



## Tools to Measure the Carbon Content of Soil

**Business representative:** Ignatius Verbeek

Under the right conditions, soil can capture and store significant amounts of carbon from the atmosphere. Soil carbon can play an important role in addressing climate change while supporting food security and climate resilience. Moreover, capturing carbon in soil is a potential revenue source supporting farmers to improve soil and food health.

One of the critical challenges is measuring the amount of carbon in the soil cost-effectively. CarbonPump is a company focused on creating billion-tonne scale carbon drawdown projects, and soil carbon is one of their key focuses. To enable this, soil carbon stocks need to be measured, and CarbonPump are world leaders in designing simple methods to determine the carbon content in soil quickly and cost-effectively. There are many challenges associated with this process.

This project will investigate some of the critical challenges in this measurement process. In particular, methods to extract information about the soil density without breaking up the sample or using expensive methods. We will also investigate the practical design of the metal sheet used to hold the soil sample. In particular, the most efficient way to cut the metal sheet to induce a strong anisotropy in the bending moment so that it rolls and unrolls effectively.