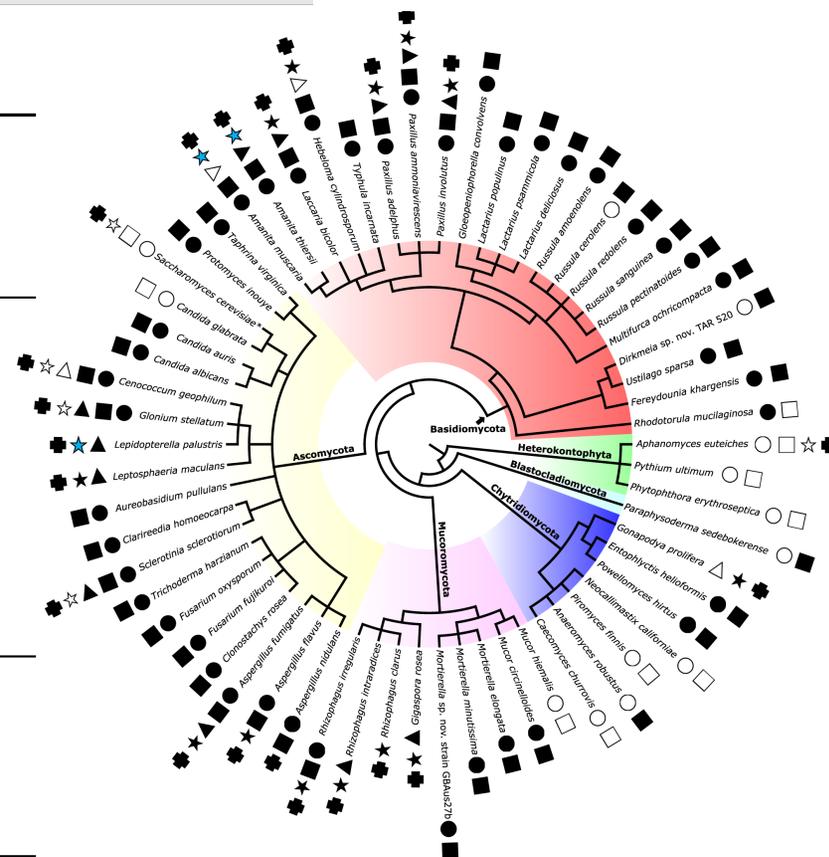


Foundational Genomics Research, PMI SFA

High-Impact Publication: Lipo-chitooligosaccharides (LCOs) as regulatory signals of fungal growth and development

Objective	<ul style="list-style-type: none"> To determine the presence of lipo-chitooligosaccharides (LCOs) in fungi and their functional roles beyond symbiotic signaling.
New science	<ul style="list-style-type: none"> LCO production is widespread in the Kingdom Fungi, including human and plant pathogens. LCOs were not detected in non-dimorphic yeasts or oomycetes. LCOs serve as signals between fungi for agonistic or antagonistic regulation of growth and development. LCOs have a role in microbial interactions and communications.
Impact	<ul style="list-style-type: none"> This work provides new insights into secondary metabolite and signaling biology. We have demonstrated, for the first time, that LCOs are not unique to symbiotic microbes and that they have roles in addition to symbiotic signaling with a host plant.

Rush et. al. (2020). Lipo-chitooligosaccharides as regulatory signals of fungal growth and development. *Nat. Comm.* **11**, 3897. DOI: 10.1038/s41467-020-17615-5.



Widespread production of lipo-chitooligosaccharides (LCOs) and chitooligosaccharides (COs) by fungi. Black symbols indicates positive detection and clear symbols indicates no detection of LCOs or COs.