

February 27

Alexander Hall Room 265 Thursday,

12 noon

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Mercury Biogeochemistry in Altered Landscapes

Mercury is a neurotoxic element that enters most ecosystems through atmospheric deposition processes and air-surface gas exchange, often originating from very distant emission sources. Humans are mostly exposed to mercury through the consumption of fish and seafood, and for some, agricultural staples such as rice. The movement of mercury across, and reactions in the landscape leading to the production of methylmercury, the particularly bioaccumulative form of mercury, are key processes controlling how much mercury is available for uptake by organisms. Human activities and alterations to landscapes can impact both the mobility of mercury and the net formation of methylmercury. This seminar will highlight recent work to further our understanding of how mercury cycles in altered landscapes, such as harvested forests, artificial wetlands, mine sites and terrestrial ecosystems impacted by climate change. Specific attention will be given to the hydrological transport of mercury, methylation and demethylation reactions, and novel new methods for assessing re-emission back to the atmosphere. Advances in our conceptual understanding may help us in ameliorating exposure risk by informing strategic environmental management and by informing relatively new international policy, such as the United Nations Minimata Convention on Mercury.



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