Do Riparian Buffer Zones Work As Advertised in Agricultural Catchments?

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In the agricultural landscape, the pathways and residence times of water are critical for defining strategies to manage the export of nutrients and agricultural chemicals such as pesticides. This MSc project will use the stable isotope signature of rainfall to trace water through the riparian buffer zone. The work will be conducted on SLUs extensively monitored catchments using a suite of hydrological tracers and hydrometric observations to test hypotheses about management strategies. Both practical field work and data analysis will be involved in cooperation with a post-doc project.

2018 Mercury in the Forest Landscape

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The Sino-Swedish Mercury Management Research Program (www.slu.se\SMAREF) is quantifying the mercury cycling during an entire year in a Swedish forest landscape. The biggest pool of mercury in that landscape resides in the soil - but where? This MSc project will fill in this key blank space on the emerging map of the mercury cycle. The project will have moments of field and laboratory work, but technicians will conduct the bulk of the sampling and analysis work in the lab during the autumn of 2017. The MSc project will involve synthesizing the field sampling results and upscaling them from the plot scale to the landscape, with explicity consideration of uplands, peatlands and riparian fens. A key tool will be the strength of the carbon:Hg relationship as the means to leveraging the more extensive information on carbon that already exist.