



MARTIN-LUTHER-UNIVERSITÄT  
HALLE-WITTENBERG



## Soil Science Colloquium - Halle

# Prof. Susan Trumbore

Max Planck Institute for Biogeochemistry, Jena, Germany

11. July 2024 - 17 Uhr

Julius-Kühn-Hörsaal, Theodor-Lieser-Straße 9, Halle

## Radiocarbon constraints on the terrestrial carbon cycle

**Abstract:** Many of the largest uncertainties in terrestrial carbon cycle models can be traced to poor understanding of how long it takes the C fixed by plants to return to the atmosphere through respiration and decomposition. Because of the global release of 'bomb'  $^{14}\text{C}$  by atmospheric weapons testing, the C fixed each year since 1964 has a unique  $^{14}\text{C}$  signature that provides information on this 'transit time', the time elapsed between C fixation and when it gets respired. This talk will focus measuring the  $^{14}\text{C}$  of respired  $\text{CO}_2$  in various ecosystem components, with emphasis on how these provide important constraints for the terrestrial C cycle.