systems. As plastic waste fragments from visible litter into microscopic and nanoscale particles, it interacts with ecosystems in complex ways—transporting pollutants, hosting microbial communities, and potentially impacting human health. This webinar brings together leading experts to examine the fate, transport, and impacts of microplastics, the role of environmental processes such as sediment remobilization, and how insights from nanoparticle research can inform risk assessment, monitoring, and policy responses.

Learning Objectives

By the end of this webinar, participants will be able to:

- Explain the pathways and environmental fate of plastics as they degrade from macroplastics to micro- and nanoplastics across different ecosystems.
- Assess the environmental and health risks associated with microplastics, including their role in transporting pollutants and microorganisms.
- Understand how environmental processes, such as flooding and sediment remobilization, influence the distribution and impacts of microplastics and associated contaminants.
- Apply insights from nanoparticle research to inform risk management, monitoring strategies, and policy approaches for addressing micro- and nanoplastic pollution.

How to Identify Nanoparticles?



Host Entities

UNITAR and its Chemicals and Waste Management Programme (CWM)

An autonomous UN body established in 1963, the United Nations Institute for Training and Research (UNITAR) is a dedicated training arm of the United Nations System and has the mandate to enhance the effectiveness of the UN through diplomatic training and to increase the impact of national actions through public awareness-raising, education, and training of public policy officials. UNITAR provides training and capacity development activities to assist mainly developing countries with special attention to Least Developed Countries (LDCs), Small Island Developing States (SIDS), and other groups and communities who are most vulnerable, including those in conflict situations.

The UNITAR Chemicals and Waste Management Programme (CWM) provides capacity-building, technical support, and policy guidance to address challenges related to hazardous chemicals, waste, and their impacts on human health and the environment.

How CWM Supports

- Capacity Building: Development of training materials, workshops, e-learning materials, and tools to enhance skills development
- Policy Development: Establishing guidance documents, strategies, and support to enhance regulatory and institutional frameworks
- Development of Curricula and Training Programmes: Adapted to the learning needs and realities of countries and stakeholders
- Technical and Administrative Support: For countries to fulfill their international obligations under core global agreements and frameworks on chemicals and waste

Basel, Rotterdam, and Stockholm Secretariat

The Secretariat of the Basel, Rotterdam and Stockholm Conventions (BRS Secretariat) serves as a central coordinating body for three key multilateral environmental agreements addressing the sound management of hazardous chemicals and wastes. Established through a joint decision of the Conferences of the Parties in 2013, the Secretariat operates under a matrix-based structure to enhance efficiency, coherence, and collaboration across the three conventions. Its core mandate is to support Parties in implementing these agreements at global, regional, and national levels, with a strong focus on protecting human health and the environment.

Aligned with the United Nations 2030 Agenda for Sustainable Development, the BRS Secretariat works to strengthen governance, provide technical assistance, mobilize resources, and foster partnerships with stakeholders, including governments, regional centres, and the private sector. It promotes inclusive participation, transparency, and innovation while delivering scientific, legal, and administrative support. Through its strategic direction, the Secretariat aims to advance a pollution-free planet by raising awareness, enhancing capacity, and ensuring the effective and sustainable management of hazardous chemicals and waste worldwide.

Paneliststs

Dr. Michael Bank
Senior Scientist, Institute of Marine Research

Dr. Michael S. Bank works as a Senior Scientist at the Institute of Marine Research in Bergen, Norway. Michael also serves as an Adjunct Professor of Contaminants and Complex Systems at University of Massachusetts Amherst, USA, and is also an Associate Editor at the journal(s) Eco-Environment & Health and Environmental Pollution. His research is highly interdisciplinary and has its theoretical basis in machine learning, Bayesian mathematical modeling, contaminant biology, environmental toxicology, and environmental governance. Specifically, his interests are focused on three principal themes (a) How do contaminants affect organisms, including humans, (b) How can contaminants in ecosystem compartments be modeled using isotopic niches, Bayesian statistics, machine learning, and information theory, and (c) How can this information be used in a scientific translation and environmental governance context. Dr. Bank's work primarily deals with real data sets that tend to be large in nature and that consider broad spatial and temporal scales. Michael serves on several expert committees and advises on contaminants for several international environmental agencies.

Dr. Michelle Bloor
Professor of Environmental Science and Risk, University of Glasgow

Dr. Michelle Bloor is a Professor of Environmental Science and Risk at the University of Glasgow and is the Research Director for Scotland's National Centre for Resilience. The Bloor Research Group explores real-life challenges related to chemicals, waste and pollution. Michelle is Editor-in-Chief of Sustainable Environment journal, co-leads the University of Glasgow's Global Health and Environment Interdisciplinary Theme and is the founder of CheMNet, which is a global, multisector, interdisciplinary chemicals, waste and pollution research network. She is also a Senior Fellow of the University of Glasgow's Centre for Public Policy, Fellow of the Royal Society of Chemistry, and she is a Past European President of the Society of Environmental Toxicology and Chemistry (SETAC) and a Past President of SETAC UK Branch.

