

# wageningen soil conference

## MASTERCLASS

### **M28: Humic substances research - merits and controversies**

**Name main contact:** Rob Comans

**Institution:** WU - Soil Chemistry

**Names of Co-organisers:** Nick Quist, Gerlinde Vink

**Short description:**

Fractionation of soil organic matter (SOM) in humic substances (HS) has been applied for decades in attempts to develop a better understanding of SOM functioning. While interpretations of the structure and properties of HS have advanced over the years, a strong debate has developed in recent years on whether their operational definition invalidates these substances from serving as meaningful proxies to study SOM dynamics and functioning. This masterclass will demonstrate the principles of the fractionation of HS and show examples of their use in modelling soil processes, as well as provide an outlook towards their further characterisation in terms of molecular structure and (thermal) stability. Introductory presentations, a laboratory demonstration of HS fractionation and a visit to analytical facilities for further HS and SOM characterisation, will be concluded with an interactive debate about the future of humic substances research.

**Theme:** Advances in measuring and modelling soil processes

**Keywords:** humic acid, fulvic acid, fractionation, SOM analysis and functioning

**Type of masterclass:** Other, Introductory lectures, lab visit and discussion

**Maximum number of participants:** 30