

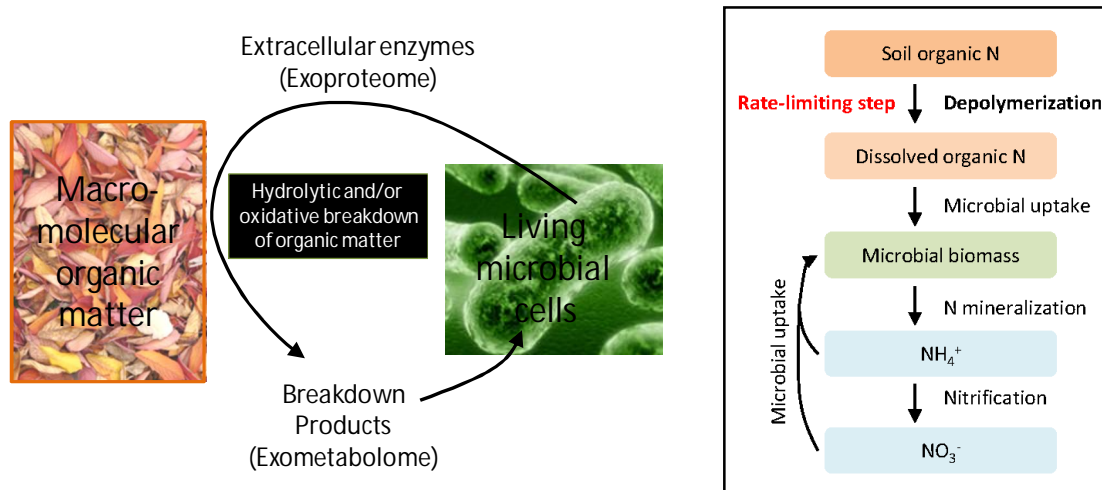
## Two 3-Year PhD Positions in Microbial Ecology / Isotope Biogeochemistry

are available at the Department of Microbiology & Ecosystem Science, University of Vienna within the Austrian Science Fund (FWF) funded project:

### MicrON: Environmental controls of Microbial Organic Nitrogen cycling in soils

We are looking for two highly motivated PhD students (Biogeochemists, Microbiologists, Ecologists, Analytical Chemists, or similar) who will investigate the extracellular breakdown of soil organic nitrogen (N) and its metabolism and mineralization by soil microbes, using a new tool box of stable isotope tracer methods developed in our lab and modelling approaches. The extracellular cleavage of high-molecular weight organic N by the exoproteome is considered to be the major bottleneck in organic N decomposition, exceeding inorganic N fluxes by several-fold. The fate of the produced soluble organic N is controlled by the nitrogen-use efficiency of the microbial community, effectively driving the partitioning of organic N taken up into microbial biomass relative to excess N being mineralized and excreted as ammonium. The environmental controls of these processes are largely unexplored and will be investigated in this project, from micro-scales to continental scales, providing novel insight into a biogeochemical cycle of global significance.

Both PhDs will work together on common experiments, exchanging data and collaborating where possible. PhD 1 will focus on controls of extracellular soil organic N cycling processes and the microbial nitrogen use efficiency; PhD 2 will apply Orbitrap mass spectrometry technology to trace the subsequent cellular microbial metabolism of these organic N compounds, and then model soil N cycle processes.



Supervisor: Wolfgang Wanek (Microbiology & Ecosystem Science, University of Vienna);

Co-Supervision by Andreas Richter (Microbiology & Ecosystem Science, University of Vienna) and Thomas Wutzler (MPI Biogeochemistry, Jena, Germany)

Deadline for application: 31<sup>st</sup> July 2015 or until it is filled

Expected start date: September 2015 or at earliest convenience

For further information and informal discussion, please contact Prof. Wolfgang Wanek (wolfgang.wanek@univie.ac.at)