Phytotoxicity and plant uptake of metals
A student project suggestion

Are you interested in working with plants in the lab? This project sets out to study heavy metal uptake and toxicity in willows and various seed plants at various selected climatic conditions.

DTU has pretty cool artificial greenhouses in Risø (RERAΦ), where the temperature, CO₂-concentration, humidity and more can be controlled. By varying the environmental conditions, we change the metabolism of the plants leading to measurable variations in transpiration (causing variations in uptake, which again cause variations in toxicity) and potentially leading to variations in the plant’s “sensitivity” or defensive mechanisms against the toxic metals. By studying uptake and toxicity simultaneously in various CO₂ and temperature scenarios, we are interested in: i) how climatic variations affect the uptake and toxicity of metals; and ii) to what extent the variations in toxicity are caused by variations in transpiration only, or to some extend also variations in sensitivity.

The content can be scaled to suit a bachelor thesis or master thesis. The project can be almost pure lab work and it can be combined with modeling. It’s best to be two people, otherwise it might get a bit lonely in the plant labs at Risø.

If you are interested in this project then pop by our offices (building 115, 1st floor, towards building 101) or send a mail.

Suggested time: spring, 2019

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