

# Chamber techniques are often used to measure gas fluxes directly from the soil

There are limitations with the chamber technique:

1. Emissions spatially variable so representative spatial integration is difficult with small chambers
2. Emissions temporally episodic
3. Chamber measurements labour intensive and rarely provide continuous data needed for integrating the flux over time
4. Chambers intrusive...modify atmosphere, remove light and wind, alter ground temperature

# The LUNG

**Couples a gas chromatograph with an instrumented mast**

**Simultaneous flux measurements of CH<sub>4</sub>, N<sub>2</sub>O and CO<sub>2</sub> in real time**

**Non-intrusive: air can be sampled up to 150m from GC through small diameter poly tubing**

**Uses same chromatography equipment currently used for chamber studies**

**Substantially less labour intensive than manual chamber sampling**

**Samples air simultaneously from three separate intake points eg three different mast levels**

**Sequential measurements of selected gas(es) with chromatograph**

**Timing/control via LabView application directs precise timing for collection, measurement and bag prep for next sample**

