SOIL SCIENCE COLLOQUIUM

Guest speaker

Tuesday 29th March 2022, 16.15 – 18.00

Mercury and Ocean Apex Predators: Implications for Environmental and Public Health

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ABSTRACT. Blue food production systems and human diet choices have critical implications for climate change and environmental sustainability. Increasingly, the ocean and blue food resources, including apex predators, are being recognized as a source to meet global nutritional demands and to address deepening problems from human hunger. Here, using complex systems analyses, stable isotope tracer models, and Bayesian information theory I discuss new scientific findings on mercury bioaccumulation and propose novel ideas regarding the relationships between global environmental change, ocean science, planetary boundaries, and health. This research uses several simple and complex modelling strategies including big data information theory applications, Bayesian degrees of belief analytics, and risk and decision sciences. Pathways of mercury bioaccumulation in marine ecosystems, and their ramifications, will also be discussed in the context of ocean biogeochemistry, public health, and the newly established UN Minamata Convention on Mercury.

BIO. Dr. Michael S. Bank works as a Senior Scientist in the Department of Contaminants and Biohazards at the IMR, Bergen. Michael also serves as an Adjunct Associate Professor of Contaminants and Complex Systems at University of Massachusetts, Amherst, MA in the USA. His research is highly interdisciplinary and has its theoretical basis in complex systems analyses, 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 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 is an Associate Editor at the journal Chemosphere and serves on several expert committees and does advising on contaminants for several international and national environmental agencies.

You are welcome to attend in person in Mittelstrasse 43, room 224 or virtually in the Zoom seminar room (Meeting ID: 661 2561 8101, psw: 123456).

The presentation will be followed by a talk by Sabnam Mahat, doctoral candidate from the Soil Science Group, on the topic:

"Mercury levels in wildlife in Switzerland."