

Fungal biodiversity for food innovation

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Climate change, environmental damage, and biodiversity loss rank among the most pressing challenges humanity faces today. The food system is a major contributor to these issues, making it crucial to rethink how we produce and consume food. Specifically, we must reduce the environmental impact of industrial animal farming and enhance resource efficiency by minimizing food waste.

Filamentous fungi offer significant potential in addressing both of these challenges simultaneously. These fungi can utilize a diverse range of substrates, including lignocellulose-rich materials that are often discarded due to their fibrous and unpalatable nature. Through solid-state fermentation, they can transform these ingredients into flavorful and savory foods that resemble meat.

My research focuses on exploring the gastronomic potential of fungi by screening fungal biodiversity for novel traits, as well as optimizing fermentation conditions to understand the relationship between growth environments and fungal flavors and textures. This knowledge could pave the way for sustainable, nutritious, and delicious foods that serve as healthy alternatives to traditional animal products.