Dr. Halshka Graczyk
Technical Specialist on Occupational Safety and Health, ILO

Dr. Halshka Graczyk is a Researcher and Technical Specialist on Occupational Safety and Health (OSH) at the United Nations' specialized agency: The International Labour Organization (ILO) in Geneva, Switzerland. In this role, Halshka manages the ILO hazardous substances portfolio, which spans across all work sectors and occupations worldwide and assesses toxics, chemicals and waste along the life cycle of global supply chains. In addition she coordinates research and policy analysis on climate change hazards and OSH, helping to develop global policy guidelines for protecting workers and ensuring the right to a safe and healthy working environment. Halshka holds a Bachelors in Public Health and in Economics from ther Johns Hopkins University; a Masters in Public Health from the Johns Hopkins University ; and a PhD with a specialization in occupational safety and health, focused on the evaluation of novel and emerging OSH risks and hazards, from the University of Lausanne, Switzerland.

Presentation Outlines

Short outline of the presentation of Michael S. Bank: Microplastics are a ubiquitous yet long-overlooked component of airborne particulate matter. The surface of these plastic particles provides a unique niche for microorganisms, collectively known as the plastisphere. The plastisphere in aquatic and terrestrial ecosystems harbors microbial communities with distinct compositions, structures, and functional profiles, posing potential planetary health risks. The characteristics, fate, and impacts of the microbiome associated with airborne microplastics, however, remain largely unknown. In this review, we fill the knowledge gaps by exploring how airborne and other microplastics serve as key habitats for microorganisms and the potential planetary health implications. We show that microplastics are expected to carry and sustain microorganisms over long distances and timescales on land, and in air and water, potentially dispersing pathogens, antibiotic-resistance genes, and other bioactive agents within and across ecosystems. These interactions may perturb ecological processes and ecosystem health on a planetary scale. Interdisciplinary research and innovative methodologies are urgently required to better understand and mitigate the plastisphere risks.

- Bank, M.S., Y.S. Ok, and P.W. Swarzenski. 2020. Microplastics' role in antimicrobial resistance. Science 369, 1315.
- Bank, M.S., P.W. Swarzenski, C.M. Duarte, M.C. Rillig, A.A. Koelmans, M. Metian, S. Wright, J.F. Provencher, M. Sanden, A. Jordaan, M. Wagner, M. Thiel, and Y.S. Ok. 2021. Developing a global microplastic pollution observation system to aid policy. Environmental Science & Technology 55, 7770-7775.
- Bank, M.S. (editor). 2022. Microplastic in the Environment: Pattern and Process. Springer Nature Press. 354 pages.
- Li, C., J. Liu, M.C. Rillig, M.S. Bank, P. Fantke, D. Zhu, Y-G. Zhu, L. Jin. 2024. What harmful microbes are lurking in the world's 7 billion tonnes of plastic waste? Nature 634, 30-32.

Short outline of the presentation of Michelle Bloor: Flooding driven by climate change is significantly remobilizing pollutants trapped in river sediments, posing risks to ecosystems and water quality. The results of a global review to explore contamination patterns and sources, mapping hotspots for organic pollutants, heavy metals, and microplastics, will be explored. The study emphasizes the importance of addressing information gaps on flood resilience and water quality management to safeguard ecosystem health and human health. Policy-relevant, not policy-prescriptive, recommendations based on the scientific data will also be explored.

Alfee, S. L., & Bloor, M. C. (2025). A global review of river sediment contamination and remobilization through climate change-induced flooding. Sustainable Environment, 11(1). https://doi.org/10.1080/27658511.2024.2440957

Short outline of the presentation of Halshka Graczyk: The presentation will explore how lessons learned from decades of nanoparticles research can be applied to the growing challenge of plastic pollution, particularly micro- and nanoplastics. It will focus on parallels in terms of exposure pathways, uncertainty, and potential health and environmental risks, and discuss how approaches developed for nanoparticles, such as precautionary risk management, improvement research, and monitoring, can help inform more proactive and effective policy responses.

June 11 Agenda (CEST)

UNITAR Micro-Nanoplastic Series

Register here: https://gqr.sh/nySm

14:00

Opening Remarks

Dr. Mehrnoosh Azodi
Programme Officer, Basel, Rotterdam, and Stockholm Secretariat

14:05

Fate, Transport, and Impacts of Microplastics in the Environment

Dr. Michael S. Bank
Senior Scientist
Institute of Marine Research

14:30

River Seidement Contamination and Remobilization of Persistent Organic Pollutants in Micro, and Nanoplastics

Dr. Michelle Bloor
Professor of Environmental Science and Risk
School of Social and Environmental Sustainability
University of Glasgow

14:55

Apply Lessons Learned from Nanoparticles Research to the Plastic Problem

Dr. Halshka Graczyk
Technical Specialist on Occupational Safety and Health
International Labour Organization

15:20

Question & Answers Session

Dr. Michael S. Bank

Dr. Michelle Bloor

Dr. Halshka Graczyk

15:40

Closing Remarks

Mr. Oliver Wootton
Senior Programme Specialist, Chemicals and Waste Management Programme, UNITAR

15:45

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Contact Details

For any further inquiries,
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