The genetics of Arbuscular Mycorrhizal Fungi

The genetics of arbuscular mycorrhizal fungi (AMF) have been notoriously elusive. In particular, their perpetual multinucleated state, with thousands of nuclei floating in the same cytoplasm, and their obligate biotrophy, has made it difficult to perform experiments with these organisms and isolate good quality DNA and single nuclei to better understand their nuclear complexity and overall biology. Here, I will present recent work based on AMF genomics and single cell/nuclei analysis, as well as new laboratory experiments, and discuss how these are now reshaping our understanding of the genetics and (para)sexual potential of arbuscular mycorrhizal fungi.