2023-2024 MES/MESc Speaker Series

We need to talk
Why chemical mobility deserves more attention

Date: Friday, January 19, 2024 **Time:** 11:00 am - 12.30 pm

Zoom Link: https://us06web.zoom.us/j/86377473019?pwd=aXkwZEpaLzZjV3p2SHdieVBNMkp1UT09

Or In person: A252-C (The Sandbox, in the Teaching Hub)

Speaker: Dr. Roxana Sühring, Department of Chemistry and Biology, Toronto Metropolitan University

Chemical mobility is a well-known reason for concern when it comes to anthropogenic contaminants. Mobility enables contaminants to effectively leach out of products, move through water treatment, or to be transported over long distances into remote environments. Yet, mobility has been ignored in a lot of regulatory frameworks and chemical management. The Stockholm Convention on Persistent Organic Pollutants is one of the few frameworks that considers mobility as a criteria for concern – in this case long-range transport into polar regions. However, the focus of the Stockholm Convention is on hydrophobic organic contaminants. What remains is a regulatory (and chemical management) gap for hydrophilic substances that are persistent and mobile.

In my lab we focus on the analysis of functional plastic additives that are persistent, mobile in water, and toxic (PMT). Our work includes both the development of analytical techniques to measure these contaminants as well as the mechanistic study of their transport and environmental fate.

Through the collaboration with Northern communities, we have been able to investigate the contamination pathways for PMT plastic additives into traditional food sources and water in the Canadian Arctic. Likewise, our international collaborations have helped us identify products with high potential human exposure that leach PMT plastic additives.

Here, I would like to present an overview of our most recent research on PMT plastic additives and why it is so important to investigate these contaminants in the Arctic.

Biography

Dr. Roxana Sühring is an Assistant Professor in Analytical Environmental Chemistry at the Department for Chemistry and Biology at Toronto Metropolitan University. She holds doctor of natural sciences (Dr. rer. nat.) degree in environmental chemistry from the Leuphana University in Lueneburg and conducted postdoctoral research in Germany, Canada, and Sweden. From 2016-2018 she led a regulatory scientist team at the Centre for Environment, Fisheries and Aquaculture Science. During this time, she also was the policy advisor to the Netherland's delegation for the OSPAR Offshore Industry Committee (OIC) regarding offshore chemicals and advisor for the UK Ministry of Defence regarding potentially polluting shipwrecks.

Faculty Webpage: https://www.torontomu.ca/chemistry-biology/our-people/roxana-suehring/

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