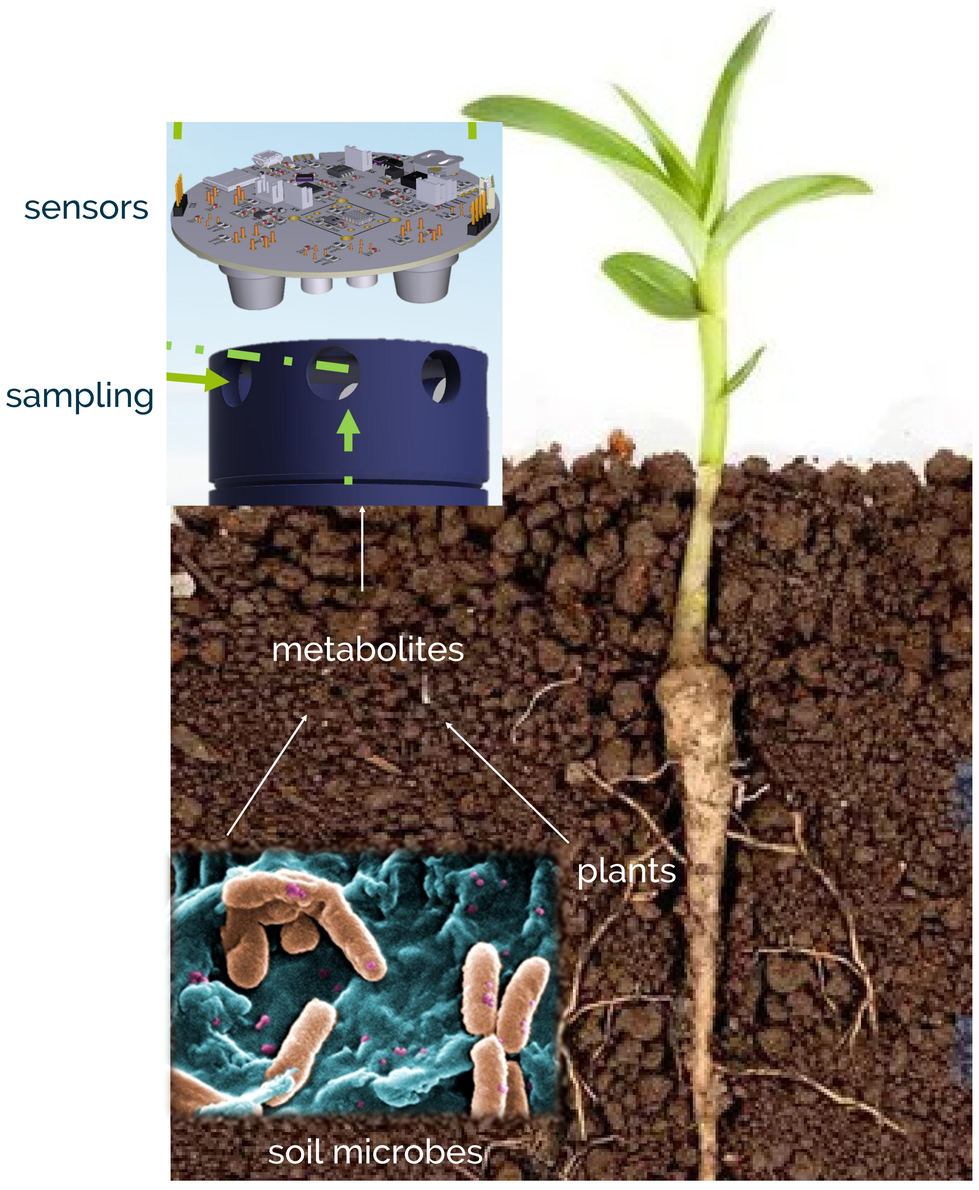
Smelling soil:
Development of the QUOLL™ e-nose



As the soil environment changes, so does the activity of all organisms in the soil. They produce different gases that are detected by the QUOLL™ e-nose.

About the project

The aim of this project is to build a useful and useable electronic nose (e-nose) that can help growers understand what is happening in their soil.

An e-nose is a device that is able to detect many different gaseous compounds at the same time.

Farmers often use the smell of soil to decide if it is healthy or not - this device will detect the “aroma” of soil as a rapid test of activity in soil to help growers make informed decisions on how to best manage their soil to be more productive and more resilient to environmental change.

We previously developed a prototype e-nose built using existing components. Our initial tests suggest that the e-nose can detect different signals from soil under different conditions.

Our conversations with growers have told us that growers want more information about their soil, their soil biological communities and how land management practices affect their soil.

Next steps

In the next stage of the project, we plan to further test the abilities of the QUOLL™ e-nose in the laboratory and the field and to develop the user interface with the data.

Further information

This project has been supported by the Cooperative Research Centre for High Performance Soils whose activities are funded by the Australian Government’s Cooperative Research Centre program.

Cooperative Research Centre for High Performance Soils
Callaghan, NSW, Australia
soilcrc.com.au

Project contact:
Shane.Powell@utas.edu.au

In collaboration with

TIA is a joint venture of the University of Tasmania and the Tasmanian Government