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Vidéoconférence

au Département de chimie



CONFÉRENCIÈRE

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DATE

Lundi, 24 janvier 2022

14 h 30 (en Zoom)

Lien Zoom pour assister : [ici](#)

TITRE

The biogeochemical cycling of contaminants in aquatic environments: A focus on mercury and analytical approaches

The biogeochemical cycle of elements is strongly disrupted by anthropogenic contamination and ongoing environmental changes. Some trace elements, such as mercury, can be hazardous if they accumulate to high levels in the environment. Released from natural and industrial sources (primarily mining and coal combustion), Hg is a pollutant of global concern because of its volatility and persistence in the environment, its ability to biomagnify through trophic levels, primarily in its organic form, methylmercury, and its neurotoxicity. In the Arctic, a region remote from anthropogenic pollutant emissions, Hg contamination is a good example of the global impact of human activity on ecosystems, human health and food security. In the context of ongoing industrialization and climate change, understanding the environmental processes that influence the release, transport, and (bio)accumulation of contaminants in the environment is crucial to better predict the impacts of contamination and mitigation strategies on humans and wildlife. In this presentation, I will provide an overview of studies conducted in fragile and changing ecosystems (e.g., Arctic Ocean, high altitude lakes) to address outstanding questions on the speciation, distribution and cycling of Hg (and other metals) in these systems and the analytical challenges encountered. The application of new techniques and approaches such as stable isotope analysis as tracers to better understand biogeochemical transformations and for source tracing of elements (Hg, carbon, nitrogen) will also be discussed. Finally, as perspectives, I will present current and future research projects that aim to fill knowledge gaps by developing analytical methods and strategies for the detection and characterization of contaminants and assess climate change perturbations on the cycling of elements.

Cordiale invitation à toutes et à tous !

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