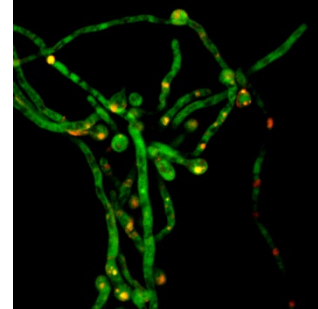
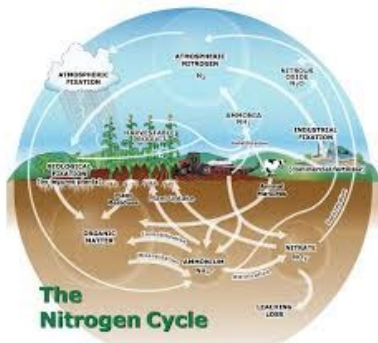


PhD position open in Fungal Genetics and Genomics



Understanding nitrate signaling in fungi

Fungi are one of the most active players in global nutrient cycling, and they can temporarily store nitrate in the soil by converting it to fungal biomass (known as nitrate assimilation process). Fungi therefore play a major role in preventing nitrogen losses from soil.

Despite the clear picture we already have on the regulatory genetic elements driving the nitrogen cycling process in the fungal cell, it is still not clear how the nitrate signal is perceived by the pathway transcriptional machinery. A new project financed by the Austrian Science Fund FWF sets out to study by molecular, genetic and biochemical approaches the NO_3^- signaling process that leads to activation of the pathway-specific transcription factor NirA. Structural biology work will include expression and crystallization of NirA wild-type and mutant variants and also cryo-EM experiments will be carried out to visualize structure-function relationships with interacting proteins. Genetic approaches are used to find suppressor mutations of regulatory elements and biochemical assays are planned to reveal functionally important intra- and intermolecular interactions. For the structural biology work, we intensely collaborate with specialized laboratories, among them Prof. Papageorgiou from the Turku Bioscience Centre in Finland where a research stay is planned during the PhD work.

If you are interested in the molecular genetics of how fungi act in this highly relevant ecological nitrogen cycling process, have a solid background in molecular biology and biochemistry and you would like to work in our group at a scientifically and socially stimulating working atmosphere, then please apply for this position.

Please send your application containing a motivation letter, your CV and a transcript of records per Email to joseph.strauss@boku.ac.at by latest End of May 2024. The position is scheduled for start by 1st of July 2024 and the salary is according to the FWF guidelines*.

*<https://www.fwf.ac.at/foerdern/schritte-zur-erfolgreichen-foerderung/weitere-informationen/personalkosten>

Nitrogen cycling graphics: <https://blog-crop-news.extension.umn.edu/2017/05/how-nitrogen-cycle-affects-fall-n.html>