Linking genotype to structure and function of fungal biomaterials

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Biomanufacturing of fungal-based materials has the potential to revolutionize traditional manufacturing in the U.S. By expanding the use of fungal biomaterials, we can reduce waste and strengthen domestic manufacturing. Fungal mycelium is one of the most abundant organic materials on earth. Mycelium materials are versatile but poorly understood. Mycelium is naturally composed of carbohydrates, proteins, and other small molecules that can vary in abundance based on evolutionary diversity of fungi. In this *non-technical poster*, we share a research framework on fungal biomaterials as part of a seed grant funded by the Materials Research Institute Interdisciplinary program. The overall goal of this project is to obtain a fundamental understanding of how fungal evolutionary diversity impacts the properties and behavior of resulting materials. Outcomes from this work will advance the safe, affordable, and sustainable production of fungal biomaterials, impacting diverse industries such as construction, food, and health.