



# Environmental Science Graduate Program Student Seminar Series

## Ecology of Fungal Tryptamine Production

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**November 6, 2020 | 2:00-3:00 PM**

Zoom Meeting ID: 989 2470 8162

<https://osu.zoom.us/j/98924708162?pwd=VF1WVNwOGFGd2kzZWZlZ0Z0Z09uQT09>



### Abstract

Fungi produce diverse biologically active molecules that often have potent antimicrobial, antifungal, antifeedant, and psychoactive properties. Among these molecules are the tryptamine psilocybin and its analogs, which have played significant roles in human spirituality and pharmacology. Multiple origins, horizontal transfer, and continued persistence of psilocybin suggest it confers an ecological benefit; however, the precise role(s) are not known. My research aims to elucidate whether fungal tryptamines act defensively against antagonistic organisms such as competitor fungi and predatory insects. Insights gained from this basic ecological research may be translatable to agriculture as both fungal pathogens and herbivorous insects cause massive annual crop losses. Furthermore, because psychedelics are experiencing a resurgence of interest for treating psychiatric disorders, an understanding of these compounds' original ecological purpose may lead to novel insights about how the homologous physiological systems in humans are affected.